Magazine touts NJIT idea to harness clean energy for NYC

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An NJIT architecture professor with an architecture student has designed a network of modular floating docks to harness clean energy for New York City. The proposal was featured this week in Metropolis magazine.

According to Richard Garber, a professor of architecture at the College of Architecture and Design at NJIT and his student Brian Novello, the tidal action of New York City rivers would be strong enough to run the system.

The docking stations would plug into the conventional piers of New York City. Eventually, the piers would be extended further into the river to optimize clean energy generation while increasing public green space and tidal pools for wildlife. The system would encourage energy awareness by the increased visibility of the connection between the water's edge and the city's interior.

The stations would alleviate the need for conventional power to light the city streets. Three vertical turbines fastened to the underside of modular floating dock units would harness river currents. Each module could generate up to 24 kilowatts of constant energy created by the bi-directional four mph current, supporting 350 LED streetlamps.

This is an important idea because it relates to the current work aimed at reclaiming access to New York City's 578 miles of waterfront. The relationship of the river to the city, not simply its edges, is at the core of the proposal. What if the creation of a modular docking system to

expand public access to the rivers and create recreational opportunities could actually produce energy by utilizing the flow of river currents? Energy produced could then be fed back to the city's power grid through existing underground transmission lines to power urban infrastructure--in this case, streetlamps.

There is already precedent for turbines creating energy in the waters off New York City though the Roosevelt Island Tidal Energy project (RITE). However, this new scheme would generate a similar amount of energy while creating new public spaces and tidal pools through which expanded contact with river-based programs could occur.

Unlike windmills, which have garnered "not in my backyard" responses because of various negative impacts (visual obstructions, increased noise, danger to migrant bird populations; underwater turbines cannot be seen or heard. But there is another side: Windmills and other energy-producing products permit a visual understanding of power generation via an effect (they literally move, rotate, etc.). Turbines, though, are out of sight. The floating, programmable surface of docking stations would serve to link energy production with a physical space and the effect of powering the city.

Source: New Jersey Institute of Technology