Stable Renewable Energy Generation Optimization Using a Hybrid Wind-Hydrogen System

The project of “Stable Renewable Energy Generation Optimization Using a Hybrid Wind-Hydrogen System” aims to secure a sustainable electricity supply through wind energy and to advance hybrid technologies for electricity generation. It promotes hydrogen as an alternative energy source and aims to develop a functional wind-hydrogen electricity system. The primary objective is to execute a pilot hybrid project, utilizing the wind power plant located in Kilyos Sarıtepe Campus, while also securing a stable electricity supply through the wind-hydrogen system. This project advances research and development in renewable energy via hybrid methodologies and promotes collaboration between universities and industries in sustainable energy. Ultimately, it intends to establish new national and international partnerships to support and sustain the project. Under Prof. Dr. Cem Avcı's coordination and Dr. Nazan An and Dr. Tufan Turp's management, the research, now in its second year, has successfully installed the hydrogen hybrid system and activated it for production. The infrastructure of the automation system has also been completed, and the system has become operational and monitorable. The hybrid system will be employed on a small scale in the coming period in order to complete the test studies to prove that the system is operational effectively.


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BOGAZICI
UCM ID: D36536FEB3
Events
1
Dryer Control Network
Monitoring
Charts
H2 Production
80.13 NL/h
Outlet Pressure
1.95 bar
H2 Production, NL/h (last 24 hours)
409,88
298,09
186,31
74,52
37,26
12:34
18:34
00:34
06:34
12:34
Stack Pressure
2.01 bar
Electrolyte Temperature
23.17 °C
Water Inlet Pressure
2.1 bar


BOGAZICI
UCM ID: D36536FEB3
Monitoring
Charts
H2 Production
247.64 NL/h
Outlet Pressure
27.57 bar
H2 Production, NL/h (last 24 hours)
409,88
298,09
186,31
74,52
37,26
12:46
18:46
00:46
06:46
12:46
Stack Pressure
27.36 bar
Electrolyte Temperature
29.51 °C
Water Inlet Pressure
2.14 bar
Board Temperature
20.95 °C
HVAC Status
management


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H2