



# Moerk Water Newsletter

## **Dear friends and partners,**

All of us at Moerk Water hope that you had a wonderful start into this new year 2020. May it be a year of joy, gratitude and success. We are excited by what lies ahead for our partnerships in this new year!

We want to update you on all the amazing developments that have been happening here at Moerk Water with news from Western Australia, Indonesia and Tanzania!

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**Murdoch is bringing clean water to where it's needed in Indonesia with their Moerk Water Portable RO Unit**



Engineering students from Murdoch University undertook an exciting trip to various locations in Indonesia supported by the New Colombo Plan of the Australian government. For the first 3 weeks of December 2019, environmental and renewable energy engineering students went on an extensive and exciting journey all over Bali and Sulawesi. Everywhere they went, they demonstrated how the Moerk Water portable RO unit turns saltwater into delicious and safe drinking water. All the locals, men and women, young and old, who got a taste were thrilled how sweet the water was! Having access to safe drinking water around the clock is something that many take for granted. But it is not a given for everyone. The people living off the coast of Massakar in South Sulawesi in Indonesia do not have easy and regular access to clean water for their daily use. Their source of water, a shallow aquifer, has suffered from rising sea levels, a growing population and an increase in tourism, and is no longer potable. As a consequence, the islanders have to bring in water in plastic bottles which is both very costly and just further adds to plastic pollution. On another trip, Dr Martin Anda (Academic Chair of Environmental Engineering) and his fellow researchers from Murdoch University demonstrated the solar-

powered reverse osmosis water treatment unit to local officials as a sustainable and dependable solution to the lack of safe drinking water. The representatives of the Sulawesi Provincial Government and its district department heads were watching with great interest the demonstration of the unit that immediately turns saltwater into fresh drinking water. The unit comes with foldable solar panels which makes it perfectly suitable for areas that do not have access to regular electricity. Dr Martin Anda explained that "reverse is the most effective and simple technology for removing salts and contaminants from seawater." He added that "this solution can fulfil the daily drinking needs of whole communities."

It is hoped that in 2020 the people on these islands will receive a dependable and safe drinking water source.





**Honourable Dave Kelly MLA Visits Moerk Water Unit at Murdoch Muresk Institute**



We were honored to have Honourable Dave Kelly MLA, the Western Australian Minister for Water, Forestry and Innovation, together with Hon. Darren Legh West MLC, and Hon Laurie Graham MLC, visit Muresk Institute to learn more about the collaborative and innovative research project of Moerk Water together with Murdoch University in January.

Dr Vishnu Ravisanker, Murdoch University explains the Muresk Institute Project:

"With sporadic rainfall events, adequate fresh water availability is a pressing issue in most parts of the wheatbelt in Western Australia. However, a large extent of the land holds groundwater that is saline. The On-Farm Desalination initiative by Water Corporation in collaboration with Murdoch University, aims to address this problem by enabling farmers to treat groundwater to produce fit for purpose water. Phase 1 of the project involved installation of a 5000-10000 l/day Photo Voltaic Reverse Osmosis (PVRO) unit at Muresk Institute in Northam, WA. The fully autonomous unit, provided by Moerk Water, will act as a testing facility to study the long-term effects of different

water sources on the membrane performance and specific energy consumption. Working under the guidance of Professor Wendell Ella, my involvement in this undertaking as a Project Assistant from Murdoch University, has ranged from liaising with stakeholders to overseeing project completion. Overall I consider this experience extremely useful in developing my practical skill set and can't wait to take forward this initiative through its next phases."



*From left to right: Cameron Broun (Farm Technical Officer Muresk Institute), Dr Vishnu Ravisankar, Professor Wendell Ella (Professor of Desalination and Water Treatment Murdoch University), Steve Wainewright (Farm Manager Muresk Institute)*

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## **Fresh Water for the Children of the Agape Children's Village in Tanzania**



For way too long the children and staff of the orphanage and kindergarten of the Agape Children's Village in Morogoro in Tanzania have been suffering from an inconsistent and poor quality water supply. Due to their dependence on these inadequate water sources, many have fallen sick and school attendance has been low. However, water is life and no one should have to rely on water that makes them sick. Now, thanks to the installation of two RO units that treat the salty water of their two boreholes, the 70 children and staff will have easy and immediate access to safe and fresh drinking water. In addition to the positive impact on their overall health, the implementation of these water treatment units will have additional social, economic and environmental benefits. Now there will be enough water available, so that the surrounding communities will be able to purchase water for their own use. This will create jobs for young people who will go around and sell the water. These profits will be then used to cover the running operation costs of the units. The communities will no longer have to boil their water before using it which will not only save them time but also coal and firewood. This will have a positive impact on the environment.

If you are interested in supporting this or similar projects, please visit [Hope e.V.](#) for more information on how you can contribute.

[Visit Hope e.V. now](#)



**We hope that the Agape Children's Village will prosper in their important work of providing a home and a kindergarten for these children.**

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## **Indonesian students win Best Junior Poster Award with Moerk Water technology at Australian Awards in Surabaya, Indonesia**



Nanda, Wildan and Irham, a group of very talented and amazing



students from Indonesia won the award for the best junior poster on "WASTE FOR WATER - A Community-based Reverse Osmosis Technology Application in Bali" at the Australian Awards in Indonesia. On their poster they presented an innovative solution to provide drinking water in a sustainable way using renewable energy. Through this project, the local community will purchase drinking water with plastic waste. This is an amazing and innovative project targeting the issue of plastic waste and providing a safe drinking water supply.

As part of their research, the three students visited us at our Moerk Water workshop in Perth together with their facilitator Dr Martin Anda from Murdoch University, where we got a chance to meet them personally and teach them about our Moerk Water solar-powered RO technology.

The event was part of the post-course workshop of two short courses: Renewable Energy Technologies in Eastern Indonesia and Tackling Marine Pollution Issues through Recycling.

A special thanks also to the course facilitators Dr Tania Urmee (Murdoch University), Dr Jonathan Whale (Murdoch University), Dr Martin Anda (Murdoch University).

We are very honored that the team highlighted the technology and engagement of Moerk Water!

We wish Nanda, Wildan and Irham all the best and success for their projects and all their future endeavours!

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## Moerk Water at the Small Water and Wastewater Conference SWWS 2019 in Perth

The SWWS 2019 conference in Perth last December was all about small and decentralised systems which serve less than 100,000 population equivalent. The conference discussed and explored new and innovative methods of treatment, better understanding and assessment of resources and their supporting ecosystems, proper

management for conservation and approaches to achieve the dual aim of economic development and ecological sustainability. The focus was on the necessary infrastructure to provide good quality water, in sufficient quantity, in the most sustainable manner.



Our Director of International Business Development, Babara Brezger, got a chance to present the work of Moerk Water during her presentation "A Holistic Approach: Making the Island Communities Resilient Against Climate Change"



Thanks to the conference we got the opportunity and honor to show 40 people from Vanuatu, the US, Australia, China, Vietnam, South Africa and India our workshop! It was a fantastic day showing our water treatment units and talking about the importance of simplified and robust water technologies that guarantee sustainability.



It was also the perfect opportunity to discuss water issues with visitors from all over the world:

*From left to right:* Martin Brezger (Director Moerk Water), Prof Yureana Winjayantiand (Indonesia), Barbara Brezger, Dr Paul Mathew, Principal of Carmel College of Engineering & Technology

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## Contact us

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