Submission No 40

SUPPORT FOR DROUGHT AFFECTED COMMUNITIES IN NEW SOUTH WALES

Organisation: Zero Mass Water

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ZERO MASS water™ SOURCE™

29 November 2019

Mr Justin Clancy MP
Chair
Legislative Assembly Committee on Investment, Industry and Regional Development
Parliament of New South Wales
Sydney NSW 2000

Dear Mr Clancy

Re: Inquiry into Support for drought affected communities in New South Wales

Thank you for the opportunity to make a submission to the Committee's inquiry. Zero Mass Water is pleased to be able to contribute to the Committee's deliberations on identifying potential government action to assist regional businesses, economies and communities impacted by the drought.

With regard to Terms of Reference (h) and (i), I wish to draw the Committee's attention to the role Zero Mass Water's SOURCE Hydropanels are playing in providing reliable, high quality drinking water to communities with low water supplies.

Traditional water infrastructure in remote and regional areas of Australia is challenged by drought, contamination, remoteness, and low population density. We also know that many water-stressed communities have significant Aboriginal populations who suffer disproportionate impacts from the drought due to poor access to town water supplies and water treatment services.

The Hydropanels provide communities with a drought-proof drinking water solution to supplement their other water supplies. And unlike traditional water infrastructure, which can take months or years to be built, Hydropanels are uniquely free of infrastructure and can be installed in a matter of days. The Hydropanels use a combination of solar energy and materials science to extract pure water vapour from the air and convert it into highest-quality liquid water. The water then flows into a reservoir where it is mineralised before being delivered to a tap or dispenser. A standard array - two Hydropanels - has a storage capacity of 60 litres or 120 standard water bottles. Arrays can be scaled to community size, with larger installations providing millions of litres each year to a centralised storage tank and dispenser. Attachment A explains how the Hydropanels work.

In 2018, a demonstration grant from the Australian Renewable Energy Agency (ARENA) allowed the technology to be proven in a variety of climates across the country, from Lady Elliot Island in Queensland to the Pilbara in Western Australia. The Hydropanels have now been installed at farms, offices, council venues, schools and communities in more than 50 locations around Australia, including regional and remote communities in NSW impacted by drought.

In Murrurundi, a town in the Upper Hunter region, residents have traditionally relied on rainwater, bottled water, bore water, and the Murrurundi Dam for their water supplies, however the worsening drought has largely depleted these sources. Millions of litres of water are carted weekly to the pre-treatment lagoon to meet shortfalls and locals rely heavily on donated plastic bottled water to meet aesthetic and quality expectations. In 2018, Zero Mass Water installed

Hydropanels at the local school to give students access to reliable and great-tasting drinking water and ease the burden on families providing bottled water to children each day. Community locals now access the school out-of-hours to replenish their own household supply from the array.

Further west, Hydropanels were recently installed at Aboriginal communities in Walgett and Wilcannia to address residents' concerns about low and poor quality water supplies. Residents now have an alternative to river and bore water, which is often poor tasting, discoloured, and contaminated by lead, sodium and nitrates. Having access to high quality drinking water also makes these communities less reliant on expensive bottled water and reduces the consumption of sugary beverages. These and other installations are outlined in Attachment B.

The installations were made possible through a donation from Indigenous NBA basketballer Patty Mills. The Murrurundi site was donated by the Three Blue Ducks restaurant at The Farm in Byron Bay, where Hydropanels are used to provide a closed loop water service for diners.

To help deploy Hydropanels to more drought affected areas in the state, Zero Mass Water is exploring whether communities and local councils could apply for funding for the technology under the NSW Safe and Secure Water Program. However, our initial assessment is that Hydropanels are unlikely to be eligible for funding as the technology falls outside the program's current focus on pipelines, dams, and water management solutions. Further, there appears to be no clear funding pathway for Hydropanels through the NSW Government's various emergency water initiatives, with expenditure concentrated on water carting, new bores and water saving programs.

While Zero Mass Water strongly supports the measures the Government is taking, we argue that water security in remote and regional towns would be further enhanced by enabling communities to seek public funding for new and innovative technologies like SOURCE Hydropanels.

We hope this assists the Committee in its assessment of current Government programs.

Should the Committee have any questions or require further information, I can be contacted on [redacted]

Yours faithfully

[redacted]

Kristen Roy
Director of Market Development Australia

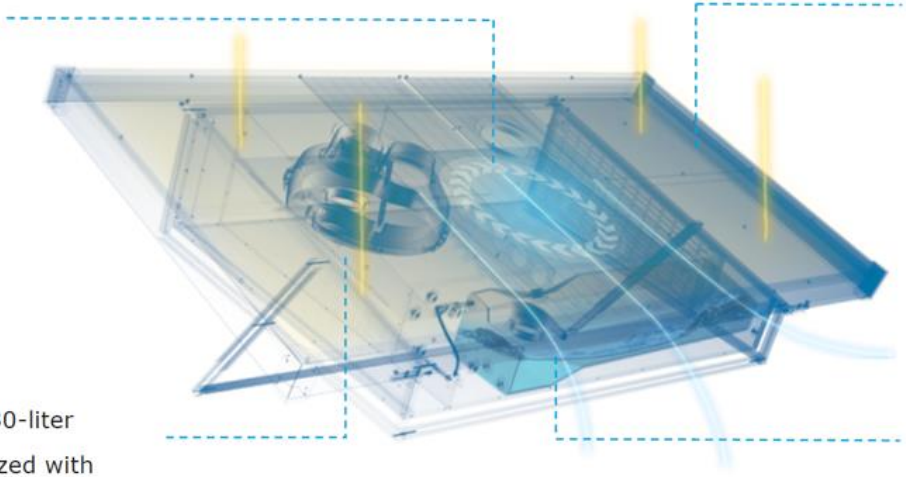
Attachment A

ZERO MASS water™

How it works

1

Using solar PV, SOURCE takes in ambient air via fans and adsorbs water vapor from that air onto a hygroscopic material



2

With heat from the sun, SOURCE converts water vapor collected into liquid water, made pure

3

The pure water flows into a 30-liter reservoir where it is mineralized with magnesium and calcium

4

Sensors inside the reservoir monitor and optimize the water to maintain quality

Attachment B: Example Installations

Gundy Soldiers' Memorial Hall, Hunter

The town of Gundy once relied on rainwater harvesting, boreholes, bottled water, and the local river for their water supply. Facing severe drought, their local water supplies became severely strained, forcing residents to rely on bottled water alone.

To provide a sustainable, non-extractive solution, the Gundy installed eight SOURCE Hydropanels for the community to use to replenish their drinking water supply.

The installation of SOURCE provides safe, reliable, and delicious drinking water for the community to enjoy, boosting community resilience to the drought.

Wilcannia and Walgett

Patty Mills, NBA player and one of Australia's leading sportspeople, was determined to bring a renewable supply of clean drinking water to drought-stressed areas of remote Indigenous Australia. Throughout his basketball career, Mills has been dedicated to honoring his Aboriginal culture, and founded The Community Water Project to enable remote communities to overcome water stress.

With the support of the National Basketball Players Association and Australian Indigenous Basketball, The Community Water Project installed SOURCE Hydropanel arrays in six remote Australian communities, including Wilcannia, Walgett, Cunnamulla (QLD), Oodnadatta (SA), Black Tank (NT), and Dampier Peninsula (WA).

Commenting on the Wilcannia installation, a community elder said, "Over the past 5 years there has been virtually no water in the Darling River, and the water that is left is poisonous. The Hydropanels donated to us provide 900 litres of water each month. It really makes a big difference to the lives of our elders and our young families."

Murrurundi Public School, Upper Hunter

Murrurundi has been hard hit by the drought. Struggling with a low water supply, the town needed a solution that would provide community members with drinking water security.

Three Blue Ducks, a sustainably-minded farm to table restaurant, committed to supporting the town of Murrurundi by donating 10 SOURCE Hydropanels to Murrurundi Primary School.

Now the students, parents, and community members have continuous access to reliable, high-quality drinking water.

Crookwell, Southern Tablelands

At this rural property in Crookwell, the homeowner needed an additional drinking water solution to supplement their existing supply from a rainwater tank.

Since installing SOURCE Hydropanels at the property, the owners now enjoy high-quality, delicious, and renewable drinking water, while continuing their use of rainwater for showers, toilets and other domestic uses.