

LONGi Hydrogen wins AQM Innovation Award 2024

Announcement of the "Oscar" award in solar and energy storage industry

The 10th All Quality Matters (AQM) Solar & ESS Congress, organized by the TÜV Rheinland Group, took place in Shanghai on September 3, 2024. The flagship BC 2.0 product Hi-MO 9 of LONGi won the “PV Module Energy Yield Simulation AQM Award 2024” and “PV Module Reliability AQM Award 2024” proving its global leading reliability and highly efficient power generation qualities. This marks the 8th consecutive year for LONGi to receive the AQM award of PV Module since 2017. Additionally, LONGi Hydrogen won the AQM Innovation Award for the first time due to the high current density hydrogen production equipment - ALK Hi1 series products.

Technology Leadership: Recognition for High Current Density Hydrogen Production Equipment

The evaluation is based on a public performance assessment of the 1000 Nm³/h products among global projects with commercial operation results. LONGi ALK Hi1 series products won the first TÜV Rheinland AQM Award due to its notable advantages on the innovation of product, material, adaptation, and ESG.

The Vice President of LONGi Green Energy Mr. She Haifeng expressed that it is the honour for LONGi Hydrogen to receive the AQM Innovation Award from TÜV Rheinland. LONGi Hydrogen is currently the only hydrogen production equipment company to provide the commercialized medium-pressure alkaline electrolyser of 1000 Nm³/h with current density of ≥ 4000 A/m². This award not only recognizes the long-term focus on technological innovation of LONGi Hydrogen but also represents the commitment of LONGi to provide safe, reliable, and efficient products to the customers, practicing the strategy in "Green Power + Green Hydrogen" products and solutions.

Creating a New Productive Value through "Green Power + Green Hydrogen" Solutions

The LONGi Hi-MO 9 modules underwent strict component sampling supervision according to the evaluation standards set by TÜV Rheinland and experienced a series of complex and rigorous professional comprehensive tests. These tests aimed to simulate the power generation performance of the modules under different geographical and climatic conditions, as well as their long-term stability and reliability following extreme weather encountered during actual operation. The Hi-MO 9 module features HPBC 2.0 cell technology, LONGi's high-quality Tairay silicon wafers, and composite passivation technology. These advancements significantly enhance the cells' light absorption, photovoltaic conversion, and current transmission capabilities. Empowered by this new-generation high-efficiency power generation technology, the Hi-MO 9 module can efficiently generate electricity even in harsh outdoor environments characterized by uneven light irradiation, high temperatures, and humidity.

The innovation of hydrogen production system of LONGi Hydrogen primarily manifests in the application of new materials, unique design concepts, safety and reliability testing, and renewable energy adaptation innovations. Through technological iterations and innovations in materials and designs, the high current density electrolyzers have realized the commercialized application. The products achieved good operational data regarding low power consumption, low LCOH (Levelized Cost of Hydrogen), and wide load range. Hi1 series products of LONGi Hydrogen is 1000Nm³/h medium-pressure alkaline electrolyser with a DC power consumption ≤ 4.2 kWh/Nm³ at 4000A/m², that can achieve a stable operation at the load of 30%. The excellent product performance relies on the application of efficient diaphragm and electrode materials which contribute to reducing overpotential and the optimization of the lye flow path and the flow field in cells which contribute to minimizing the internal resistance of the cells. This optimization has led to a reduction of 1.8%-2.2% in the LCOH of hydrogen production and a decrease of 10%-25% in the initial investment for hydrogen production equipment.

Through enhancing the value of quality, we illuminate the future. The photovoltaic and

hydrogen industries can only achieve the development through continuous technological innovation to reduce costs and increase efficiency. A lower LCOE and a lower LCOH is the key for optimizing the initial investment of projects. Leveraging on the "Green Power + Green Hydrogen" solutions, LONGi will empower various industries globally to achieve carbon neutrality.