ASX and MEDIA RELEASE

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Roots collaborates with Nostromo to progress off-grid IBC commercialisation

- **Collaboration with cold thermal energy storage company Nostromo to increase efficiency of Roots' off-grid Irrigation by Condensation (IBC) technology.**
- **Parties will work together on combined IBC demonstration using Nostromo's IceBrick as a solar-powered water cooling and energy storage system.**
- **Nostromo's IceBrick will replace lithium batteries, currently used for energy and water cooling.**
- **Nostromo has been recognised by Royal Dutch Shell as a promising new energy technology, participating in its acclaimed GameChanger program.**
- **Roots' IBC system facilitates the production of food crops using irrigation sourced only from humidity in the air.**

Roots Sustainable Agricultural Technologies Limited (ASX: ROO, Roots or **Company**) is collaborating with cold thermal energy storage company Nostromo Ltd. to progress the commercialisation of its solar-powered off-grid Irrigation by Condensation (IBC) systems.

Under the agreement, the parties will collaborate on developing an autonomous and cost-effective solar-powered water cooling and energy storage system to replace lithium batteries in Roots' IBC system.

Roots' off-grid IBC system facilitates the production of entire food crops using irrigation sourced only from humidity in the air, even in semi-arid areas. The system currently uses lithium batteries as an energy storage medium and for water cooling.

The combined demonstration at Nostromo's lab in Israel will use IceBrick to irrigate crops at night using only the condensation formed on the external surface of pipes. Nostromo's IceBrick, a modular thermal cell that can be fitted as an extension to greenhouses or buildings, is 10 times more efficient in energy density per sqm than any other solution on the market.

Roots is responsible for the installation of its IBC system and agronomical management while Nostromo will oversee onsite data collection and analysis.

Roots' CEO, Dr. Sharon Devir said, "This collaboration will enable Roots to advance the development and efficiency of our off-grid IBC systems, which are reliant on lithium batteries to store solar energy. Our IBC technology enables food production in areas suffering from water scarcity and has successfully sustained nine high-protein crops from seedlings."

"Partnering with a cutting-edge energy storage provider will enable us to progress commercialisation of our solar-powered IBC technology, addressing increased global demand for systems that mitigate drought."

Nostromo founder, Yaron Ben Nun said, "We have been aware of Roots' technological innovations for a few years now and we look forward to complementing the IBC technology with our IceBrick to irrigate crops.

"Using our cold thermal storage is a natural choice for storing solar energy, as effective condensation can only take place once the sun has set. This market offers significant future opportunities for these types of technologies, especially as global agricultural production is being hampered by climate events."

Nostromo's IceBrick

Capital Raising

In May 2019, the Company announced an equity raising in the amount of $1.66 million. As a result of significant delays in seeking shareholder approval for the equity raising, there was ultimately a shortfall of approximately $600,000.

As a result of this shortfall as well as on going needs, the Company intends to proceed with a further equity raising in the week beginning 21 October 2019 and intends to request a trading halt before the commencement of trade on the same date while commitments are secured for the new equity raising.

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About Roots Sustainable Agricultural Technologies Ltd.

Israeli based, Roots Sustainable Agricultural Technologies Ltd. Is developing and commercialising disruptive, modular, cutting-edge technologies to address critical problems faced by agriculture today, including plant climate management and the shortage of water for irrigation.

Roots has developed proprietary know-how an patents to optimise performance, lower installation costs, and reduce energy consumption to bring maximum benefit to farmers through their two-in-one root zone heating and cooling technology and off the grid irrigation by condensation technology.

Roots is a graduate company of the Office of the Israeli Chief Scientist Technological Incubator program.

More information: www.rootssat.com

Irrigation by Condensation (IBC) - a proprietary Roots technology

ROOTS Ltd.'s IBC is a standalone, closed-loop, solar-operated (or other energy source) system that irrigates crops by condensing air/soil humidity on the external surface of pipes. Water is cooled in an insulated water tank to below dew point temperatures. Then the chilled water is circulated through pipes in the field or greenhouse that are placed on the ground surface and/or in the soil at the plant's average root depth. The humidity that condenses on the pipes flows by gravity to the soil, irrigating and cooling the plants. In many cases, no additional irrigation is required to maintain plant survival and food production.

About Nostromo:

Nostromo is a private company founded by Yaron Ben nun and David Ben Gal. Nostromo has developed the IceBrick™, a modular thermal cell that can fit any building/greenhouse as an extension, and it is 10 times more efficient in its energy density per square meter than any other available solution.
Nostromo has been chosen by Royal Dutch Shell to take a part in its acclaimed "GameChanger" program.
The system will be commercially available within a few months at a cost of less than $400 per kWh with a warranty for zero degradation of the cells over 15 years of operation.

http://nostromo.energy/icebrick-2/

https://www.shell.com/energy-and-innovation/innovating-together/shell-gamechanger/portfolio.html