

**A Private Tour of 'The Solaire'**  
by **Anthony Pereira**, President and CEO of altPOWER  
October 20, 2008

On October 20, 2008, a private tour was given of *Le Solaire*, the first residential building to be issued a 'Gold' LEED Certification Standard by the US Green Building Council. Built under the guidelines of the Battery Park City Authority, this residential tower is the first "green" residential building in the United States. *Le Solaire*, contains 293 units, is 27 stories high and has a 33 KW Building Integrated Photovoltaic System (BIPV). It is the first of many residential buildings under construction in the area that will become the model for, as the Battery Park City Authority's website states, "healthier, ecologically responsible environments where occupants collectively enjoy the benefits of living in a "green" community."

Mr. Pereira, leading the tour explained that the building incorporated unique integrated photovoltaic electric glass systems into its construction. He pointed out the customized photovoltaic panels placed along the building's façade. The awning of the building also incorporates photovoltaic panels. Besides being visually stunning, these panels generate energy continuously so long as the sun shines upon them. Mr. Pereira remarked that the building's architect thought it was very important to combine visual aesthetics with a message of ecological awareness. Mr. Pereira emphasized the psychological importance of the visibility of the panels and the continued need to send such messages with building design.

He explained that the materials for the photovoltaic squares within the custom-designed glass panels came from all over the world; recycled Intel silicon chips from a factory in Delaware, special glass from Germany and final construction in France. The panels produce DC electric current, and are connected to an inverter which converts the generated power to AC current. The rooftop installation consists of south and west-ward facing custom panels with a combined potential of 22.4kW. In order to conform to the Green Building Council's requirements, *Le Solaire* was equipped with enough PV generating capacity to satisfy 5% of the building's base power. Those figures are based on the system's instant generating capacity, rather than the actual energy production, which Mr. Pereira estimates to be less than 1% of

the building's overall electricity demand. He imagines that the electricity produced from the panels on the building could supply the electricity requirements of about 20 apartments. When questioned further on the subject, Mr. Pereira reminded the group that from a construction and design perspective, this seemingly-paltry figure is actually quite respectable. Photovoltaic implementation in New York City has obstacles. For example, because of the shadows cast by other high rise buildings in the area, the panels are not always able to gain exposure to much natural sunlight. Efforts are currently underway in Battery Park City to retrofit already standing buildings with new photovoltaic panels, and a newly defined standards will increase the amount of solar panels installed. *Le Solaire* harvests rainwater and recycles its waste water with the help of its "green roof." The wood used in the building's construction is especially efficient; 35% more than the sort used in conventional construction.

Mr. Pereira spoke with eagerness about the future of photovoltaics in New York City. Although some wind turbine construction has been attempted, the City's low wind speeds do not seem to make the expense worthwhile. From the roof, we could see that photovoltaics were involved in a lot of nearby development. Mr. Pereira pointed out a nearby residential building that was going up with 80 kW of photovoltaic potential; more than that of *Le Solaire*. In addition, New York City recently unveiled a plan to install 2MW of photovoltaic capacity on public city property.