



3rd TERA-Award announces top ten shortlist

(7 April 2024) The third TERA-Award Smart Energy Innovation Competition has entered its final judging stage. Of the top ten entries, the “Hydrogen” category has emerged as the most prominent. The award presentation ceremony, exhibition, and seminar for the third TERA-Award will be held on 22 April at the Hong Kong Science Park, where the Gold, Silver, and Bronze Awards will be presented, with the Gold Award winner receiving a prize money of US\$1 million.

After thorough evaluations and interviews by the panel of judges, consisting of experts from the industry, academia, and research fields, ten projects were selected from the top 32 to enter the finals. These projects come from China, the United States, Ireland, the Netherlands, and Israel. The top 10 projects span the competition categories of “Renewable Energy”, “Energy Storage & Conversion”, “Carbon Neutrality”, and “Hydrogen”. Among these, the “Hydrogen” and “Energy Storage & Conversion” categories have the highest representation, with four and three shortlisted entries, respectively.

In the final stage, the judging panel will conduct a comprehensive evaluation of each project based on key areas, including innovation, implementation, talent capability, and commercial viability. They will ultimately decide the Gold, Silver, and Bronze Awards, as well as the Pioneer Awards and the Rising Star Awards for this year’s competition.

The award ceremony and a series of events will be held on 22 April at the Hong Kong Science Park in Shatin. These events include an exhibition of outstanding projects from this year and previous editions’ award-winning projects, as well as a seminar exploring the development of zero-carbon technologies and start-ups. The award presentation ceremony on the same day will present various awards, with the Gold Award project receiving a prize of up to US\$ 1 million.

The third TERA-Award Competition has attracted 450 zero-carbon technology entrepreneurial projects from 59 countries and regions worldwide. Mr Alan Chan Ying-lung, Executive Chairman of the TERA-Award Organising Committee and Chief Investment Officer of Towngas, looks forward to the unveiling of the top three projects. “In addition to providing prize money, the TERA-Award offers a globalised entrepreneurial service platform that integrates application scenarios, prize money, and investment for the participating teams. The winning teams have the opportunity to receive assistance from investors and enterprises to implement their projects, allowing them to grow rapidly and be applied in practice.”

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Top Ten Projects of the 3rd TERA-Award Smart Energy Innovation Competition (in no particular order)

	Project Name	Summary	Category
1	Carbon Dioxide Utilisation via Electrocatalysis & Synthetic Biology	Carbon dioxide collected from industrial waste gas after carbon capture could be transferred into a carbon source by electrocatalysis. The carbon source can replace the grain-based carbon source and produce alternative proteins, agricultural bacteria fertilisers and fine chemical products after bio-fermentation with support from synthetic biotechnology.	Carbon Neutrality
2	Development and Commercialisation of Core Materials for Advanced ALK Electrolyzers	Through the development of high-efficiency electrodes, high-temperature separators, new stack structures, and precise gas-liquid separation control technologies, the project aims to create equipment with rapid cold start, high current density, low energy consumption, high hydrogen production efficiency, and low cost.	Hydrogen
3	Fourth Power	A utility grid-scale rechargeable battery technology with an estimated cost ten times lower than lithium-ion batteries, which can be used to store electricity from renewable energy sources.	Energy Storage & Conversion
4	Gazelle Wind Power Ltd	This unique patented floating offshore wind platform significantly reduces the amount of steel required whilst enabling local shipbuilding construction with modular components, causing minimal impact on the ocean floor.	Renewable Energy
5	HAIDRIVER Hydrogen Fuel Cells and Water Electrolysis	Committed to providing convenient access to clean energy, this project specialises in two domains: water electrolysis and fuel cells, offering a one-stop solution for hydrogen energy.	Hydrogen

6	High Energy Storage Phase Change Material	his project utilises the patented phased change materials (PCM) technology to absorb heat and cold at different temperatures (from -150 to 1000°C) for later use. It has achieved significant breakthroughs in material stability, environmental friendliness, and lifespan.	Energy Storage & Conversion
7	Hydro X	Reinventing hydrogen storage and transportation with a technology that enables the storage and transport of hydrogen in a green, non-toxic, non-flammable, non-explosive, cost and energy-efficient carrier.	Hydrogen
8	Proton Exchange Membrane Water Electrolysis For Hydrogen Energy Storage	Through its proton exchange membrane (PEM) water electrolysis technology for hydrogen production, this project has developed a full range of PEM electrolyzers from 0.01-300 Nm ³ /h, with several technical indicators surpassing international standards.	Hydrogen
9	The World's Most Sustainable Long Duration Energy Storage (LDES), Based On Saltwater	This long duration energy storage (LDES) can provide 8 to 100 hours of flexibility and fully integrate solar and wind power generation. Its innovative flow-type battery uses only table salt and water to store excess electricity, making it environmentally friendly, safe, and cost-effective.	Energy Storage & Conversion
10	World's First Semiconductor Heating Technology	A new semiconductor heating technology that offers high-stability, low-cost electric-to-heat conversion, transforming electrical energy into heat energy. It provides a healthy, comfortable, energy-saving, safe, durable, clean, and efficient intelligent heating solution.	Carbon Neutrality

Press photo:

Photo 1:



Mr Alan Chan Ying-lung looks forward to the new TERA-Award winners leveraging the competition platform to receive assistance from investors and enterprises, enabling them to grow rapidly and implement their applied technologies.

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