

German utility gives green light to AirPlus™ Eco-efficient technology for Netze BW, Germany



One of Germany's biggest distribution grid operators is among the first in the world to invest in ABB's AirPlus™ technology.

Project at a glance

- Customer: Netze BW
- Segment: Utility
- ABB products: Medium-voltage gas-insulated switchgear ZX2 AirPlus, including VD4x circuit breakers

Customer challenges

Trochtelfingen is an idyllic small town 60 km south of Stuttgart, located in the region of the Swabian Alb. The rural area has seen growing renewable power generation, especially solar, over the past years. To ensure a reliable power supply in the future, Netze BW is modernizing the distribution grid in the region. The 20 kV switchgear in the Trochtelfingen substation is one of the first facilities to be upgraded.

Netze BW is equally interested in climate-friendly and sustainable solutions, ideally technologies that allow a smooth transition and are close to the known and existing assets in their grid.

ABB solution

ABB's high-end ZX2 switchgear is an ideal fit for this demanding application, requiring a double busbar system with three busbar sections. This arrangement gives the customer flexibility to adapt the grid operation as needed for highest availability.

To meet the customer's requirement of a greener choice, ABB equipped eight out of the 26 panels of ZX2 gas-insulated switchgear with the new AirPlus™ technology, a climate-friendly alternative to the traditionally used SF₆ gas. The ZX2 AirPlus panels are identical in their dimensions and follow the same operation scheme as the conventional ZX2 with SF₆. This is an ideal setup for the customer, as it allows them to compare both technologies side-by-side during real life operation.

The switchgear is fed by two power transformers that are connected to the 110 kV power grid supplying the Swabian Alb area.



01 The dimensions of the ZX2 AirPlus panels are identical to conventional ZX2 panels and follow the same operation scheme. An ideal setup for the customer to compare both technologies side-by-side in real life operation.

Customer benefits

- Climate-friendly AirPlus technology for green power distribution of the future
- AirPlus and traditional SF₆ technology combined in the same switchgear line-up
- Smooth integration and easy switch: Same size and operation as the conventional ZX2 switchgear
- Positive publicity and feedback from consumers for choosing a green technology

About the customer

Netze BW is the largest electricity, gas and water utility in the federal state of Baden-Württemberg in Germany. The company supplies 4.6 million inhabitants across the South West of Germany with power via its grid network, including its medium-voltage facility in Trochtelfingen.

About AirPlus

AirPlus is a gas mixture for gas-insulated switchgear and is a climate-friendly alternative to SF₆ (sulfur hexafluoride); a potent greenhouse gas, which is traditionally used in gas-insulated switchgear.

AirPlus is the first 'green' alternative gas on the market for medium-voltage switchgear and is part of ABB's ongoing strategy to develop eco-efficient technologies.

The switchgear units with AirPlus installed at Netze BW offers the same reliability as conventional gas-insulated switchgear, but with an insulation gas that has a global warming potential (GWP) of less than one.

GWP: The global warming potential describes how much heat a greenhouse gas traps in the atmosphere. The amount of heat trapped by one kilogram of the gas in the atmosphere is compared to the amount of heat trapped by one kilogram of carbon dioxide.