

COP28 Side-Event at NDC Partnership Pavilion

On the Pathway to Decarbonize Electricity Grids: SF6 Transparency and Phase-out

3 December 2023, 12:30 – 13:30, Dubai, UAE

Background

The Paris Agreement set ambitious targets to limit global warming to well below 2°C, ideally below 1.5°C. This necessitates decarbonizing electrical grid infrastructure which is responsible for significant greenhouse gas emissions. Sulphur Hexafluoride (SF6) used extensively in substations (more precisely switchgears and circuit breakers) has a global warming potential 25,300 times higher than CO2. With ambitious grid extension plans and the electrification of many sectors (industry, mobility, etc.), the demand for switchgears is steadily rising globally, and so are the associated emissions. Switchgears have a usage lifetime of about 40 years, which means that any newly installed equipment will lock countries into the usage of the harmful SF6 well beyond 2050. This results in a structural misalignment with the Paris Agreement commitments of many countries to reach net-zero at a national level.

Despite the scale of this problem, there is low awareness of SF6 impacts and alternatives. The great majority of countries lack national SF6 inventories and hence did not include these F-gas in their NDCs. Misalignment with the Paris Agreement commitments, lack of policies, incentives and coordination are impeding the transition to SF6-free technologies despite their commercial viability.

Objectives

This event aims to increase the visibility of SF6 impacts and alternatives and provides recommendations on the necessary steps to create SF6 transparency and the steps to follow for a complete phase-out. Experts will provide insights on the regulatory and technology requirements, as well as the success case of the recently adopted EU regulation on phasing out SF6. A panel discussion will discuss the pathway to phasing out SF6 for developing countries in more detail.

Hosting organizations

UN Climate Technology Centre and Network (CTCN), CTCN National Designated Entity (NDE) Germany

Target audience

This side-event is designed for country delegations, with a focus on ministries of energy, environment and climate and individuals responsible for national GHG inventories, as well as utilities and industrial players. Furthermore, international organizations and financial institutions are encouraged to incorporate an awareness of SF6 emissions in grid development projects.

Agenda

Moderator: Rajiv Garg, Director (a.i.), CTCN

Time	Agenda item
3 min	Opening remarks Rajiv Garg, Director (a.i.), CTCN
10 min	Scene setting: The importance of phasing out SF6 Dietram Oppelt, NDE Germany Mark Kuschel, Head of International Standardization at Grid Technologies, Siemens Energy
15 min	Keynote: Phase-out of SF6 in switchgear in the European Union (virtual) Arno Kaschl, Senior Policy Officer, Directorate-General for Climate Action, European Commission
25 min	Panel discussion: The pathway to phasing out SF6 Stefan Wenzel, Parliamentary State Secretary, German Federal Ministry for Economic Affairs and Climate Action Mark Kuschel, Head of International Standardization at Grid Technologies, Siemens Energy Eng. Isaac Kiva, Secretary Renewable Energy, Ministry of Energy and Petroleum, Government of Kenya
5 min	Questions and answers
2 min	Closing remarks Rajiv Garg, Director (a.i.), CTCN