

## Test Results Confirm Novel AC Pellets Successfully Destroy Florida Red Tide Algae

- **New Activated Carbon ('AC') Pellet technology demonstrates superior performance killing 100% of algae within two hours at low dosages of added algacide**
- **Florida red tide algal blooms cause severe environmental, economic, and public health issues and there is considerable government support to fund environmentally friendly treatments**
- **Carbonxt provides the following link which details the economic and health impacts caused by red tide algal blooms in Florida - <https://bit.ly/2YwTB7t>**
- **These pellets build on our nutrient pellet research and commercialisation work. Freshwater eutrophication (water becoming progressively enriched causing excessive algal growth) has been estimated to cost the US economy US\$2.2 billion annually<sup>1</sup>**
- **Carbonxt's success in addressing major environmental concerns of airborne emissions and water contamination was recently featured on US National TV (CNBC), in the documentary series 'Advancements' with Ted Danson on the 11th September 2021. Online access of the segment can be found on the Carbonxt website ([www.carbonxt.com](http://www.carbonxt.com)) or at <http://advancementstv.com/segments/>**
- **Further trials underway to replicate results on a larger scale in aquariums, prior to deployment in Florida estuaries**

United States focused Cleantech company **Carbonxt Group Ltd (ASX:CG1)** ("**Carbonxt**" or "**the Company**") is pleased to report on the successful completion of recent laboratory tests deploying new Activated Carbon ("AC") Pellet formulations to prevent the propagation of Florida red tide algal blooms.

The tests were designed to assess the effectiveness of Carbonxt's new AC Pellet formulations in killing the algae responsible for red tide algal blooms, while simultaneously removing its toxins without causing any long-term harm to the ecosystem. The results of the testing showed significant promise with 100% of the algae being killed within two hours of exposure.

Conducted under lab conditions, Carbonxt Novel algacide/activated carbon composites were capable of killing 100% of the algae at dosage levels of 0.5g/L and above in under two hours (see **Figure 1**).

In addition, a further variation of this AC pellet formulation combined with a different algacide showed immense promise in achieving a near 100% elimination at a much lower dosage rate of 0.1g/L. Further development of these various pellet formulations and more comparative tests assessing the recently developed Carbonxt formulas are to be undertaken.

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<sup>1</sup> <https://pubs.acs.org/doi/10.1021/es801217q>



In collaboration with the world-renowned Mote Marine Laboratory, the tests were aided by a US\$100k government grant, supporting the development of an activated carbon mitigation technology for use throughout Florida's waterways.

Ongoing support from Mote Marine Laboratory and the Florida Fish and Wildlife Conservation Commission is a significant endorsement of the AC Pellet technology. Collaborative efforts are continuing with a planned scale up of field-testing to take place, with the first phase to determine the most effective delivery system in large scale aquariums. The final phase will see a full-scale test carried out in an estuary to demonstrate the effectiveness of the technology in eliminating red tide algal blooms in large scale ocean environments.

As well as Red-Tide algae, we are working on pellets to remove algae in freshwater environments. With an annual estimated cost of \$2.2 billion to the US economy, freshwater eutrophication occurs when water becomes progressively enriched with minerals and nutrients causing excessive plant and algal growth. The link between eutrophication and Florida red tide events are well documented as are the widespread environmental, economic, and public health problems they cause.

Economists at the University of Florida determined tourism revenue losses of \$184m following the 2018 red tide bloom<sup>2</sup>. Further studies of red tide events also reveal a damaging effect on human health, with increased diagnoses of pneumonia (19%), gastrointestinal illnesses (40%) and respiratory illnesses (54%) being recorded, and combined medical/lost income costs exceeding \$22m. Research revealing an average of \$22m dollars in medical expenses and lost income occur during red tide events<sup>3</sup>. The following link provides a comprehensive overview of the economic and health impact of red tide blooms on Florida <https://bit.ly/2YwTB7t>

## **Comment**

**Managing Director Warren Murphy said:** *"The environmental and economic impact caused by red tide algal blooms is widespread and devastating. With these positive test results, we are one step closer to providing a viable and environmentally friendly solution to mitigating the blooms and the damaging effects they cause. With continued backing from Mote Marine Laboratory and the Florida Fish and Wildlife Conservation Commission we will progress and scale up the next phases of test work to commercialise the AC Pellet technology. The research and development efforts by the team have been amazing as we are set for entry into what is a very large and lucrative new global market."*

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<sup>2</sup> [press.com/story/tech/science/environment/2021/08/05/swfl-tourism-lost-184-million-2018-red-tide-blooms/5459095001/](https://press.com/story/tech/science/environment/2021/08/05/swfl-tourism-lost-184-million-2018-red-tide-blooms/5459095001/)

<sup>3</sup> [http://www.floridahealth.gov/environmental-health/aquatic-toxins/\\_documents/economic-impacts.pdf](http://www.floridahealth.gov/environmental-health/aquatic-toxins/_documents/economic-impacts.pdf)

Figure 1: Carbonxt Novel algaecide/activated carbon composite results

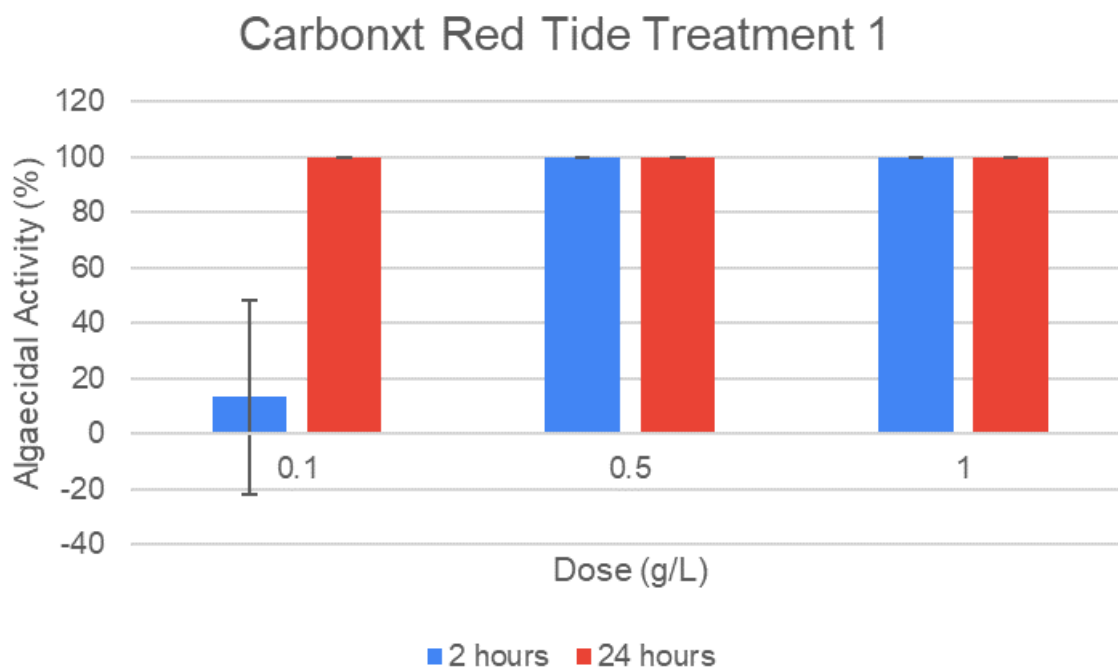
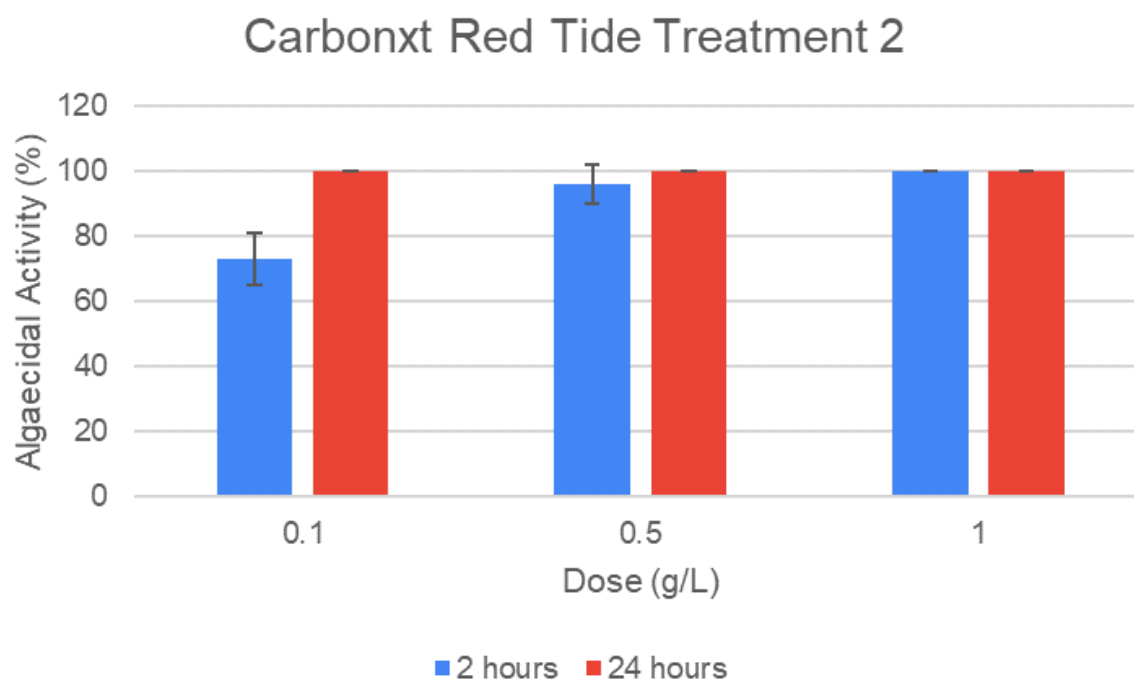


Figure 2: Alternative algaecide/activated carbon composite results





This announcement has been authorised for release to ASX by the Board of Directors of Carbonxt Group Limited.

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**About Carbonxt**

Carbonxt (ASX:CG1) is a cleantech company that develops, and markets specialised Activated Carbon products, focused on the capture of contaminants in industrial processes that emit substantial amounts of harmful pollutants. The Company produces and manufactures Powdered Activated Carbon and Activated Carbon pellets for use in industrial air purification, wastewater treatment and other liquid and gas phase markets.