



JOINT PRESS RELEASE

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TNB RESEARCH & SEDANIA TO HARNESS ENERGY FROM EXCESS WATER AT JOHOR DAM

Tenaga Nasional Berhad's (TNB) wholly-owned subsidiary, TNB Research Sdn Bhd (TNBR) and **SEDANIA Innovator Berhad's (SEDANIA)** Sustainable Energy arm, SEDANIA Technologies Sdn Bhd have formed a partnership to evaluate the potential of harnessing energy from excess water in dams and water reservoirs throughout Malaysia.

Under the partnership, SEDANIA will deploy the energy-efficient micro-hydropower turbines developed by TNBR to generate electricity from released water at dams. Each of these micro-hydropower turbines with a capacity of 30 - 40 kilowatts each can generate up to 305,000 kilowatt-hours of electricity per year. With over 70 water dams and reservoirs located throughout Malaysia, the potential from such micro hydropower energy source is estimated at over 40 gigawatt-hours per year, enough to provide carbon-free electricity to about 10 thousand homes.

The first project by the two partners is for a dam project in Kota Tinggi, Johor. SEDANIA was awarded by a leading multinational oil and gas company with a job to assess and propose the feasibility of deploying energy-efficient micro hydropower solutions to generate electricity from released water.

SEDANIA's role covers the financial and technical aspects of the project while TNBR provides the technical expertise through the design and installation of the micro-hydropower turbines.

Commenting on the potential opportunities in this area, SEDANIA Chief Executive Officer Daniel Ruppert said, "Together with TNBR, we aim to equip dams in Malaysia with energy-efficient micro-hydropower turbines, thereby enabling all our clients to use the dam's surplus water as an energy source."

"Malaysia should be a showcase of Malaysian-made green technology with a track record of achieving energy sustainability. As an environmental, social and governance (ESG) driven organisation with a vision of helping corporations reduce their carbon footprint by firstly enabling efficient energy consumption before transitioning into the vital phase of clean energy generation, SEDANIA is well-positioned to accelerate the sustainability agenda together with the support of TNBR."

TNBR Managing Director Dr Mohd Hariffin Boosroh said, "TNB is championing the responsible and inclusive energy transition with the aspiration of achieving a net-zero carbon emission by

2050. With that goal in mind, TNB is investing in new green technology such as this efficient micro-hydropower turbine developed by our researchers at TNBR.”

He also added that, “TNB cannot do this alone and looks forward to collaborating with strategic partners. This partnership portrays how research and industry collaboration plays an influential role in the development of innovative and sustainable solutions for Malaysia.”

As the technology is developed domestically, it will also benefit local industries within the manufacturing, commissioning, operations and maintenance of micro-hydropower turbines, and hence moves the local community out of the middle income trap by shifting to a high-value, high-technology and high-skilled economy.

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About Tenaga Nasional Berhad

Tenaga Nasional Berhad (TNB) is a leading Malaysian utility company in Asia with an international presence in the United Kingdom, Kuwait, Turkey, Saudi Arabia, Pakistan and India. Within the renewable energy space, as of December 2021, TNB has a total portfolio of 2,771.4MW in Malaysia (including 2,536.1MW of large hydro) and 715.8MW across the UK, Turkey and India comprising mainly solar, wind and hydro energy generation assets.

About TNB Research Sdn. Bhd.

TNB Research Sdn. Bhd. (TNBR), the in-house solution provider for TNB since 1993, has over twenty-five years of experience in R&D and servicing Malaysia hydropower schemes.

Through its vast experience and technical expertise in hydro plant operations, optimisation, and system design, TNBR hopes to offer its innovative hydropower solutions and expedite the country's transition toward a carbon-neutral future.

Log onto <https://www.tnbr.com.my/> to find out more about TNBR's innovative solutions and services.

About SEDANIA Innovator Berhad

SEDANIA Innovator Berhad is an investment holding company with a focus in sustainability-enabling businesses. Since its listing in 2015 on the ACE Market of Bursa Malaysia, SEDANIA has invested in innovative businesses which lead to the reduction of carbon emissions and enable sustainability.

SEDANIA invests in its corporate clients' future energy sustainability by financing and deploying energy efficiency solutions and renewable energy systems which to date saved over 66 gigawatt-hours and RM30 million in clients' energy cost.

For consumers, SEDANIA offers preventive healthcare products which reduce carbon emissions through the selection of eco-friendly ingredients and biodegradable material. Over 150 products are sold under the brand Offspring online and through selected retail stores in over 20 countries worldwide. We are Innovators. We improve lives sustainably.

Log onto <https://www.sedaniainnovator.com> to find out more about our Sustainable innovations.



Tenaga Nasional Berhad's (TNB) wholly-owned subsidiary, **TNB Research Sdn Bhd (TNBR)** and **SEDANIA Innovator Berhad's (SEDANIA)** Sustainable Energy arm, SEDANIA Technologies Sdn Bhd are set to undertake their micro-hydropower turbine projects in potential dams and water reservoirs throughout Malaysia.



Each of the 30 - 40 kilowatts submerged micro-hydropower turbines can generate up to around 305,000 kilowatt-hours in green energy per year by harnessing energy from excess water at the dam, preventing approximately 230 tons of carbon emissions from entering the atmosphere.



SEDANIA chief executive officer
Daniel Ruppert



TNBR managing director
Dr Mohd Hariffin Boosroh