

December 14, 2012

Projects	Services	Modern Green Roof Technology	Living Architecture	Resources	About Us
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Green Roof Plant of the Month



Brush up on your green roof plant knowledge with a new plant every month! Only on our Green Roof Plant Blog!



Sun-Root System Unfazed by Super Storm Sandy!
Eighty-Five miles per hour winds caused no trouble for the new Sun-Root System installed last April in New York City.



Meet Samantha, Our New Green Team Member
Samantha joins the Green Roof Technology team to lead our communication campaign. Her primary responsibility is to create entertaining and informative content for use across all our media outlets.



Ground Mounted Solar Farms - Questionable
There is no doubt obtaining power by the sun is a great idea, but is the ground really an ideal area to place solar panels?



Green Roof Research
Looking at the big picture may not be the answer, simplify your thought process by looking at the roots of the issue.



Sun-Root System Unfazed by Superstorm Sandy

In April of 2012, Green Roof Technology introduced the first Sun-Root solar green roof system to the United States when we installed a 1 kW system (4 Sun-Root Modules) atop the New York Parks & Rec. Office on Randall's Island in New York City. The rooftop, which is eye-level with commuters on the Triboro bridge, creates and stores enough power during the day to power a series of rooftop LED lights throughout the night. New York City Parks & Rec was drawn to this technology as a means of adding solar power without the need to drill into the membrane to harness the solar array.

Although controlled wind studies have already proven the strength of this system, we are now able to report some real-life wind tests. Recent Superstorm Sandy made landfall late October, only 6 months after installation, and left without moving the Sun-Root System an inch. New York City reported maximum sustained winds at 85 mph with some gusts reaching 92 mph. Upon visiting the site a week after the storm made landfall we found that our original placements of the Sun-Root withstood the winds without a shift. Jorg could not be happier.



Proud to be the New Green Roof Technology Team Member!

I grew up in Norrisville, an extremely rural area in the top left hand corner of Harford County. My childhood was one of exploration; following streams imagining we were Lewis and Clark, constructing forts from the natural resources abundant in the forest behind my house, playing outside all hours of the day. Our parents had no need to worry; we lived on the side of town where the grass was greener. The time I spent outside as a child has given me so much appreciation for the earth where we reside. It wasn't until I enrolled in an environmental class during my senior year of high school, that my heart was finally set on a career path advocating for the health of our environment.

I eventually broke away from the small town scene to further my education at the State University of New York College of Environmental Science and Forestry. This past May I graduated with a Bachelor of Science degree in Environmental Studies with a focus in Communications. Even with the gray cloud of unemployment casting a shadow over the majority of recent college graduates, a narrow ray of sunshine peeked its way into my life. I recently got my foot in to the door of the growing environmental movement by becoming a new member of the Green Roof Technology team.

Although my experience with green roofs has been limited, I'm excited to expand my knowledge on the subject as well as start my new career working towards a positive change in our environment and community. I look forward to practicing the art of writing, whether it's in the form of a blog, a magazine article, or a simple email reaching out to our clients. There are so many aspects of the green roofing industry and I've only started to dip my toes in the lake of knowledge Green Roof Technology has to offer me. Today will mark my fourth day as a team member and I have already gained understanding of the various types of green roofs, the process in which they are created, and found out that my company is the single supplier of the integrated solar green roof design in North America. I have found the perfect job: personally having a hand in mitigating storm water runoff, lowering the urban heat island effect, improving the air quality, and producing power using a sustainable resource, amongst many other benefits. I want to thank my coworkers for this unique opportunity that will surely rival any Christmas present I will receive this year. Don't forget, every green roof counts!



Ground Mounted Solar Farms - Questionable

It is widely known that multibillion companies are massively investing in solar energy. Especially Internet companies (Google, Yahoo, 1and1, etc.) have huge demands for energy to feed their decentralized server systems. Experts estimated that in ten years from now this modern telecommunication (internet, clouds, videos, email etc.) require worldwide 1963 Billion kWh. This is three times more than the current entire power consumption of France, Germany, Brazil and Canada together (Greenpeace). With this numbers in mind it is understandable that these companies like to reduce their energy costs in the long run with alternative energies.

However alternative energy doesn't mean it is "green". Especially ground mounted solar farms (the preferred solution of these companies) consume a tremendous amount of land and produce substantial amounts of run-off. Typically the development starts with clear-cuts of forests, elimination of native environments or transforming farm land. After the development is done sometimes vegetation is brought back. Typically low growing grasses that require regular maintenance with sheep, weed covers, mulch, gas powered mowers and chemicals. Once this expensive maintenance is not done consistently the performance of the system will suffer and eventually completely fail.

Solar arrays installed on already impervious areas will reduce the land consumption dramatically. Also being less addicted to Facebook , IGadgets, PC, or smart Phones can actually reduce the energy need -our impact- without losing contact to friends and still making new friends. A hand written note in a personal calendar can be more environmentally friendly than connecting to clouds and email programs. Since there are already enough existing roofs, parking lots, rail road tracks and roadways that could be covered with Solar and also combined with extensive green roofs would create recognizable stormwater reduction, perviousness and last not least power. This combined technology is available since decades but many Architects, Engineers and developers seemed to be blinded by the sun while the supposing green industry takes out one piece of fertile land at a time and taking away nature's most advanced solar panel – the plants that are surrounded by a natural sponge.



Green Roof Research in North America

I am always amazed how much funds, intellectual energy and resources are put into research of extensive green roofs without the consideration of feasibility and without considering the demands of the plants. Especially in research common sense should be the starting point of any qualified discussion. This raises also the questions, why are extensive green roofs in Europe –in particular Germany – are so successful? It is solely successful because extensive green roofs according modern green roof technology are a cost efficient (and beautiful) tool to manage stormwater issues. Period. All other highly market benefits or positive “side effects” are generated by the system for free because these are only consequences of successful implemented nature. Focusing on the side effects and improving them will compromise and eventually reduce the main purpose of an extensive green roof by increasing costs for designing, engineering, implementing and maintenance.

In the academic world Liebig’s law of the Minimum should be applied in any step of the discussion and research. However understanding the limiting factors – including limiting economic factors – requires a tremendous amount of experience, historical data and common sense. The lack of these factors and the lack of time seem the limiting elements but justified by many unique human properties like vanity, self-promotion and economic restrains. On the other side (consumer side) the humans are also part of nature and it is natural that any of their decisions are made accordingly. If an idea doesn’t fit into this process (controlled by the scarcest or limiting resource) we walk away from it, like plants will “walk away” if their minimum requirements are not met. With the disappearance of plants on an extensive green roof we lose the purpose and the investment.

It is common sense that plants cannot walk away as fast as humans so their disappearance might take 2 decades or more which is still much less than the lifespan of extensive green roofs – the lifespan we promote.

For example measuring and promoting building insulation properties of a thermal mass or heat sinks like extensive green roofs was developed as a selling instrument of the industry (like reflective roofs). Trying to improve that will consequently compromise the main purpose to the negative. The end of this research will find out that it is most efficient and probably 10 times cheaper just to increase the buildings insulation on any surface of the building. It will also perfectly benefit when energy prices will continue to super-proportional increase or when we like to build our settlements that they last longer than just two decades – or when we want that the building has the same lifespan as an extensive green roof.

As I brought modern green roof technology to North America from Europe I expected a higher understanding of common sense and of Liebig’s law since it seemed to work in the social and financial world. Investing the research funds in actual extensive green roofs according proven modern green roof technology (e.g. not pre-planted boxes) would benefit the environment, industry and building owner much more and would help to start an entirely new research generation in 10-15 years from now. When it comes to living technologies going back to the roots sometimes helps or simply is a necessity.