



## CROPS Proof of Concept Summary

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The world is currently facing serious societal, financial, and governmental impact due to climate change AND the attempts to mitigate it. The societal effects are now being seen in increasingly severe climate phenomena. The disruption to industry and costs to governments for mitigation efforts (either due to tariffs/penalties or costs of mitigation) creates significant budgetary and planning issues.

**The CROPS system is immediately available to make a meaningful contribution in both mitigating climate change AND benefiting the agriculture, transportation, energy, and governmental sectors.** We contribute to solving the problem of carbon dioxide increases in the atmosphere without massive capital expenditures and years of construction of massive, specialized machines. We solve the problem of safe, environmentally friendly, long-term, guaranteed, verifiable storage of the carbon.

We have just completed a demonstration project to prove the concept and collect logistical information. The project was highly successful. **The results demonstrate:**

- The CROPS System is immediately available in months, not years
- No large capital expenditures are necessary to start
- There is minimal environmental impact on both land and sea
- We achieve guaranteed sequestration (storage) of carbon for hundreds of years
- In volume operation the cost per tonne of carbon captured and stored can be under \$100/tonne
- Current transportation systems are adequate and get better as technology improves
- Our Land and Ocean strategic partners are now designing optimizations for their systems
- Our team now has “end-to-end” experience in defining and implementing a system design

The project was straight-forward. We transported bales of corn stovers from farm to ship to deep ocean. A total of 5 bales was properly sequestered in the deep ocean, representing 5 tonnes of carbon sequestered. Science data and logistical studies were taken. The small ship used could have easily sequestered 20 tonnes of carbon. We now have metrics for scaling operations easily. We also know which shipping and sequestration methods are optimal for different scales. Unlike industrial carbon capture and sequestration, our metrics scale in 2 dimensions, capacity per unit of transportation x units of transportation, rapidly. We have also demonstrated verifiable accounting and auditing capability with proprietary electronic tagging.

The project verified long and short distance land transportation, port transfer, ship transportation, and deep ocean sequestration. Our strategic partner for land transportation is Magna Transportation Group and our strategic partner for sea transportation is Curtin Maritime. Locations used included areas of Illinois, Alabama, and the Gulf of Mexico.

