



BIG BATTERY BOX

RUHPOLDING, GER

What was the goal?

The Ruhpolding World Cup takes place at the Chiemgau Arena, which is located in the middle of a nature reserve. This results in special requirements for the protection of the water conservation area. For example, despite the greatest care, there was a danger in the past that diesel could accidentally escape during the refuelling process or during the operation of the diesel generators and get into the soil.

The goal of this initiative, therefore, was to replace diesel generators with a battery system, that stores renewable energy from the grid, to provide an environmentally friendly backup for the power supply of the TV broadcast and the supply of the floodlight system. Given that the technical power provision for the TV broadcasting production is often one of the main operational uses of diesel at the IBU World Cup events, the total CO₂ emissions of the Ruhpolding World Cup would also be significantly reduced.

How was the goal achieved?

The Big Battery Box is a self-sufficient, easily transportable 20-foot container with lithium-ion batteries, and a control unit that regulates the connection of the individual batteries and reports, among other things, on faults in the system. In Ruhpolding, the system stores green electricity power from the grid, which is usually generated by photovoltaic and wind power plants, and from the site's own small hydropower plant.

The battery storage system supplies electricity silently and produces no CO₂ emissions. This means, as of 2022, the electricity for TV broadcasting, floodlights, race control, and the timekeeping office in Ruhpolding is being generated completely from renewable energy with no additional requirement for diesel.

Which IBU sustainability issues does it address?

- ▶ Emissions from energy use for heating, cooling, and power

The installation of the battery storage system eliminates the need to burn fossil fuels to generate electricity. In the past, two diesel generators produced the electricity for the TV production or the equipment relevant for the races during the World Cup event.

The Ruhpolding World Cup can now be powered exclusively via the grid and the site's own hydroelectric power plant. The battery storage system now allows for a reserve CO₂ neutral supply of approximately one hour, in the unlikely event that both grids fail.

During the World Cup 2021, the two generators consumed 12,448 litres of diesel. The installation of the battery box therefore resulted in an approximate saving of 32 tonnes of CO₂ equivalent.

What were the challenges faced?

Coordination was the biggest challenge faced by the OC. Since there was no comparable event in which this technology had been implemented, a lot of technical data had to be provided as part of a series of discussions with the utility company, and then the TV broadcaster in charge of the production on site, to convince them of the effectiveness of the OC's new concept.

What are the next steps?

Ruhpolding OC would like to continue making improvements to the new system by further developing the cable infrastructure in the stadium, in line with recent developments: larger and more power walls, perimeter advertising, more huts. This would include the renewing the transformer stations and, if necessary, laying new cable for the TV compound.

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For further information on the sustainability work of the IBU, please visit: <https://www.biathlonworld.com/inside-ibu/sustainability>