



What is the Science Barge? The Science Barge is a sustainable urban farm powered by solar, wind, and biofuels, and irrigated by rainwater and purified river water.

What does it do? We grow food in the city with no carbon emissions, no net water consumption, and no waste stream. The vegetables grown on the Science Barge require seven times less land and four times less water than field crops.

Why is this a good idea? More than half the world's population now lives in cities. Delivering food to them relies on a transportation system that pollutes the air and water. Conventional farming exhausts fresh water supplies and pollutes streams and rivers with fertilizers. Traditional energy plants contribute to air pollution and global warming. If cities can produce some of their own food, energy, and water then this burden will be lighter. Also, in a changing climate, food security will be compromised in certain parts of the world. Urban agriculture protects people while it protects the environment.

How does it work? We use a system called recirculating greenhouse hydroponics to grow tomatoes, lettuce, cucumbers, and peppers. Hydroponics doesn't use soil, and we irrigate with rainwater and river water. We power the greenhouse with solar, wind, and biofuels - energy that is carbon neutral, so we're not contributing to global warming.

What are you trying to demonstrate? That growing food in the city is good for the environment and good for people. In a world of climate change, rapid urbanization, and increasing pollution, urban agriculture can help us live more sustainably.

How do you define sustainable? To us, sustainability means producing what we need without damaging the world around us.

Why should New Yorkers care? Unless we become a more sustainable city, we can expect prices for food and energy to continue to rise, and we can expect traffic congestion and air pollution to get worse.

Frequently Asked Questions

How are you getting the message across?

We have a very active public education program, with school groups from all 5 boroughs of New York City visiting during the week, and the general public on weekends. See our website: www.sciencebarge.org

Why a barge? A touring barge makes us more visible and accessible to the public.

Who's doing this? New York Sun Works is a unique nonprofit. We're engineers and scientists.

How are you funded? Private philanthropy got us started. We're always looking for new sources of support.

How long is the program? We'll make six park visits over the next two years. Then the barge will seek a permanent home.

Who else is doing it? Urban agriculture is practiced all over the world, in places like Shanghai, Havana, and Dakar. Sometimes these farms aren't safe – urban soil and water is often contaminated. Meanwhile, hydroponics is proven and profitable, but not used enough in cities. To do that, we need to supply water and energy sustainably. This is what the Science Barge demonstrates.

What's next? We'd like to design these systems for rooftops. Schools are a good choice, because they need fresh vegetables at lunchtime, and because a greenhouse makes a great science lab.

How much food could you grow this way? Studies suggest there could be enough rooftop space in New York City to grow all of our fresh vegetables.

How can I visit the barge? See our website for locations and hours: www.sciencebarge.org