

NEWS RELEASE**BIRD ENERGY AWARDS \$1.7M MULTI-YEAR R&D GRANT TO GENCELL ENERGY AND AMERICAN ENERGY TECHNOLOGIES**

Grant supported the development of breakthrough low-temperature catalyst for cracking ammonia (NH₃) into hydrogen and nitrogen

Petach Tikvah, Israel and Chicago, Illinois, USA – September 5, 2018 – GenCell Energy, the fuel cell power solution provider and manufacturer, and American Energy Technologies Company (AETC), have been awarded a multi-year grant by the Israel-United States Binational Industrial Research and Development (BIRD) Foundation to develop a breakthrough low-temperature catalyst for cracking ammonia (NH₃) into hydrogen and nitrogen. The \$1.7 million grant is funded by the US Department of Energy, the Israel Ministry of Energy and Israel Innovation Authority.

As part of the joint research and development, AETC and GenCell worked together to develop a low-temperature catalyst for cracking ammonia into hydrogen and nitrogen. “We are very excited to have worked on this project with GenCell Energy,” says Dr. Maya Barsukov, President & CEO at AETC. “This project has allowed us to produce a range of innovative, nanotechnology-based materials with a profound impact on the fuel cell industry. These technologies may also have great potential as catalysts for other industries such as oil and gas refining and industrial chemical synthesis.”

The unique catalyst is used by the GenCell A5 Off-Grid Power Solution to create hydrogen-on-demand from ammonia, the world second most-produced industrial chemical. Ammonia is readily available and is less expensive than diesel fuel in many countries throughout the world. The use of ammonia as a fuel enables the GenCell A5 solution to provide cost-effective, ultra-reliable, noise-free and weather-independent power for off-grid and poor-grid telecom base stations at a lower OPEX than diesel generators.

The traditional process of dissociating ammonia into hydrogen and nitrogen gases is carried out at temperatures that often exceed 700°C. Because of this, ammonia-cracking employs costly metal alloys and high-nickel steel components that are resistive at such high temperatures. The requirements for high energy input and costly components make traditional ammonia-cracking an expensive process. AETC’s new nanomaterial-based catalyst allows the endothermic process to occur at temperatures not exceeding 500°C and makes ammonia-cracking more cost-effective.

“Fuel cells were initially developed to supply power for the American and Russian space and naval programs. But like other bulletproof space and military technologies, fuel cells have historically been a bit on the expensive side, a fact which has prohibited their mainstream adoption,” says Gennadi Finkelshtain, CTO at GenCell. “Our partnership with AETC through the BIRD Energy program has enabled our GenCell A5 Off-Grid Decentralized Power Solution to create hydrogen-on-demand from low-cost ammonia. This technological breakthrough has allowed us to create a uniquely affordable primary power fuel cell solution that can replace diesel generators for rural telecom and rural electrification. Fuel cells are finally becoming more and more affordable for the mainstream.”

The BIRD Foundation promotes collaboration between US and Israeli companies in various technological fields for the purpose of joint product development. In addition to providing conditional grants for approved projects, the foundation assists by working with companies to identify potential strategic partners and facilitate introductions.

“BIRD Energy is excited to have played a role in building and supporting the partnership between GenCell and AETC,” says Limor Nakar-Vincent, Deputy Executive Director, BIRD Foundation. “Their joint work in developing and commercializing this unique green, fuel cell solution for powering off-grid mobile communications adds value to the US-Israel relationship, while improving both the environment and the quality-of-life in rural communities beyond the grid.”

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About GenCell Energy

GenCell Energy fuel cell solutions offer affordable, clean power for humanity that renders diesel generators obsolete. Using the ultra-reliable technology that powers American and Russian spacecraft, we deliver backup power for utilities, homeland security, healthcare and automated industries. Our revolutionary process to create hydrogen-on-demand from anhydrous ammonia (NH₃) enables our fuel cell solutions to provide primary power for off-grid and poor-grid telecom, as well as rural electrification. GenCell Energy has more than 80 employees, including many veterans of space and submarine projects. The company is headquartered in Israel with a worldwide distribution and support network and has unique intellectual property that includes patents, trade-secrets and know-how.

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