

OFF-GRID ENERGY FOR THE BAYOUS

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The evil sisters Katrina, Rita, Irene and their brother Ike have brought havoc to the southern US coasts in recent years. Massive flooding and high winds left extensive destruction with housing particularly hard hit. We have been overwhelmed with the havoc in New Orleans, but the bayous suffered equally, albeit with less media attention.

The very high costs of rebuilding have resulted in new construction guidelines and building codes to mitigate future devastation. Elevating houses is now required, and 10-12 feet elevation is the norm. This reasonable measure requires a change in the way people live: it is now a 'world of stairs,' and more recently of makeshift but serviceable simple hoist-driven elevators. Stair access is particularly problematic for the elderly and handicapped, as well as an added burden for daily routines.

A safer elevated future is assured, but relatively frequent power outages remain. Periodic flooding of the area with loss of electricity often traps the family members until the waters recede.

Our challenge: can you develop a simple off-grid energy system that is available during outages, and perhaps able to provide energy during other times as well?

SIGUS in designing a practical 'off-grid' energy source in partnership with TRAC, (http://www.trac4la.com/TRAC1.1/page_liftouse.php) an NGO in the bayous outside of New Orleans in Houma. We will explore ways to make elevators of elevated houses independent of the power grid. Solar panels, small wind turbines and regenerative power - driven by the kinetic energy of the elevator downward movement - will be explored as ways to provide power during the frequent electrical outages from hurricanes and storms. Perhaps this power source may also be sufficient for additional energy uses as well?

In a previous SIGUS workshop we designed a 'Lift House' for rebuilding destroyed homes. Seven energy efficient houses have been constructed. We will build on this experience to continue to develop an all-encompassing energy efficient design appropriate to the conditions in the bayous. (See: http://sigus.scripts.mit.edu/x/archived/workshops/Louisiana_liftouse_2006.html)

