

PROPOSAL FOR THE CREATION OF A NEW WORKING GROUP¹

WG N° C3.20	Name of Convenor: Christian Capello (CH)	
Strategic Directions: 1, 3		Technical Issues: 7, 10
The WG applies to distribution networks: Yes		
Potential Benefit of WG work: 2, 3, 6		
Title of the Group: SUSTAINABLE DEVELOPMENT GOALS in the ELECTRIC POWER SECTOR		
<p><u>Background:</u> In September 2015, the UN member states adopted a set of 17 sustainable development goals (SDGs) to fight poverty, protect the environment and ensure sustainable growth for all¹. The private sector plays a crucial role in meeting these goals. Some of the targets directly relate to the activities of the electric power sector. These are:</p> <ul style="list-style-type: none"> - SDG 7: Affordable and Clean energy: achieve energy access for all and meet targets for renewable energy and energy efficiency. Meaningful improvements will require higher levels of financing and bolder policy commitments, together with the willingness of countries to embrace new technologies on a much wider scale. The electric power industry bears the responsibility, within the given political framework, to increase the share of renewable energy and energy efficiency. - SDG 13: Climate Action: Take urgent action to combat climate change and its impacts. Mitigating climate change and its impacts will require building on the momentum achieved by the Paris Agreement on Climate Change. The global nature of climate change calls for broad international cooperation in building resilience and adaptive capacity to its adverse effects, developing sustainable low-carbon pathways to the future, and accelerating the reduction of global greenhouse gas emissions. The electric power industry and climate mutually influence each other. The industry faces outages due to hazards or natural disasters, a more volatile balance, a variable supply and demand, for instance by electric vehicles which help protect the climate through their efficiency. On the other hand, our industry is contributing more and more to climate change protection. The Paris agreement and the worldwide targets of reducing CO2 emissions have enormous influence on our industry: integrating renewables into the grid, looking for off-grid solutions, the emphasis on storage, it all provides improvement for climate protection. <p>As reliable power supply and transmission is a major element of the infrastructural development in general and as electrical energy is crucial for social wellbeing and economic development the electric power sector contributes to the achievement of several other SDGs. These are:</p> <ul style="list-style-type: none"> - SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation: reliable power supply is an important part of a resilient infrastructure in general and a major factor for the development of sustainable industrialization - SDG 11: Make cities and human settlements inclusive, safe, resilient and 		

¹ <https://sustainabledevelopment.un.org>

sustainable: further electrification combined with intelligent operation contributes significantly to that goal (e.g. IOT)

- SDG 12: Ensure sustainable consumption and production patterns: of particular importance with respect to the consumption of energy and the promotion of energy efficiency measures.
- SDG 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development: of particular importance with respect to offshore developments for the power sector.
- SDG 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss: electrical power infrastructure affects the terrestrial ecosystem and thus, measures needs to be implemented to reduce adverse effects and even increase biodiversity.

Scope:

The aim of the WG is to develop recommendations on how the electric power sector should implement SDGs within their business strategies in order to reach a maximum contribution to the achievement of these goals. The primary focus is on the SDG's 7 and 13. However, also contributions to the SDGs 9, 11, 12, 14 and 15 will be evaluated.

The scope of Work for the WG thus is:

- To collect information from amongst Cigre-members and beyond on the actual and intended approach how to implement SDGs 7 and 13 (9, 11, 12, 14, 15) within their business strategies and on the resulted contribution to the achievement of these goals. That includes a review of goals, KPI's and measures implemented as well as approaches on how funding and budget for such measures is realized.
- To derive best practice recommendations for the electric power sector on how to implement which SDGs within their business strategies
- To derive best practice recommendations on how to communicate a successful implementation of SDGs towards the relevant political body who is responsible for the implementation on a national level.

Deliverables:

- Technical Brochure and Executive summary in Electra
- Electra report
- Tutorial⁵

Time Schedule:

- WG Formation August 2018
- Start: 2018
- Final Report: 2021

Approval by Technical Council Chairman:

Date: 30/07/2018



Notes: ¹ or Joint Working Group (JWG), ² See attached Table 2, ³See attached Table 1, ⁴Delete as appropriate, ⁵ Presentation of the work done by the WG, ⁶ See attached table 3

Table 1: Technical Issues of the TC project “Network of the Future” (cf. Electra 256 June 2011)

1	Active Distribution Networks resulting in bidirectional flows
2	The application of advanced metering and resulting massive need for exchange of information.
3	The growth in the application of HVDC and power electronics at all voltage levels and its impact on power quality, system control, and system security, and standardisation.
4	The need for the development and massive installation of energy storage systems, and the impact this can have on the power system development and operation.
5	New concepts for system operation and control to take account of active customer interactions and different generation types.
6	New concepts for protection to respond to the developing grid and different characteristics of generation.
7	New concepts in planning to take into account increasing environmental constraints, and new technology solutions for active and reactive power flow control.
8	New tools for system technical performance assessment, because of new Customer, Generator and Network characteristics.
9	Increase of right of way capacity and use of overhead, underground and subsea infrastructure, and its consequence on the technical performance and reliability of the network.
10	An increasing need for keeping Stakeholders aware of the technical and commercial consequences and keeping them engaged during the development of the network of the future.

Table 2: Strategic directions of the TC (ref. Electra 249 April 2010)

1	The electrical power system of the future
2	Making the best use of the existing system
3	Focus on the environment and sustainability
4	Preparation of material readable for non-technical audience

Table 3: Potential benefit of work

1	Commercial, business or economic benefit for industry or the community can be identified as a direct result of this work
2	Existing or future high interest in the work from a wide range of stakeholders
3	Work is likely to contribute to new or revised industry standards or with other long term interest for the Electric Power Industry
4	State-of-the-art or innovative solutions or new technical direction
5	Guide or survey related to existing techniques. Or an update on past work or previous Technical Brochures
6	Work likely to have a safety or environmental benefit