



The City of New York

Mayor's Office of Sustainability
253 Broadway · 7th Floor
New York · New York 10007
www.nyc.gov/sustainability

Nilda Mesa
Director

May 31, 2016

Testimony of Anthony Fiore
Director of Energy Regulatory Affairs
Mayor's Office of Sustainability

Before the New York City Council Committee on Environmental Protection

Oversight Hearing

In Relation to Facilitating Solar Energy Adoption in New York City

Good afternoon, Chairman Constantinides and members of the Committee on Environmental Protection. My name is Anthony Fiore, and I am Director of Energy Regulatory Affairs for the City of New York and lead the Energy Supply group in the Mayor's Office of Sustainability. I am joined today by Benjamin Mandel, Renewable Energy Policy Advisor in the Mayor's Office of Sustainability, Tria Case, University Director of Sustainability at the City University of New York, and Carley Wigod, Project Manager for Urban Innovation and Sustainability at the New York City Economic Development Corporation. We are pleased to have the opportunity to discuss with you the great strides that have been made on adoption of solar energy within New York City, which has tripled since the beginning of 2014, as well as the outlook for even greater market penetration.

In *One City: Built to Last*, Mayor de Blasio not only committed New York City to reduce its greenhouse gas emissions 80 percent below a 2005 baseline by 2050 ("80 by 50"), he also set out ambitious solar deployment targets for the first time in City history. In *One City*, the Mayor announced that by 2025, New York City would install 250 megawatts of solar power on private property and another 100 megawatts of solar on public property. When these goals are met, solar energy will generate 435 gigawatt-hours within the city each year, enough to power more than 92,000 New York City households and avoid more than 125,000 metric tons of greenhouse gas emissions.

One City also provided funding for the New York City Solar Partnership, a collaborative of CUNY, the New York City Economic Development Corporation, and the Mayor's Office of Sustainability, to spur greater adoption of solar energy with emphasis on expanding access in communities that have historically faced financial, technical, or other barriers.

We recognize the imperative of expanding access to solar energy in order to spread the environmental and economic benefits it produces to a broader range of New Yorkers. Distributed solar energy offers great promise to reduce the city's reliance on fossil-fueled power plants, with corresponding benefits on air quality and our greenhouse gas footprint. Solar energy also makes good financial sense in New York City, where solar arrays can significantly offset demand for some of the nation's most expensive electricity.

The Administration emphasized the importance of distributed solar energy by identifying the expansion of decentralized power production, namely rooftop solar photovoltaic ("solar PV"), as a major strategy to achieve 80 by 50 in last year's *OneNYC* report. As the Mayor's Office of Sustainability works to develop an integrated 80 by 50 action plan, we are advancing this solar agenda by promoting community-scale distributed energy solutions. By assessing viable opportunities for strategic deployment of community energy, including rooftop solar PV, community shared solar, and solar thermal among other energy resources, New York City can reduce its reliance on centralized fossil-fuel power plants, both in-city and beyond the five boroughs, that drive up the city's greenhouse gas footprint and degrade the region's air quality. Our 80 by 50 action plan is due out this September.

The State of Solar

At the beginning of the de Blasio Administration, there were just 25 megawatts of solar installed citywide. Just two and a half years later, that amount has more than tripled to 76 megawatts, with 68 megawatts installed on private sector buildings across more than 5,000 total installations. Staten Island is the leading borough for private solar installations with more than 3,000 of those installations, accounting for 27 megawatts. In total, the city's solar market has a combined economic value of around \$350 million – \$97 million in 2015 alone and \$49 million so far year-to-date in 2016.

A leading factor in the exponential rate of solar adoption is that the cost of going solar in New York City has moderated in recent years and is now nearly on par with neighboring regions. In 2009, it cost an average of \$10.53 per watt for solar installations in New York City, bringing the total cost of a typical brownstone solar installation of about 7 kilowatts to over \$73,000 before incentives. As of the end of the first quarter of 2016, the New York City average price had declined to just 8 percent more than Westchester prices at \$4.44 per watt, which represents a 58 percent decrease since 2009. Now that same 7-kilowatt solar installation would cost just over \$31,000 before incentives.

Available incentives can significantly reduce the cost of solar PV systems for New York City residents. For starters, there is a 30 percent investment tax credit offered by the federal government, which Congress has extended to remain at 30 percent through 2019 before eventually stepping down to 10 percent after 2023. In addition, NYSERDA offers a variable incentive under the NY-Sun program called the Megawatt Block, currently at \$0.50 per watt for

residential installations in the Con Edison service territory. NYSERDA has also recently added an Affordable Solar Incentive, which doubles the Megawatt Block incentive on up to 6 kilowatts for homeowners with total household income less than 80 percent of area median income. Once these NY-Sun incentives are applied, New Yorkers can claim an additional tax credit from New York State, the lesser of 25 percent of the remaining cost or \$5,000. In addition, the New York City solar property tax abatement can shave another 20 percent over four years. After these incentives, a 7-kilowatt system that would otherwise have cost over \$31,000 costs just over \$10,000 or \$8,400 if the Affordable Solar Incentive applies.

While the property tax abatement is due to expire at the end of this year, the City has submitted a letter of support to the State Legislature to extend it until 2019, drawing on analysis from Sustainable CUNY showing the outsize impact the incentive has had on the city's budding solar market.

Further improving matters is the emergence of financing options that allow building owners to go solar with little or no money down. In these models, a third party such as a solar developer owns and maintains the solar panels the customer pays over time through either a fixed lease or variable power purchase agreement. These third-party ownership ("TPO") models have expanded the possibility of solar power to those who lack the capital needed for an outright purchase.

NYC Solar Partnership

Both the substantial reductions in solar cost and the significant uptick in solar adoption can be attributed in part to the efforts of the New York City Solar Partnership. A collaboration among three City entities spanning academic, economic, and policy perspectives, the Solar Partnership was formed in 2006 to jumpstart the nascent solar marketplace in New York City. The combination of CUNY's market and data analysis skills and credibility as an objective third party that brings stakeholders to the table, along with the Mayor's Office and EDC's focus on policies that support sustainability and economic development, has laid the groundwork for exponential growth in New York City's solar market.

At the beginning, the Partnership worked to ensure that there were certified solar installers to serve the early adopter market and assisted the fulfillment of interconnection requests to Con Edison. Thanks in large part to the efforts of the Partnership, the number of solar companies active in New York City have shot up from 5 in 2005 to 55 in 2015. These and other companies doing business in New York City support a robust workplace of more than 2,700 good-paying, steady jobs in the city. Among these, 21 percent are minorities, 27 percent are women, and 19 percent are unionized workers. Solar jobs typically only require a high school degree or equivalent, involve only moderate on-the-job training, and confer highly transferable skills. Nationally, solar installers earn a median wage of \$21 per hour, which is more than \$3 above the total U.S. workforce median wage.

Now that solar PV is hitting the mainstream, the NYC Solar Partnership has pivoted its focus from jumpstarting the market to smoothing the remaining frictions that prevent larger-scale adoption. With solar costs lower than ever and more financing options available, a remaining barrier to adoption is lack of familiarity with solar energy products and the available financial incentives and products that people can take advantage of.

For those reasons, Mayor de Blasio announced last month the launch of a new citywide program for community-led, limited-time group purchasing campaigns for solar PV called Solarize NYC. These types of group purchasing programs educate community organizations, reduce customer acquisition costs for installers and have resulted in price reductions of 10 to 20 percent nationwide. Through Solarize NYC, the Solar Partnership will provide funding, marketing and outreach materials, and technical assistance to community partners in two phases each year over the next decade. We are currently accepting letters of interest from communities wishing to apply for their own Solarize campaign and will select partner communities for the Fall 2016 campaigns by early summer. This program builds upon the success of the Partnership's Solarize Brooklyn Community Board 6 pilot program, which generated over 400 site assessments and will surpass the campaign's goal of 150 kilowatts of installed solar at a discount of nearly \$2 per watt relative to the local average. We expect that Solarize NYC can significantly increase solar adoption throughout the city, and catalyze our progress toward the 250 megawatt goal, by prioritizing outreach and resources to the communities that have historically had limited access to clean energy.

Still, rooftop solar is generally only an option for those New Yorkers who own buildings with roofs that are in a good state of repair, are largely unshaded by other structures, and are mostly free of other rooftop equipment. Community shared solar projects, also called solar gardens, have recently been enabled by New York State regulations and offer a path forward for renters and those without suitable rooftops to enjoy solar energy access. Community shared solar projects generate enough electricity to allow multiple subscribers, whether located onsite or remotely, to claim a share of project output as a credit against their monthly electricity bills.

With limited available real estate for large solar arrays in New York City, the Solar Partnership has engaged with communities, developers, and utilities to facilitate proof of concept of this model in the city. Earlier this year, the Partnership issued a request for information to identify barriers to and opportunities for community shared solar in New York City, and we are now working to facilitate the most interesting ideas that came out of that process. Notably, Brooklyn's Community Board 6 was so motivated from their Solarize experience that they have again teamed with Sustainable CUNY as well as Solar One to launch "Sun for All," a new program that matches interested community shared solar subscribers with potential community shared solar hosts and developers in addition to the more standard rooftop solar option.

Solar Permitting Improvements

Alongside these solar programs, the NYC Solar Partnership works with City agencies to help modernize and address inefficiencies in the permitting process to accommodate solar – a technology that was until relatively recently unfamiliar to the Department of Buildings (“DOB”) and the Fire Department (“FDNY”). For instance, a CUNY Solar Ombudsman works at DOB’s Development Hub, which processes online permit applications, one day each week to monitor how well the permitting process is keeping pace with the volume of incoming solar permit applications.

We are pleased to report that both DOB and FDNY have made significant strides that make the permitting process more responsive to the solar community and that ultimately increase solar potential in the city. At this time last year, the average turnaround time for solar applications at DOB was between 6 and 8 weeks. Since then, DOB has made a Project Advocate available to the Development Hub and requested that she focus on solar applications in order to address their concerns with clear and consistent guidance. Then, effective at the start of this year, DOB made an expedited permit process called “professional certification” available to applicants seeking the property tax abatement for small residential installations. This change allows a large quantity of small projects to avoid plan reviews, and it has resulted in the elimination of DOB’s review backlog. Now, rather than the uncertainty of waiting 6 to 8 weeks, a solar applicant can expect a decision rendered just 1.3 days after submission, on average. DOB is to be commended for an improvement of this magnitude in such a short amount of time.

FDNY has also been a responsive collaborator for the Solar Partnership. In March, FDNY released a guideline reducing the roof slope that differentiates flat and pitched roofs from 20 degrees to 9.5 degrees. Because the Fire Code allows rooftop equipment, including solar panels, to cover a greater share of rooftop surface on a pitched roof than on a flat roof, this change has effectively increased solar potential for the roughly 5,000 buildings in New York City with roof slopes between 9.5 and 20 degrees. In some cases, this extra capacity can be enough to make a project’s economics viable.

Additional changes to facilitate solar adoption are in development. DOB has proposed changes to the Energy Conservation Code, including mandates for 1- and 2-family homes to be built solar-ready. DOB is also in the early stages of rolling out a new risk-based permit application system, which assigns projects one of 52 risk profiles – the riskier the project, the more rigorous the application. Solar energy projects will receive a dedicated risk category, which is expected to fall on the lower end of the risk spectrum. This will further streamline the solar permitting process by eliminating forms and questions that do not apply to solar installations.

Conclusion

In conclusion, I would like to reiterate that the combination of top-down targets for solar deployment, strategic partnership among City entities, and market maturation has supported a

burgeoning solar industry to drive greater adoption in recent years. With the amount of solar capacity installed now three times the pre-2014 level, we have already made substantial progress toward our *One City* solar targets.

However, maintaining our current pace will require the City to continue expanding access to solar energy for more and more residents by working to further reduce costs and proactively dedicating outreach and resources where they are most needed. The City will also need to remain vigilant to assure a sound business environment for solar in order to keep pace with the kind of market needed to achieve 80 by 50.

This Administration and the NYC Solar Partnership will continue to provide an interface between New Yorkers, City agencies, the solar industry, and electric utilities to identify and address frictions that arise as technologies evolve. We look forward to working with the Committee on Environmental Protection to ensure that we are doing everything we can as a City to support the solar industry.

Testimony of Damian Sciano
Con Edison
New York City Council Committee on Environmental Protection
May 31, 2016

Good afternoon. My name is Damian Sciano and I am the director of Distribution Planning for Con Edison. Thank you for inviting me to speak about solar energy in New York City.

I'm happy to report that our city is a vibrant market for solar energy. Our customers in New York City have completed more than 5,900 solar projects, producing more than 75 megawatts of clean, renewable power. To put that in perspective, that's enough to power more than 11,000 homes annually.

Con Edison customers have made it clear they want clean-energy options and the ability to manage their costs. One way we try to help them reach those goals is by encouraging them to consider solar energy and making the application and installation process as easy as possible.

Customers who install solar panels on their home or business can save significantly off their electric bills. They also reduce power plant emissions and can relieve congestion on our grid at times of peak demand, helping us keep service reliable for our 3.4 million electric customers.

Working with the city, the New York State Energy Research and Development Authority, the U.S. Department of Energy, the City University of New York and other partners we have sought to show customers the economic and environmental benefits of photovoltaics.

We want to help customers complete their projects quickly and smoothly. That's why Con Edison eliminated the engineering review for installations producing less than 25 kilowatts.

We also contributed technical support for the creation of the New York City Solar Map (nycsolarmap.com), which is an online tool that shows the solar potential of many buildings in the city.

We also host the annual CUNY Solar Installer Workshop where we help to educate contractors and developers on the process of interconnecting solar in New York City.

We even have a page on our website explaining the installation process and the benefits of solar energy.

And because we wanted to experience the installation process from the customer's perspective, a couple of years ago we installed panels on our headquarters building here in Manhattan. Our 200 high-efficiency panels produce 40 kilowatts of clean energy.

Just last year, the Solar Electric Power Association recognized Con Edison for a smart grid innovation that let a customer in the Hunts Point section of the Bronx install a 1.6-megawatt installation, the largest array in the city.

The engineering challenge was that the backflow of power from such a large installation would cause network switches to open, impacting the reliability of the grid.

We were able to adjust the relays on the switches associated with the customer so that the switches do not open when power flows back into the grid from this customer. But those switches will still open if they detect any actual fault.

Since then, we have used this technology to help eight additional customers install large solar arrays.

The development of solar energy across New York State took a big step forward this spring when Con Edison, along with five other utilities, and three solar companies formed the Solar Progress Partnership. In New York, the utilities and solar providers are working together to keep our state's solar market vibrant and sustainable over the long-term.

The Partnership has made a proposal to ensure the continued growth of solar energy while ensuring that adequate funding is available to maintain a reliable and resilient grid. The Partnership's proposal would transition from the current model for solar net metering to one that would fairly address customer cost sharing issues associated with solar's expansion.

The efforts we and our partners have made in the past decade have produced results, as the pace of adoption has continued to accelerate.

As recently as the end of 2010, we had only 8.5 megawatts of solar energy on our system in New York City and Westchester County. In 2015 alone, our customers installed nearly 34 megawatts of production, and we are on pace for even more growth this year.

Solar energy is a valuable resource in keeping New York City a clean, sustainable place to live and work.

I appreciate your time and will be glad to answer any questions you may have.

**TESTIMONY OF CHRISTOPHER NEIDL,
Director, Here Comes Solar
Neidl@solar1.org**

May 31, 2016

Thank you for the opportunity to appear before this committee to provide testimony today. My name is Chris Neidl and I am the Director of Here Comes Solar, an initiative of the non-profit environmental education organization Solar One, based here in New York City. Our goal is to facilitate solar adoption in areas of the five boroughs and among specific residential property types for which adoption has historically been limited by different technical, regulatory and financial barriers common to the urban context. We provide a comprehensive range of free support services that aim to compensate for and overcome such barriers, including educational resources and physical site assessments for property owners, and access to an online proposal solicitation platform, which enables homeowners, cooperatives, and affordable housing providers, individually and in groups, to receive and review competitive proposals from vetted local solar contractors. Since launching operations in January 2015, our initiative has facilitated over 1 MW of

solar contracts in New York City, much of which has taken place in zip codes and on building types that the private solar industry has largely avoided or failed to serve at scale.

New York City has always presented a paradox to the solar industry: it is simultaneously the best of markets, and the worst of markets.

New Yorkers are strongly incentivized to invest in solar because local electricity rates are among the highest in the country. At the same time favorable support policies and regulations on the State level are generally conducive to adoption, relative to most other states. So latent demand is very high.

However, the city's complex, heterogeneous built and social environment presents uniquely urban obstacles that resist the established marketing, design and financing approaches that have successfully produced over 1 million solar installations in the United states as of this year. Most development has largely happened on the roofs of suburban single-family homes and commercial and industrial facilities, and in the form of large utility scale solar farms; in short, in settings which contrast significantly in their physical and social composition with much of our city.

It is not an accident that the borough that has seen, by far, the highest levels of residential solar adoption, Staten Island, is also our most suburban in its density and residential character. According to the New York State Research and Development Authority's online database, PowerClerk, nearly 4000 residential solar projects have or are in the process of being completed on Staten Island, making it one of the fastest growing solar counties in the country. In far more populous Brooklyn, by contrast, there are just over 700 residential projects completed or underway. In Manhattan, less than 50.

To be sure, many of the factors that limit solar potential in many parts of our city may never be overcome. That's just a fact of urban density and a dynamic, rapidly changing real estate market. However, we are a long way from reaching our potential, and the paradox that I just described, which has led to very uneven adoption across and between boroughs, is also revealing itself, more recently, to be a creative driver of local innovation and problem solving, producing solutions that are uniquely suited to the urban setting.

The private sector, mostly startups at the margins, are pioneering new design and financing approaches that have begun to overcome

some persistent barriers and to increase eligible roof space in ways that were before seen as impossible. Among would be adopters, we are also seeing homeowners participating in different group solar and solarize initiatives at the grassroots level across the city, aggregating their purchasing power, increasing interest among solar developers, and realizing discounted pricing as a result.

New state regulations, most significantly, virtual net metering or community shared solar, while not without its limitations, provides a potentially powerful basis for new implementation models for New York's multi-family and rental property segments that are just now beginning to materialize in potentially disruptive ways.

However, these innovations alone are not enough to bring solar to scale in New York. For the technology to ultimately play a meaningful role in making our city's electricity system more reliable, affordable and carbon free in the 21st century, the City must continue to play a deliberate, proactive role in facilitating growth. This means actively removing barriers and approaching problems in new ways - ways that may, in fact, have little precedent nationally, simply because, as

already discussed, New York presents a unique context for solar implementation that requires unique solutions.

NYC's building and electrical permitting process for solar has historically, on balance, created barriers to private sector participation and therefore adoption, increasing project time, uncertainty and costs relative to surrounding jurisdictions. However, thankfully, there is clear, encouraging evidence that this is changing, and this deserves to be acknowledged. The Department of Buildings in recent months has implemented changes that have materially altered the solar development process in New York City for the better. A recent increase in plan examiner staff at DOB has allowed the department to process higher volumes of permit applications in shorter periods, while the introduction of a professional certification filing option for pitched roof installation projects has sped up project periods for the latter while also accelerating review and approvals for flat roof projects, resulting in record low turnaround times. The Department should be commended for its responsiveness and for making these adjustments, as they have made the process of going solar more rapid, more predictable and more convenient for both installers and

their customers. This undeniably will lead to more solar in the five boroughs.

The NYC Solar Partnership, led by Sustainable CUNY, in collaboration with the Mayor's Office of Sustainability, NYC EDC, and other stakeholders, played an essential role in identifying this need, and persistently making the case for these and other changes. And in the process they have illustrated how public sector actors can positively encourage, without getting in the way of, desired market outcomes. We owe them our continued thanks and support.

However, recent improvements at the DOB should not be viewed as an end game, but rather as a single positive indicator early on in what must be a long-term process of transformation that will necessitate unprecedented levels of collaboration between the private sector and public city agencies. As I enthusiastically commend recent improvements at the DOB, I also hope that the goal of enabling rapid, safe and exponential solar growth can become an embedded value and objective that is internal to the department itself. I hope that future improvements to make solar easier and less expensive in New York, will come as a result of the department's own growing internal

capability to proactively identify and implement solutions to barriers and challenges that emerge over time in this fast evolving sector as they emerge, rather than as a result of gradual, external advocacy. The DOB's solar permitting capabilities must to be built to accommodate massive rates of adoption in the coming years, not simply to accommodate today's rates of adoption. As demand grows across new diverse property types that make up the core of NYC's building stock, but are largely uncharted territory for the solar industry, new problems and challenges will inevitably emerge requiring an adaptive response from the DOB and other agencies, along with project developers.

I believe that the best way to make this happen is to establish a dedicated Division for Distributed Energy within the DOB. Such a division would aspire to keep pace with private sector change, and cultivate an institutional level of technical expertise across a growing array of clean distributed technologies at different stages of market development, not just solar. This division would be well equipped to anticipate change and modify its practices as needed through close exchange with private sector stakeholders and their customers, and its own functions, capacities and accountability would be rooted to the

City's broader long-term carbon reduction, grid reliability and resiliency goals. The Division should also aspire to simplify and eliminate redundancies from current application and filing requirements, in order to limit the probability of error while reducing time and effort. A Division of Distributed Energy would also have a more proactive and outward facing education and training function vis-à-vis the growing local solar industry that would help the latter better understand and properly comply with agency requirements. A more open, responsive customer service orientation would sharply reduce the time, effort and resources required to file permit applications and to make corrections in the event of error. Ideally, a renewed focus on simplification, education and communication would cut out waste and added costs, thus making solar easier and more affordable without compromising the goals of safety.

We believe that the purview of such a division, from a technology point of view, should encompass a multitude of clean distributed energy applications. Solar is surely not the only distributed technology that will be required for the city to meet its goals over time. Rather a diverse portfolio of applications will play important roles in the broader transformation. As well, integration between

different distributed applications will become increasingly common and necessary, requiring a holistic and integrated permitting process. Consider the example of energy storage, which will become a necessary counterpart to various forms of distributed generation, including solar, making the latter more dispatchable and less intermittent, and supporting grid reliability and resiliency objectives.

Change and adaptation are not only necessary at the DOB. For many years New York City's fire code has been one of if not the main determinants of solar development in our city. Specifically, parts of the code that require significant clearance on flat roofs in the form of paths and setback have significantly limited capacity potential for individual projects and across the city's roof scape as a whole. New York is a city of extraordinary architectural diversity, but, by and large, it is a city of overwhelmingly flat roofs, so the consequences of fire code, possibly the most restrictive in the country, are obvious. And it is a matter of basic arithmetic that they will become more consequential as demand increases across the city.

In recent years the Fire Department has demonstrated commendable openness and a commitment to better understanding and

accommodating the unique rooftop requirements of solar development, and has attempted, on a case-by-case basis, to permit compromises that do not simultaneously increase risks to safety and property. Variances have been the central mechanism through which such compromises have been reached. However, as with the DOB, the FDNY's application and review systems for granting variances is not built for dramatically increased volumes, which will be necessary for the city to reach its carbon goals. Even today, as the volume of flat roof projects has rapidly grown in the past year, the FDNY's limited capacity to efficiently review and approve variances has led to slow turn around times, as long as two months by some recent accounts. For flat roof projects seeking essential variances, this addition of time will wipe out any time gains made due to improvements at the DOB. Therefore, we strongly recommend a new effort to provide the FDNY with additional support and capacity that would enable it to streamline and accelerate the variance process.

We also believe strongly that the pro certification filling option now available for pitched roofs should be extended to flat roof projects that have been granted a variance, since it is our understanding that the reason that such projects do not already enjoy that option is because of FDNY concerns about code compliance.

In summary, if the variance option is maintained, and the variance application and review process is modernized and rebuilt for high volumes, and if the cost of receiving a variance remains the same, and if pro certification can be extended to flat roof projects that have already received variances, then many of the most significant adoption barriers related to the fire code will, effectively, be resolved. Furthermore, if a Division of Distributed Generation is established within the DOB, it makes complete sense, in the interest of closing loops and reducing project time and costs, to embed FDNY personnel responsible for managing the variance process within this division.

Thank you for your time and consideration.

Statement of
Samantha Wilt
Energy Policy Analyst
Natural Resources Defense Council



Before the
New York City Council

May 31, 2016

Good afternoon, my name is Samantha Wilt, and I am an Energy Policy Analyst at the Natural Resources Defense Council. Thank you for the opportunity to testify on this important issue.

As *OneNYC* highlights, clean distributed generation, such as solar photo voltaic systems (PV), will be essential for meeting the nine million metric ton reduction in CO₂ necessary to reach New York City's 80 x '50 greenhouse gas reduction target. Increasing deployment of solar PV also creates good local jobs, provides enhanced grid reliability, and can bring significant public health benefits when displacing dirty, old and inefficient fossil fuel-powered electricity generation.

The City can do a great deal to facilitate greater adoption of solar PV. My testimony highlights a few specific recommendations to help the City achieve its ambitious citywide and municipal solar goals, while also increasing access to solar energy for all New Yorkers.

First, the City should address existing code and regulatory barriers to expanding solar PV. The City should build upon the recent Department of Buildings (DOB) initiative to allow professional certification for certain residential PV systems, to establish an ambitious, but achievable, timeframe for expediting all solar PV and solar hot water installations. Similar to the States of Vermont and California, we recommend a goal of turning around these permits within two weeks. There has been real progress on efforts to reduce the delays that lead to higher balance of system costs in New York City, but to increase uptake of solar to the levels necessary to meet our greenhouse gas reduction goals, we need sustained attention and support to address these challenges.

Second, the City should focus on increasing access to solar and developing equitable solutions for low-income customers. All New Yorkers should be able to enjoy the benefits of solar energy, including reduced energy costs. Low-income residents spend a disproportionate share of their income on energy. Being able to install solar or participate in a solar energy project would free up income for people's other critical expenses. To that end, the City, through HPD and other relevant agencies, should explore ways to facilitate the deployment of solar in affordable multifamily housing. Similar to the NYC EDC's Solar Thermal Pilot Project, the City could also conduct a pilot that would assist in understanding the benefits of installing solar PV and solar thermal on these buildings (such as benefits to tenants from lower utility costs, benefits to landlords from improved rent payments as a result of lower utility costs, etc.). The City should also explore possibilities for promoting shared solar in New York City, through their own properties as well as on private facilities throughout the city, building off of the information gathered through their request for information on the subject, issued earlier this year. Shared solar is an important tool to allow energy customers, like renters, who would otherwise face barriers to the adoption of solar, to enroll in renewable projects offsite and receive credit on their utility bills to reflect that clean energy generation.

Third, the City should build upon its exciting new Solarize NYC program, which will make it significantly easier and cheaper for New Yorkers to go solar through aggregated purchasing. One way it can do this is by developing a solar aggregation initiative for New York City employees. The City should explore creating a “SunShares” solar program for all City employees, expanding on the project recently underway for CUNY employees, which educates them about solar opportunities and offers reduced costs for solar installation through aggregated purchasing. By offering such a program, the City could create significant demand for PV, while working in partnership with one or more solar companies. The City could also use this opportunity to promote electric vehicles, encouraging employees interested in solar PV to switch to an electric vehicle and size their PV system to enable charging.

Finally, the City should focus on opportunities for supporting resilient solar and battery storage, which is a key component of a cleaner and more resilient grid. Through the current efforts of the CUNY Resilient Distributed Generation hub and other means, the City should focus, in particular, on neighborhoods and facilities that have high concentrations of vulnerable New Yorkers, as well as affordable multifamily housing.

Thank you for the opportunity to testify today. We look forward to continuing to work with the Administration and the City Council to help achieve New York City’s solar and greenhouse gas reduction goals and to help all New Yorkers have access to this clean, renewable energy source.



Testimony at New York City Council
Oversight Hearing: Facilitating Solar Energy Adoption in New York City
Committee on Environmental Protection
May 31st, 2016
Presented by Silky Misra – Energy Efficiency Program Associate
(718) 478-3848 and silky@chhayacdc.org

Good afternoon. Thank you for your time this afternoon. My name is Silky Misra and I work for Chhaya CDC in Jackson Heights, Queens. Chhaya means “shelter” or “Shade” in several South Asian languages, and providing New Yorkers with shelter and stability is the core of our work. For more than 15 years now, Chhaya CDC has been providing essential direct services to New York’s South Asian and other communities. We provide assistance in finding affordable housing, helping first-time home-buyers, helping homeowners save their homes from foreclosure and making them more energy efficient. While the home is a critical foundation for one’s well-being, Chhaya also recognizes the need for more holistic set of services that will help our community members become the self-advocating individuals that we want them to be. To achieve that, we also provide financial education, career-assistance counseling, leadership development, and tools and resources to become self-sufficient. We directly touch 2,500 households a year and reach 10,000 individuals indirectly through our large-scale workshops, fairs, and community organizing and advocacy work.

Climate change is already making the United States hotter, and much greater temperature increases are expected in the coming decades. Along with increasing temperatures, precipitation patterns are shifting, extreme weather events such as storms and droughts are increasing and sea levels are rising. These changes in weather patterns affect both energy demand, especially with increased peak electricity use for air conditioning and energy supply, with reduced reliability and efficiency. Energy efficiency is one of the most important tools for avoiding climate change by reducing use of fossil fuels.

With Chhaya's Energy Efficiency program, we try to help LMI communities to get access to available public resources to conduct necessary repair work and make their home energy efficient, which also helps them economically by reducing their utility bills. In a recent report published by the American Council for An Energy Efficient Economy, namely, "*Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency can Improve Low- Income and Underserved Communities*", it highlights that low-income, African – American, Latino, low-income multi-family, and renter households all spend a greater proportion of their income on utilities than the average family; thereby increasing their energy burden. *Energy Burden* is the percentage of household income spent on home energy bills. They have also identified energy efficiency as an underutilized strategy that can help reduce high energy burdens by as much as 30%. Last year, we counseled around 60 clients but because of limited funding resources, only 10 were able to get retrofits done. We need to add more resources to our program that will help in making the LMI and LEP communities sustainable. Introducing Solar to the community is a step towards this approach. The introduction of programs like Affordable Solar, NY –Sun by NYSEERDA is a big step and we want to provide access to these resources to our communities.

In this hearing today, I'd like to request the Committee on Environmental Protection to support organizations like ours who are working tirelessly to bring resources and direct services to populations who otherwise would not be able to access such resources. In particular, we need capacity building resources that will enable local grassroots organization like ours, to address the imminent issues around climate change by raising awareness about the same and helping our communities get access to energy efficiency and solar resources. It will help us provide direct services to our communities and help them adapt to this realm. We need more dedicated funding from public resources to help LMI communities get retrofits (retrofits are home improvements that reduce energy costs, and make homes comfortable and healthier). With your support, we will be able to expand our outreach capacities, deepen our program impact, and overall, help the residents of our city be energy efficient with use of solar resources who are active stakeholders in the prosperity and growth of our city.

Testimony of Benjamin Arana

Business Representative of Local 3 IBEW

Oversight Hearing: Facilitating Solar Energy Adoption in New York City

Hearing of the Committee on Environmental Protection

May 31, 2016

Thank you Council Committee Chair Constantinides and members Levin Lancman, Richards and Ulrich for holding this hearing on New York City's sustainability future.

My name is Benjamin Arana and I am a Business Representative for local 3 International Brotherhood of Electrical workers and I am responsible for the Solar Program in Local 3 I.B.E.W.

I am here in support of Michael Yee's testimony and also state that we have over 2500 apprentices trained in solar installations which is part of our apprentice training program. In addition we have over 1,000 A journeymen trained in solar installations. Local 3 has always stayed on the pulse of electrical technology and have provided the education and training to supply the industry with the best electricians in the market. We are willing and ready for the future solar work that is coming to NYC.

Recently I came across a list of solar jobs that were part of the first 24 schools to have Solar installed and the installations were performed by Solar Liberty, Standard Solar and Tangent. Which they did not use any of our Local 3 Contractors. I couldn't understand why we were left out of the first phase of solar installs but I am hoping that we are included in future solar installations.

I would like to ask if the agency Project Labor agreements can be used for the future solar installations regardless of the Public, Private Partnerships. P.L.As already have language for local hire and minority participation in place.

Thank you for your time and consideration and allowing me to express these comments on this matter.

Testimony of Michael Yee
Treasurer, Local Union No. 3, International Brotherhood of Electrical Workers
Director, Educational and Cultural Trust Fund of the Electrical Industry

Oversight Hearing: Facilitating Solar Energy Adoption in New York City
Hearing of the Committee on Environmental Protection

May 31, 2016

Thank you Council Committee Chair Constantinides and members Levin, Lancman, Richards and Ulrich for holding this important hearing on New York City's sustainability future.

My name is Michael Yee and I am the Treasurer of Local Union No. 3, International Brotherhood of Electrical Workers, and Director of the Educational and Cultural Trust Fund of the Electrical Industry. I am providing this testimony as a representative of Christopher Erikson, Business Manager, Local Union No. 3, I.B.E.W. and Stephen Gianotti, President, New York Chapter, National Electrical Contractors Association.

Local 3 represents over 28,000 members engaged in various occupations within the electrical industry in New York City; the Educational Fund is responsible for their continuing education, and NECA-NY represents almost 300 electrical contractors in New York City.

This hearing is particularly relevant to our industry because of the City's goal to install 100 Megawatts of solar on municipal buildings, and to fully power municipal operations with renewable energy by 2050. The industry's electrical contractors and the Local 3 membership have already installed sizable Photovoltaic systems in New York City at the Stillwell Avenue Subway station, the Museum of Jewish Heritage, the Solaire at Battery Park City, and most recently PS62R – the Net Zero Energy School in Staten Island. These projects are only a small snapshot of the renewable and energy efficiency projects that our industry has been able to perform.

The success of such projects was due in no small part to the expertise of our industry's contractors and the Local 3 members. Since 2007 the collaboration with Sustainable CUNY has contributed to the competency of our industry to manage the complexities involved with Photovoltaic installations. The exchange of knowledge between Sustainable CUNY, our industry and other partners has allowed for improved proficiencies in design, permitting and construction and has resulted in Sustainable CUNY being one of the most valuable resources for Photovoltaic projects in New York City.

Since 2008, Local 3 and our industry employers have installed several Photovoltaic systems on our own buildings, and to date over 100 Kilowatts have been installed. The combined power produced by these systems has exceeded 600,000 Kilowatt-hours; this has kept over 1.6 million pounds of CO₂ emissions out of our atmosphere. And we have another 35 Kilowatt PV system slated to be installed in the next few months on our new training center in Long Island City. The Local 3 membership has also been encouraged to install PV systems on their own homes, and since 2008 several hundred members have taken up that challenge and completed installations on their homes. At an average size of 6 Kilowatts, the combined size of these systems is over 2 Megawatts of green energy, eliminating millions of pounds of CO₂ emissions.

But reducing emissions isn't the only important part of making our city more resilient. We must also create and preserve good jobs for New Yorkers.

The projects I mentioned not only reduced the city's carbon footprint; they demonstrated that they were successfully completed with a highly skilled, well-paid workforce at an affordable price point for the developers. Good jobs are a vital element for sustaining a healthy middleclass within the City. When workers are paid well they add to the overall economic growth of New York City.

Sadly, this is not what the city is doing in its next round of solar installations.

The RFP for installing 100 Megawatts of solar on 88 municipal buildings via a Power Purchase Agreement was recently issued, and it does nothing to ensure that we create good jobs that make NYC's communities more resilient. There are no wage standards, no Project Labor Agreement, no local hire provisions, no training standards through union apprenticeship programs, and no plans for integrating students in vocational programs into the installation and maintenance of the solar systems.

I believe that the magnitude of the task at hand gives the City Council an opportunity to provide job growth for the citizens of New York. The Council Members should compel those producers and suppliers of components for these projects to setup manufacturing facilities within depressed areas of the city and provide much needed work opportunity to the residents of those communities.

Given the clear benefits our communities can derive from good jobs, paid on the job training programs, and local hire provisions, it is baffling that the city did not include these in the RFP. We want to work with City Council to make sure that we create good jobs and protect workers with these public investments. I recognize the need to keep the cost affordable for these projects and Local 3 and our industry's contractors want to be a partner to that success. The workers on these projects should not be locked into low wage jobs without any avenue for upward mobility. Local 3 and our industry have a long history of helping workers achieve good careers, and we would welcome the opportunity to provide input for revised language of this RFP.

This RFP has the potential to be utilized as the standard for all future renewable energy work in the city. We must get this right and ensure that while we are protecting our climate, we are also protecting our people.

As a partner of Sustainable CUNY, our industry is urging the members of the New York City Council to continue their support of Sustainable CUNY and their mission to foster the growth of Photovoltaic installations, and provide the technical knowledge base necessary to achieve the City's goal of a sustainable landscape for the Citizens of New York City.

Thank you for your time and consideration and allowing me to express these comments on this matter.



Contact:

Dan Hendrick

Director of External Affairs

dan.hendrick@nrg.com,

Testimony before the New York City Council

Committee on Environmental Protection

Oversight Hearing: "Facilitating Solar Energy Adoption in New York City"

May 31, 2016

Good afternoon, Mr. Chairman and members of the Environmental Protection Committee. I'm Dan Hendrick and I am Director of External Affairs at NRG.

NRG is the leading integrated power company in the U.S., built on the strength of the nation's largest and most diverse competitive electric generation portfolio and leading retail electricity platform. A *Fortune* 200 company, NRG creates value through best-in-class operations, reliable and efficient electric generation, and a retail platform serving residential and commercial businesses. In addition to our wholesale generation assets at Astoria and Arthur Kill, NRG has one of the largest residential solar businesses in New York City, operating in all five boroughs from our offices on Staten Island.

I'd like to start by thanking the City Council and the administration for your impressive leadership on the environment and clean energy. NRG recently announced that New York will be one of three focus markets for our residential solar business and the strength of the market here is due, in no small part, to the efforts of the City Council to create jobs and reduce carbon emissions. We would also like to thank the New York City Solar Partnership of CUNY, EDC and the Mayor's Office of Sustainability for helping to move the ball forward.

New York does still face a number of solar challenges that merit discussion. We offer the following recommendations as you continue your work to make New York City a clean-energy leader.

- First are the Public Service Commission restrictions on community solar. Right now, some eight out of 10 New York City residents who want solar on their roofs do not qualify. That's because they rent, or they live in multi-family dwellings, or have roofs that are too small or shaded. In theory, the Public Service Commission's 2015 order creating a community solar program should help expand solar access to these residents. But in practice, the PSC order requires customers and solar farms to be located in the same NYISO load zone – which means developers that want to serve New York City customers have to build their facilities in the five boroughs, where there is no land to build solar farms and rooftop space is at a premium. For this reason, we urge the City Council and the administration to advocate for changes to the PSC order to allow for solar facilities that serve New York City customers to be located in adjacent NYISO load zones.
- To underscore this problem and how it is slowing down the adoption of community solar in New York City, NRG reviewed the interconnection queues in utility service territories across the state with an eye toward community distributed generation projects. Now, not every utility breaks down the data in the

same way, but Central Hudson has 773 MW of CDG projects in the queue, followed by National Grid at 492 MW and Orange & Rockland with 365 MW. Con Ed, by contrast, has just 4 MW of potential CDG projects in the interconnection queue.

- On the residential solar side, we are encouraged by the administration's move to allow more projects to pro-certify. As a result, more solar projects are being built expeditiously and more customers can take advantage of the city's solar property tax abatement program. This property tax abatement will sunset at the end of 2016, and we encourage the Council to submit a letter of support to the state Legislature for bills that are pending in Albany to extend the tax abatement until 2019.
- Among the more formidable challenges are the rooftop setbacks required by city agencies. To be clear, we fully understand and support access for firefighting purposes. A few of small changes would accelerate solar deployment while continuing to ensure safety. For example, if owners of adjoining properties could sign an application – rather create an easement agreement – more properties could obtain a consolidated roof exception.
- We are very grateful to the FDNY for working with solar developers on granting variances where appropriate. If we are able to formalize and streamline the variance process, that would accommodate a significant increase in solar deployment. In addition, we urge the Department of Buildings to allow for pro-certification for flat roof projects that have already gotten a variance. In other words, if the FDNY has already signed off on a variance and finds the system design acceptable, there should be no reason these projects can't advance through pro-certification.
- Finally, we'd like to thank the Department of Buildings for its recent reforms and collaboration with the solar community. One additional and very simple reform would make a huge difference. Right now, the Department of Buildings' *Inspection Ready* portal gives solar developers only one scheduling option at a time, rather than allowing us to choose from a range of times that would better suit the homeowner's schedule. An upgrade to the portal would also make sense to allow for "clustering" appointments geographically – so, provided DOB inspectors are available, we could schedule a few inspections in the same neighborhood on the same day.

Thank you for the opportunity to present this testimony. NRG is very excited to be part of the energy transformation taking place in New York and we stand ready to be a resource for the Council and city agencies as you forge ahead.

TESTIMONY OF CLEAN ENERGY COLLECTIVE

Jeff Lord, Vice President of Project Development

Clean Energy Collective applauds the commitment of the City of New York to providing its citizens and businesses the ability to build a better energy future for all. In fact, that future is now and Community Shared Solar, or “CDG”, represents the one approach that provides equal access to the benefits of solar to all New Yorkers – even those who rent or lease, or whose property is shaded or unsuitable for a rooftop installation. Community Shared Solar represents the true democratization of solar energy.

The benefits from each 1MW (AC) of Community Shared Solar installed in NY City are significant:

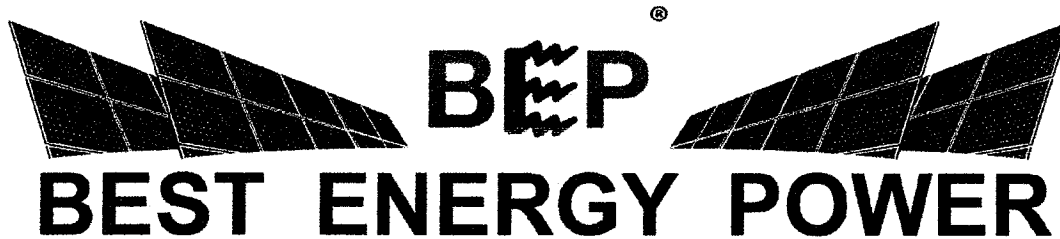
- Each system will produce over 30-million kWh of clean renewable power
- The energy savings is more than \$10M – the majority of which is spent by residents right here in their community, which has a multiplicative impact
- Each project equates to a reduction of CO2 emissions by about 55,000 lbs, or more than 60,000 car miles driven

The NYC Solar Partnership, a collaboration among three City entities, has jumpstarted the solar marketplace in New York City and is now helping to ensure successful market mechanisms such as Community Shared Solar and Solarize NYC.

The Partnership, through the Solar Ombudsmen, offers much needed support and assistance on solar permitting, programs and training.

We urge the Council to continue to support the NYC Solar Partnership and its vital mission.

We also urge the Council to tell the legislature that the Property Tax Abatement must be at least continued, and preferably expanded, as it is essential to providing building owners in NYC the necessary impetus to commit their roofs to solar for the next several decades. Without these building owners willing to host solar systems, virtually all New York City residents will be shut-out of the ability to participate in the benefits of solar energy, and the City itself will lose the \$100M+ of economic impact that comes with each 10MW of Community Shared Solar.



20 W. FAIRVIEW AVENUE
VALLEY STREAM, NY 11580

TEL: 212 730 2267/516 596 8811/201 377 1621 FAX: 646 225
7234

E-MAIL INFO@BESTENERGYPOWER.COM

NYC Council hearing 5/31/2016

My name is Ronnie Mandler and I am the president of Best Energy Power. Best Energy Power is known as having the largest market share of commercial solar in terms of the amount of installations in the five boroughs of NYC. As such, we have the most experience with the issues impacting the industry and believe we can give you the best picture of what is going on.

First I would like to thank the NYC council for giving me the opportunity to testify and share the realities of the day to day business of trying to expand solar in NYC.

I will divide my testimony into two parts; present and future.

I would like to bring your attention to the following present day issues:

- 1) Permitting:
 - a) DOB – While there are huge improvements on their response time, there are a lot of new examiners that have yet to get themselves familiar with small details of the design solar array on roof tops.
 - b) FDNY – There are several issues connected to the role and work of the FDNY.

There is a tremendous hurdle and delay that is caused by the old requirement of having to submit hard copy. While every desk at the FDNY is equipped with a computer, there seems to be the inability to accept documentation digitally. This can be easily remedied by allowing the FDNY to accept PDF documents in line with standard practice across industries. Simple software upgrades may be necessary, but the missing piece is truly the agency's willingness to adapt and change from outdated and unsecure practices.

c) Ideally, an efficient solution would be for the DOB to collaborate on a single submission that both agencies can review. In this way, should an issue arise with the fire code on any plan submitted to the DOB, the DOB would contact the FDNY, and the FDNY can respond in a timely manner.

d) Lastly, the clear passage regulations by the FDNY requires an update to comply with the needs of modern day living. Solar is used all over the world in big cities and on buildings older than those in NYC. There is not a single record that shows that solar panels created an issue with access to extinguish a fire. Furthermore, there is no record that because of solar panels on the roof - firefighter safety was compromised. I am sorry to say and it might not be politically correct, but I think the FDNY should learn how to adopt their practice to the new era, same as soldiers have to learn to adopt their practice to any new terrain in the battlefield so does the firefighter have to adopt their practice to any new terrain containing solar panel on roof tops.

2) Con Edison – Lately, we are facing a new issue with Con Ed: there are some places where the network protectors are old so they cannot accept net meter. Con Ed then gives 2 options: (i) either add a relay on the solar system to avoid any export of power through Net Meter, or (ii) have the customer pay thousands of dollars to upgrade the Con Ed system so that it could accept the export of power with Net Meter.

a. As for the first option of adding a relay to the system, I think it is ridiculous, as it is counter to the purpose of Net Meter. In the summer when we have more daylight, most solar systems will export power to get credit in winter when there is less daylight. Avoiding this benefit actually defeats the purpose of solar and net meter.

b. The other option Con Ed suggests is for customers to pay for the upgrade of the network. Since Con Ed has a monopoly on the electricity network, customers do not have a choice. It is ridiculous to ask the customer to pay for upgrades when it is the duty of Con Ed to do so - where did all the money paid by customers all those years go to ?

I ask the Council members to look into ruling Con Ed to pay for any upgrade needed to accept Net Meter (or to reimburse customers for any upgrades they pay for?)

The second part of my testimony is regarding the future of the business:

- 1) Commercial financing: As you well know, the biggest solar impact can be achieved by the private sector with commercial size solar and by not-for-profit organizations. One of the obstacles is financing. Outside of NYC, there is PACE financing, which is the easiest and most economical way to finance any energy efficient product, especially commercial size solar.

Some facts:

- a. 34 States now allow PACE financing, as well as most of the largest cities nationwide.
- b. Dozens of municipalities in NYS, including many the cities and counties across the state, are now offering the public benefit of PACE financing to improve buildings for energy efficiency and for renewable energy as authorized by Article 5-L of the General Municipal Law of NYS.
- c. Hundreds of NYS's commercial and not-for-profit building owners located in these municipalities are now using or are considering using PACE to help upgrade their buildings for energy efficiency and solar. Many of them were unable to move forward due to a lack of capital to finance the improvements.

NYC should not be left behind! I urge you to talk to the Energize NY team to discuss how PACE financing could be enabled using the same templates as other cities across the state.

I would ask the Council to meet with Energize NY, a state agency, to learn more about PACE financing. I believe implementing PACE financing in NYC will immediately increase the amount of solar. NYC needs solar more than any other county in the state, yet PACE is not available here.

- 2) Last but not least, as you well know, the extension of the NYC tax abatement is currently being discussed at the state assembly. I ask the council to support this bill as the tax abatement is an extremely strong tool to extend and support solar in NYC – please understand that without an extension of the tax abatement for a few more years, we will see a sharp decline in solar in NYC.

Thank you for your attention.

Facilitating Solar Energy Adoption in New York City

Good afternoon and thank you for this opportunity to speak before you today. My name is Dennis Phayre and I am a Business Developer Director with EnterSolar LLC - a NYC based solar developer with nearly 40 employees, 10 years in business and a strong national presence. In fact, EnterSolar is the #1 Commercial and Industrial solar developer in NYS and #6 nationally. We are also the company behind some of NYC's largest and most high profile projects, including one for Bloomberg's Midtown Manhattan HQ; the largest Remote Net Metered project in NYC. More recently we have helped develop the first Community Solar project in NYS. Together with our Community Solar partner Clean Energy Collective we hope to bring several new Community Shared Solar projects the NYC in the coming year.

Jeff Lord of Clean Energy Collective is with us here today and he will speak to you more about Community Solar market in particular.

NYC has some of the highest electric rates in the nation so finding residents and businesses that are interested in acquiring lower costs solar energy has never been difficult; the challenging part has always been finding suitable sites where we can host and build these projects.

The NYC Solar Property Tax Abatement has been a key contributing factor to convincing NYC landlords to allow solar developers access to their roofs to build solar projects. We urge the City Council to continue to support the Property Tax Abatement and to even move beyond its current levels to PTA 2.0 so that more of these essential but largely underutilized rooftops can be made available for Community Solar and traditional Net Metered projects.

Permitting sites has also been particularly challenging matter for solar but this is an area where Sustainable CUNY and the NYC Solar Partnership have taken great strides. In the past it was not unusual for a large project to take two to three years to get through the permitting and interconnection processes, now the DOB and NYC Fire Department have a much more efficient, transparent and streamlined process that helps move projects through the permitting pipeline much faster. Con Ed still has room for improvement on their end but they have greatly improved their processes too. CUNY's work with Con Ed and in particular CUNY's Solar Ombudsmen has proven invaluable to creating a more efficient and more reliable process.

So we urge the City Council to continue to support the efforts of Sustainable CUNY and the NYC Solar Partnership in further improving the solar business development climate. I will leave my testimony there and I will be happy answer any brief questions you may have at this time.

Thank you,

Dennis L. Phayre

Business Development Director, EnterSolar LLC.

805 Third Avenue, New York, NY

Bloomberg LP's Innovative New York City Solar Project Provides Renewable Energy Bridge From Queens to Manhattan

New York, NY

September 15th, 2015

NY-Sun Initiative Enables Company to Use Solar Energy from Queens to Power Midtown Headquarters and Downtown Data Center

New York, NY (September 15, 2015) – EnterSolar, a leading New York City-based provider of solar solutions to commercial enterprises, today announced the launch of a landmark project in the New York City solar landscape. The Bloomberg – JFK Airport Park Solar Project, a state-of-the-art large-scale solar photovoltaic (PV) project, will enable Bloomberg L.P.'s global headquarters in midtown Manhattan and its downtown data center to partially convert to clean solar energy.

"This marquis solar initiative is a tangible demonstration of the power of partnership," said Peyton Boswell, Managing Director, EnterSolar, the project's developer. "While Manhattan often presents challenges for solar energy, we are proud to be partnering with Bloomberg, one of the world's most recognizable brands based here in New York, on this renewable energy project." In addition to being the largest remote net metered project in New York City, this project is the first to use remote net metering to power a midtown Manhattan skyscraper with a remotely-sited solar PV system.

While New York has been a pioneer in its support of utilizing renewable energy, the JFK Airport Park project is a particularly innovative project for New York due to its utilization of Remote Net Metering (RNM), which allows sites with poor solar characteristics but significant onsite load to benefit from solar systems installed on an alternative site with excellent solar characteristics.

This innovative project, originated and developed by EnterSolar, private green energy investors, and supported by funding from Governor Andrew M. Cuomo's NY-Sun initiative, is comprised of a 1,500 kW solar installation across three (3) adjacent logistics facilities at the JFK Airport Park in Springfield Gardens, Queens. The multi-building system is the largest rooftop solar array in Queens and is among the largest rooftop solar projects in New York State, comprised of over 5,500 solar panels. The power generated will be converted to energy credits, and applied to Bloomberg's offices in New York City.

On an annual basis, the project will generate 1.8 million kilowatt hours, enough clean renewable electricity to power more than 244 typical homes for a year. The solar PV systems will provide significant environmental benefits to both Bloomberg and the NYC community, including the avoidance of almost 1.1 million lbs. of CO2 per year.

"We are always looking for new and innovative ways to operate more efficiently. This project makes good business sense," said Curtis Ravenel, Global Head of Sustainable Business and Finance, Bloomberg L.P. "It enables us to diversify our energy supply, reduce costs and help contribute to a cleaner, healthier New York City. The Remote Net Metering program made this possible and we plan to do more renewable energy projects like this that bring business value and benefits – including economic development and jobs – to the communities where we operate."

The project is a superb example of the benefits of RNM, which facilitates increased deployment of solar power projects while promoting the optimal siting of such projects with regards to the electrical transmission system. The system has been installed on three (3) adjacent logistics facilities near JFK International Airport that are themselves part of a broader real estate



[Click for video](#)

Project info



Location:

Queens and Manhattan, NY

System Size:

1,514.7kW

Installation Type:

Rooftop Solar Photovoltaic System

[▶ Project Profile Page](#)

Learn about New York solar incentives

» [New York Solar Incentives](#)

You might also be interested in

- » [NYSEDA, Pratt Industries and ...](#)
- » [NYSEDA, DPS, EnterSolar and C...](#)
- » [Clare Rose, Inc. Completes Lar...](#)
- » [Zwilling J.A. Henckels Announc...](#)
- » [EnterSolar Named Top Solar Dev...](#)
- » [EnterSolar Powers Carling Tech...](#)
- » [Harold Levinson Associates to ...](#)
- » [Mountain Service Distributors ...](#)
- » [EnterSolar Partners on Large-S...](#)
- » [EnterSolar Awarded NYSEDA Fun...](#)
- » [Stewart's Shops NY-Sun Solar P...](#)
- » [Signal Transformer Announces L...](#)
- » [Con Edison Customer in Queens ...](#)
- » [EnterSolar Begins Construction...](#)

[▶ Download Press Release \(PDF\)](#)

[▶ Contact EnterSolar](#)

[▶ Free Site Assessment](#)

revitalization project championed by City Councilman Donovan Richards who also previously served as the Chairman of the Council Committee on Environmental Protection, NYC Industrial Development Agency, and the private developers of these facilities. Furthering public-private partnerships, the project was supported by the New York State Energy Research and Development Authority (NYSERDA) as part of Governor Cuomo's NY-Sun \$1 billion initiative to advance the scale-up of solar and move New York State closer to having a sustainable, self-sufficient solar industry. The growth of solar in the State has increased more than 300 percent from 2011 to 2014, twice the rate of U.S. solar growth overall.

"Under Governor Cuomo's Reforming the Energy Vision, New York State continues its strong commitment to the growth of the solar industry as it scales up the adoption of this clean, renewable resource," said John B. Rhodes, President and CEO, NYSERDA. "This project is an excellent example of the use of remote net metering to offset electricity costs at a major facility that would not otherwise be able to benefit from solar."

"With new technology changing lives every day, our customers want to know their options of how they can power their businesses and homes. Con Edison is ready to work with them on new and innovative solutions," said Matthew Ketschke, Con Edison's vice president, Distributed Resource Integration. "This project is an example of how solar energy can help promote our common goals of reducing carbon emissions and lowering utility bills."

"Soon after entering the JFK International Airport logistics real estate market in 2010, we recognized the opportunity to work with EnterSolar, Con Edison, Bloomberg, NYC Industrial Development Agency, Prescient Energy Corp, and community leaders to create a state-of-the-art solar complex in Springfield Gardens, utilizing incentives from NYSERDA and energy tax credits available to green energy investors and property owners," said JFK Airport Park developer John M. Phufas.

"We would like to express our appreciation to the wonderful residents in the Springfield Gardens neighborhood surrounding our complex who have proven that commercial and residential property owners can mutually benefit from creative commercial development," added JFK Airport Park developer James B. Ross.

"Companies have an opportunity to lead the transition to a low carbon future. We are big energy consumers and by pursuing projects like this, we drive demand for a cleaner, more efficient, and economically diverse energy supply. Our partners - customers, employees and communities where we live and work - expect it of us," added Ravenel.

About EnterSolar

Based in New York City, EnterSolar is a leading provider of solar photovoltaic systems to the commercial marketplace. Unique in its combination of business operations and solar expertise, the Company works with commercial enterprises to deliver optimal energy solutions with compelling, long-term ROI. Expert in the dynamic legislative environment, EnterSolar provides clients with real-time guidance in order to best leverage financial incentives at the regional and state levels. EnterSolar was ranked the number one solar developer in New York State by Solar Power World, in 2015. For information, visit www.entsolar.com.

About Bloomberg

Bloomberg, the global business and financial information and news leader, gives influential decision makers a critical edge by connecting them to a dynamic network of information, people and ideas. The company's strength – delivering data, news and analytics through innovative technology, quickly and accurately – is at the core of the Bloomberg Professional service, which provides real time financial information to more than 325,000 subscribers globally. For more information, visit www.bloomberg.com.



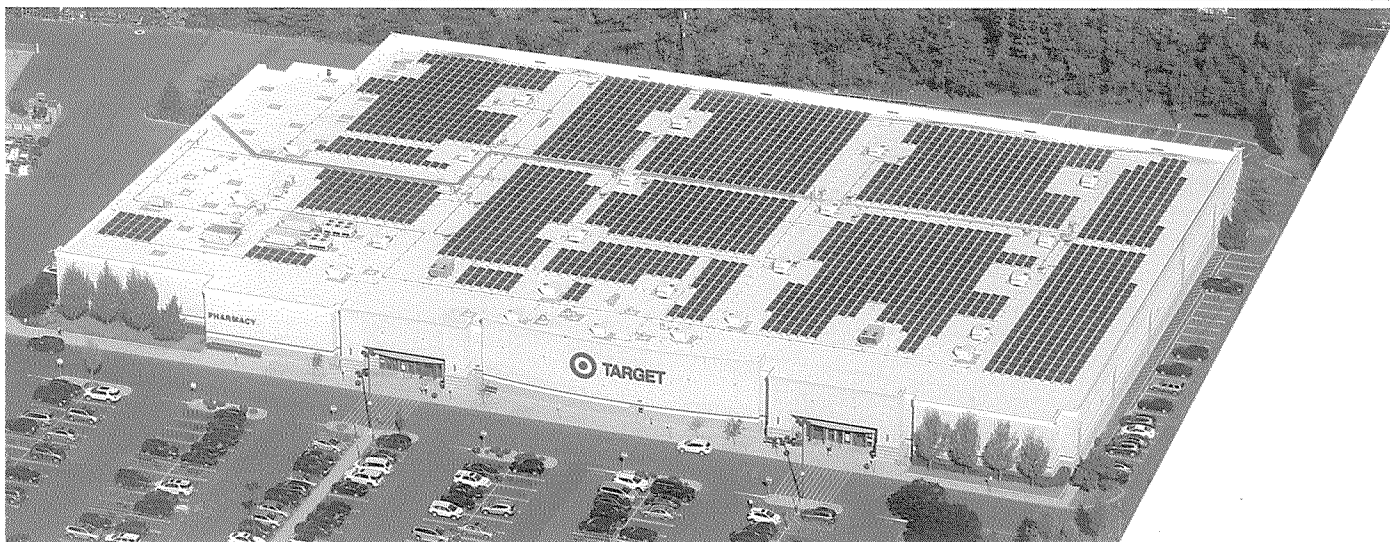
*Solar is here to stay.
Put it to work for you.*

888.225.0270 | entersolar.com

 **entersolar[®]**
energy made easy

Talk to us. We do everything under the sun.

EnterSolar makes it easy for businesses to convert to solar power. We handle everything from consultation, to installation and maintenance services. Our turnkey solutions provide flexible financing options, quality design and engineering, and critical environmental compliance. EnterSolar is ready to develop your project—all from a single point of contact.



Leaders in Solar Energy

EnterSolar is a leading provider of solar photovoltaic systems to the commercial marketplace and was ranked one of the top U.S. developers by Solar Power World. Expert in business operations and managing national and multi-state projects, EnterSolar provides clients with real-time guidance to best leverage financial incentives at the federal, regional and state levels.

Guaranteed Project ROI

More and more businesses are choosing to go solar, not only because of what they “give back” environmentally, but for what they “get back” financially. With rapid payback,

strong internal rates of return, and a predictable cash flow stream, solar projects can deliver outstanding long-term investment returns.

EnterSolar helps businesses take advantage of attractive rebates and incentives from federal, state and even local governments. We offer solar financing solutions that meet the specific needs of your business, including options that allow you to install a solar system with zero upfront capital investment. And, by generating clean electricity onsite, we can eliminate your company's exposure to price volatility. With solar energy in the mainstream, now is the time to EnterSolar.



roof mount



ground mount



carport

"We are always looking for new and innovative ways to operate more efficiently. This project makes good business sense."

— Curtis Ravenel, *Global Head of Sustainable Business and Finance, Bloomberg L.P.*

*Energy made easy*SM

EnterSolar handles every facet of your project:

- > free solar assessment
- > energy consumption analysis
- > flexible finance options
- > system design & engineering
- > complete project management
- > project permitting & zoning
- > system installation
- > 24/7 system monitoring
- > maximized warranty terms
- > ongoing system maintenance

EnterSolar will show you how simple it is to harness the power of the sun. We work hard to exceed our customers' expectations and take pride in our impeccable references.

It's energy made easy.

888.225.0270 | entersolar.com

Discover the EnterSolar Difference

Expertise

EnterSolar's team of experts help organizations achieve significant ROI on their solar investment. Each project is different, and we know how to leverage every incentive for each project. EnterSolar has the experience that adds value to our clients' bottom line.

Comprehensive Solutions

EnterSolar is diligent and reliable, offering leading edge technology to our clients. Our financing, engineering and project management teams work collaboratively with each client to deliver a custom and optimal solution.

Integrity

Integrity is a core value of the EnterSolar team. We are passionate about the products and services we deliver and equally committed to extending that passion to our clients and partners.



Corporate Headquarters
805 Third Avenue
New York, NY 10022
888.225.0270
info@entersolar.com
entersolar.com

Offices
California
Connecticut
Maryland
Massachusetts
New Jersey
New York
Utah

Ruth Hardinger

Damascus Citizens for Sustainability, May 31, 2016

Thank you for the Council's Environmental Protection Committee to have the Solar Energy hearing.

Benefits of solar energy:

Solar energy is not only sustainable, it is renewable and this means that we will never run out of it. It is about as natural a source of power as it is possible to generate electricity. The creation of solar energy requires little maintenance.

Solar energy is not only sustainable, it is renewable and this means that we will never run out of it. It is about as natural a source of power as it is possible to generate electricity.

The creation of solar energy requires little maintenance. Once the solar panels have been installed and are working at maximum efficiency there is only a small amount of maintenance required each year to ensure they are in working order.

They are a silent producer of energy. There is absolutely no noise made from photovoltaic panels as they convert sunlight into usable electricity.

There are continual advancements in solar panel technology which are increasing the efficiency and lowering the cost of production, thus making it even more cost effective.

During operation solar electricity power plants produce zero emissions.

It is important to convert to renewable energy very quickly. I went to a talk about a month ago and a 350.org director (don't have his name) said that we are over the tipping point. There are members of the scientific community concerned that climate change cannot be reversed. We have to really slow down and stop fossil fuel use now! Bryce Payne, PhD, has written about the need to reduce the emissions of methane because it is the most potent greenhouse gas now, as it is per IPCC, 86 times stronger than CO₂ on the 20 year time frame.ⁱ Natural gas is comprised of around 95% of methane. Methane degrades in 8 to 12 years once in the atmosphere and during that time degrades to CO₂. During those 8-12 years, it is 104 times stronger than CO₂. Its urgent to get off fossil fuels and natural gas is a significant contributor. Damascus Citizen for Sustainability did an emissions report about methane leakage in NYC gas pipelines across 160 miles in Manhattan, and at least 6.6% of the gas is leaking.ⁱⁱ Only five cities have measured methane with a device strong enough to register the fugitive emissions (cavity ring-down spectroscopy) along with the larger emissions. This can be a much longer report, but for today my reason to bring this up is to support getting off natural gas and all other fossil fuels and urgently get on renewable energy.

A list of climate change impacts this year:

Hottest days in the globe are now 2016

http://www.theguardian.com/environment/2016/may/16/april-third-month-in-row-to-break-global-temperature-records?CMP=share_btn_link

Large Swaths of the Pacific Ocean may actually suffocate in just 15 years

“Since oxygen concentrations in the ocean naturally vary depending on variations in winds and temperature at the surface, it’s been challenging to attribute any deoxygenation to climate change,” Long said in a statement. “This new study tells us when we can expect the impact from climate change to overwhelm the natural variability.”

http://www.huffingtonpost.com/entry/climate-change-oxygen-loss-oceans_us_57226e80e4b0f309baf0499e

Global Temperature change (1850-2016)

<http://www.climate-lab-book.ac.uk/2016/spiralling-global-temperatures/>

Porter Ranch leaked 97,000 metric tons of methane. Now, May 2016, its leaking more again. This is adding more methane to the atmosphere. This is the kind of event that will continue. The US has been attending to the leakage issue; such problem is probably global. Abandoned wells are another issue that is not being addressed. Health impacts on humans and all wildlife is happening by extraction of gas and oil. <http://thinkprogress.org/climate/2016/04/19/3770748/another-leak-porter-ranch/>

Ft McMurray fire in Canada is a result of climate change

<http://www.nasa.gov/feature/goddard/2016/fort-mcmurray-fire-continues-in-alberta>

<http://wildfiretoday.com/2016/05/16/fort-mcmurray-fire-update-may-16-2016/>

NY Times Justin Gillis, this fire is the result of climate change

<http://www.nytimes.com/2016/05/11/science/global-warming-cited-as-wildfires-increase-in-fragile-boreal-forest.html>

Cuomo’s ideas re renewables energy

<http://www.nytimes.com/2016/05/10/science/new-york-plans-to-make-fighting-climate-change-good-business.html>

Working Group IPCC signals of climate change

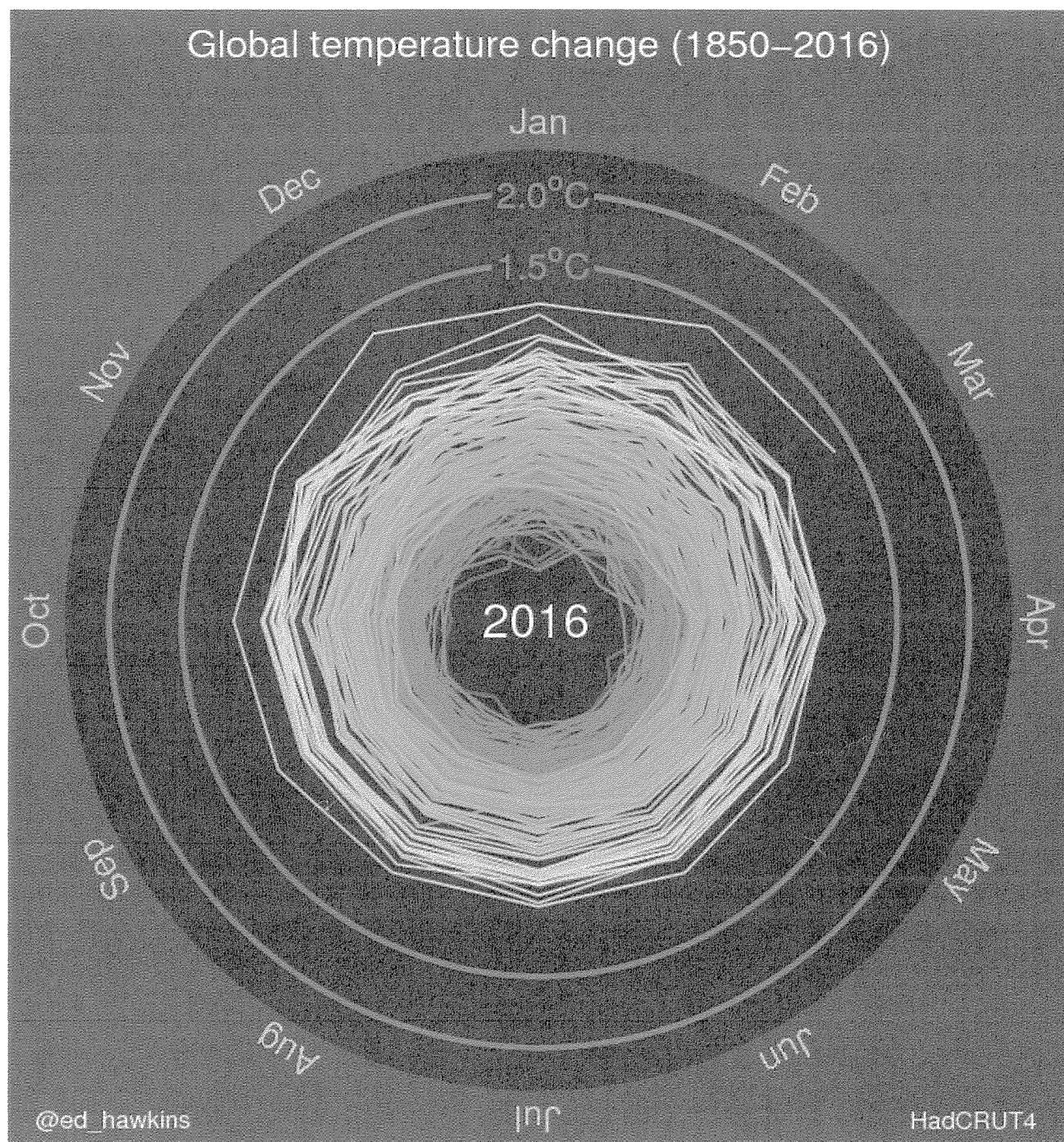
<https://www.ipcc.ch/ipccreports/tar/wg1/495.htm>

Goal 13: Take urgent action to combat climate change and its impacts

<http://www.un.org/sustainabledevelopment/climate-change-2/>

i <http://www.damascuscitizensforsustainability.org/2015/12/letter-to-president->

ii <http://www.damascuscitizensforsustainability.org/2013/03/manhattan-natural-gas-pipeline-emissions-press-release/>



Spiralling global temperatures. Click for full size animated version.

The animated spiral presents global temperature change in a visually appealing and straightforward way. The pace of change is immediately obvious, especially over the past few decades. The relationship between current global temperatures and the internationally discussed target limits are also clear without much complex interpretation needed.

Data: HadCRUT4.4 from January 1850 – March 2016, relative to the mean of 1850-1900, available [here](#)

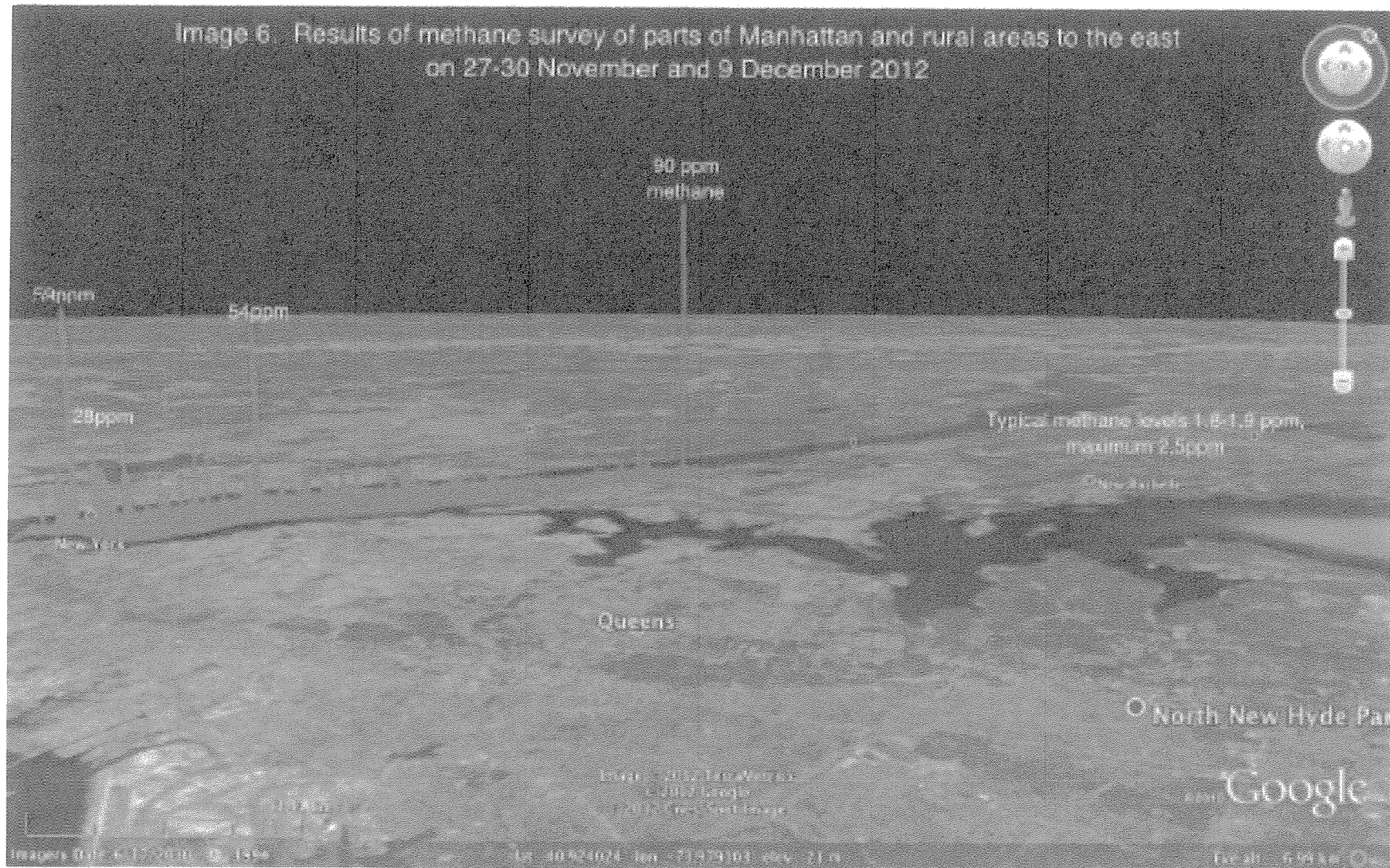


Image credit: © Damascus Citizens for Sustainability and GasSafety, Inc.

DATA OBTAINED with a CRDS machine, very accurate to 1/2 ppm. Measurements taken Nov. and Dec, 2012. Red line height (curtain) indicates ambient air methane levels (in ppm) 1 foot above the road along the survey course. Labeled peaks are methane levels (in ppm).

CONTACT: dcsc@DamascusCitizens.org phone: 845-252-6677

Please see *The whole story including the Extended Report , Press Release and media coverage:*

<http://www.damascuscitizensforsustainability.org/2013/03/manhattan-natural-gas-pipeline-emissions-2/>

Image 1. Results of methane survey of parts of Manhattan on 27 November 2012



Image credit: © Damascus Citizens for Sustainability and GasSafety, Inc.

DATA OBTAINED with a CRDS machine, very accurate to 1/2 ppm. Measurements taken on 11/27/12. Red line height (curtain) indicates ambient air methane levels (in ppm) 1 foot above the road along the survey course. Labeled peaks are methane levels (in ppm).

CONTACT: dcsc@DamascusCitizens.org phone: 845-252-6677

Please see *The whole story including the Extended Report , Press Release and media coverage:*

<http://www.damascuscitizensforsustainability.org/2013/03/manhattan-natural-gas-pipeline-emissions-2/>

Richard Keiser, CEO, Level Solar

Comments to the New York City Council Environmental Protection Committee May 31, 2016

I would like to begin by thanking the Council for inviting me to this hearing and giving me the opportunity to speak to you about this important topic.

My name is Richard Keiser and I am the CEO of Level Solar. Level Solar is based in New York City, and is one of the largest solar energy providers in New York State. I founded the business here in 2013 with two partners. Level Solar now employs over 200 people across seven counties in New York, and has helped over a thousand homeowners save money with lower cost, solar energy.

Today solar energy means three things for New York City: jobs, lower cost electricity, and cleaner air and water. New business models like Level's enable homeowners and businesses to save money with solar energy with zero upfront cost. This in turn has created a historic opportunity for New York City to transition to a clean energy economy, and simultaneously save money, create thousands of jobs and dramatically reduce the city's carbon emissions.

In my comments today, I will briefly explain the important changes that are enabling this solar energy revolution, and how you can bring this positive impact to your constituents and your communities.

I. Solar Energy: Then And Now

For the last 50 years, solar panels and other solar energy equipment was expensive. This meant that an investment in solar had a high upfront cost, with little or no return. For this reason it was very rare to see a solar on a home or building, and the only people who installed solar panels were the wealthy.

Over the last five years, this situation has changed radically. The cost of solar equipment is now less than half of what it was several years ago. This change and others have enabled Level Solar's unique business model, which I'd like to describe to you briefly:

Level Solar installs solar panels on qualified homes, schools and buildings at no cost. There is no cost for the equipment, no cost for the installation, and no hidden costs of any kind. Once installed, the solar panels generate clean electricity, and Level provides that electricity for up to 25% less than what they currently pay. This enables the home or building owner to save money immediately, with no upfront cost. In effect, Level Solar becomes a second utility to the home, only the electricity that we provide is 100% clean, and costs less.

This approach to solar energy—which we can do for homeowners, schools, and some businesses—has dramatically expanded the number of people who can save money through solar energy. Today, the vast majority of Level Solar's customers are the middle class—teachers, firemen, public officials and others—who simply want to save money.

Many of the homeowners and schools in your districts can benefit by transitioning to solar energy today, and I would like to give you one example how.

II. How Solar Energy Can Bring Economic Development, Savings For Residence And Positive Environmental Impact To New York City Communities

In April, Mayor de Blasio announced the Citywide Solarize Initiative which I know many of you supported. The first New York City Solarize program is the Solarize Brownsville initiative which is based in Brownsville, Brooklyn. I am proud to share the Level Solar recently won this competition and was selected as the preferred solar provider for Brownsville.

Through this program, members of the Brownsville community are partnering with members of my team to accomplish several goals. First, we work together to introduce solar energy to the community through a series of joint events. In these events we explain how solar energy works and how members of the community can save money. Second, we help the community immediately reduce their carbon emissions by preventing on average over 250,000 pounds of CO2 per home. Third, we create jobs in the community so that community members both drive and participate in the positive changes that we help create. This type of partnership is a genuine win-win-win-win: for the homeowner, for the City, for Level, and for the environment.

What I ask of you is your continued support for these programs. In the presentations we have prepared for you, we outline the three largest opportunities for the city. I and my team would love to work with you and your constituents to bring a similar impact to the communities you represent. My and my team's contact information is included in the information we have prepared for you. Thank you again for the opportunity to speak to you today, and I look forward to hearing from you.

About Level Solar

Level Solar is more than a company, it's a mission. A mission to show the world there is a better way to generate and consume electricity: powered by the sun, with zero emissions, at lower cost. Level Solar enables homeowners to save money with lower cost, clean, solar energy. Level Solar installs solar panels on qualified roofs at no cost, the solar panels generate electricity, and Level Solar provides that electricity to the homeowner for less than they currently pay. In effect, Level Solar becomes a second utility to the home, only the electricity we provide is 100% clean, and costs less. For more information visit www.levelsolar.com, or email savings@levelsolar.com.

About Richard Keiser

Richard Keiser is the founder and CEO of Level Solar. Prior to founding Level Solar, Mr. Keiser worked for 8 years at Sanford Bernstein in New York, where he was Senior Analyst and led the Technology Strategy research. At Sanford Bernstein, he analyzed disruptive technologies to understand how new markets would develop, and used this knowledge to help portfolio and hedge fund managers outperform. In 2005, he was awarded the Sanford C. Bernstein Royal Reach Award for outstanding contributions to equity research. Prior to working at Sanford Bernstein, Mr. Keiser was a management consultant at Booz Allen & Hamilton. He is a graduate of MIT.

Contact

Richard Keiser, CEO, Level Solar, 212-879-2900, richard.keiser@levelsolar.com

Chris Hunter, Director of Strategic Relationships, 917-667-4327, chris.hunter@levelsolar.com

LEVEL SOLAR

MAKE A POSITIVE⁺ CHANGE™



Executive Summary

- » Technology improvements and lower costs have created a large opportunity for New York City to save money and reduce greenhouse emissions with solar energy
- » The largest opportunities for the city are: (1) Solar installations on large municipal buildings and schools; (2) Community solar programs; and (3) Solarize initiatives for single family homes
- » Level Solar is a leading New York City-based solar provider
 - Top-rated solar provider in New York
 - Zero upfront cost business model makes solar accessible to millions of New Yorkers
 - \$50MM partnership with the New York Green Bank and US Bank provides low cost, flexible capital to finance solar energy projects

Level Solar Is New York's Top-Rated Solar Energy Provider

- » We help **homeowners save money** with clean energy
- » There is **no upfront cost**
- » What separates Level Solar is our commitment to **Quality** and **Customer Experience**
- » We have **helped over 1,000 New Yorkers** transition to lower cost, clean electricity



**LEVEL
SOLAR**

MAKE A **POSITIVE⁺** CHANGE™

We Have Built Our Business By Putting Customers First



Rating:



5.00

Based on 54 Reviews

Level Solar Reviews

Detailed Ratings

●●●●●	Sales Process	4.92
●●●●●	Quality of Advice	4.94
●●●●●	On Schedule	4.87
●●●●●	Price as Quoted	4.96
●●●●●	Quality of Products	4.96
●●●●●	Installation Quality	4.98
●●●●●	Professionalism	4.98
●●●●●	After Sales Support	4.94

Overall Ratings

Excellent	<div><div></div></div>	54
Very Good	<div><div></div></div>	0
Average	<div><div></div></div>	0
Poor	<div><div></div></div>	0
Terrible	<div><div></div></div>	0

Would you recommend?



Yes

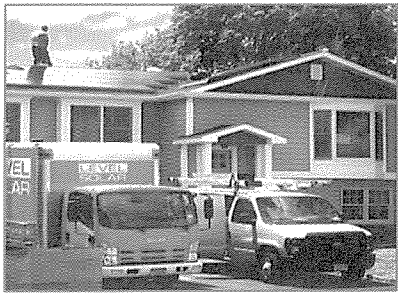
54 reviews

LEVEL
SOLAR

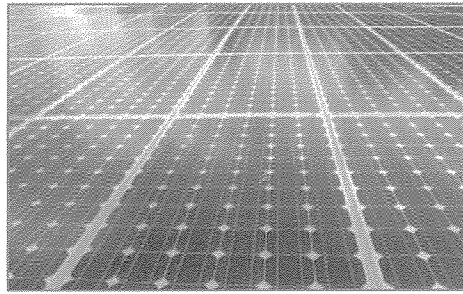
MAKE A **POSITIVE⁺** CHANGE™

Level Solar Helps Homeowners, Schools And Businesses Save Money With No Upfront Cost

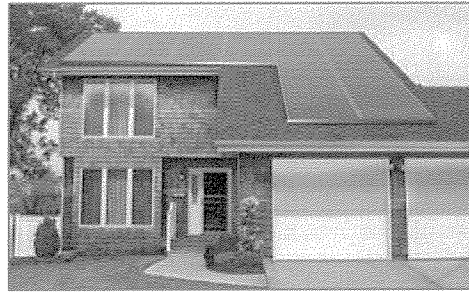
Level Solar: 3 Steps To Savings



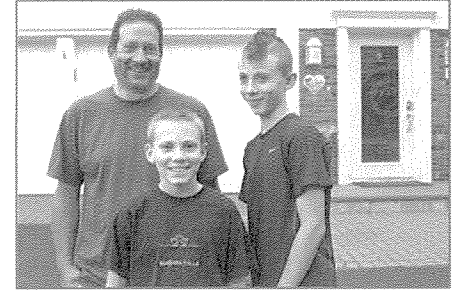
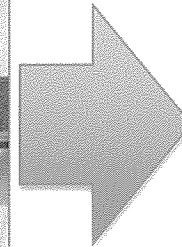
1. Level Solar installs solar panels at **no cost**



2. The panels generate **clean electricity**



3. We provide this electricity for **up to 20% less** than the electric utility

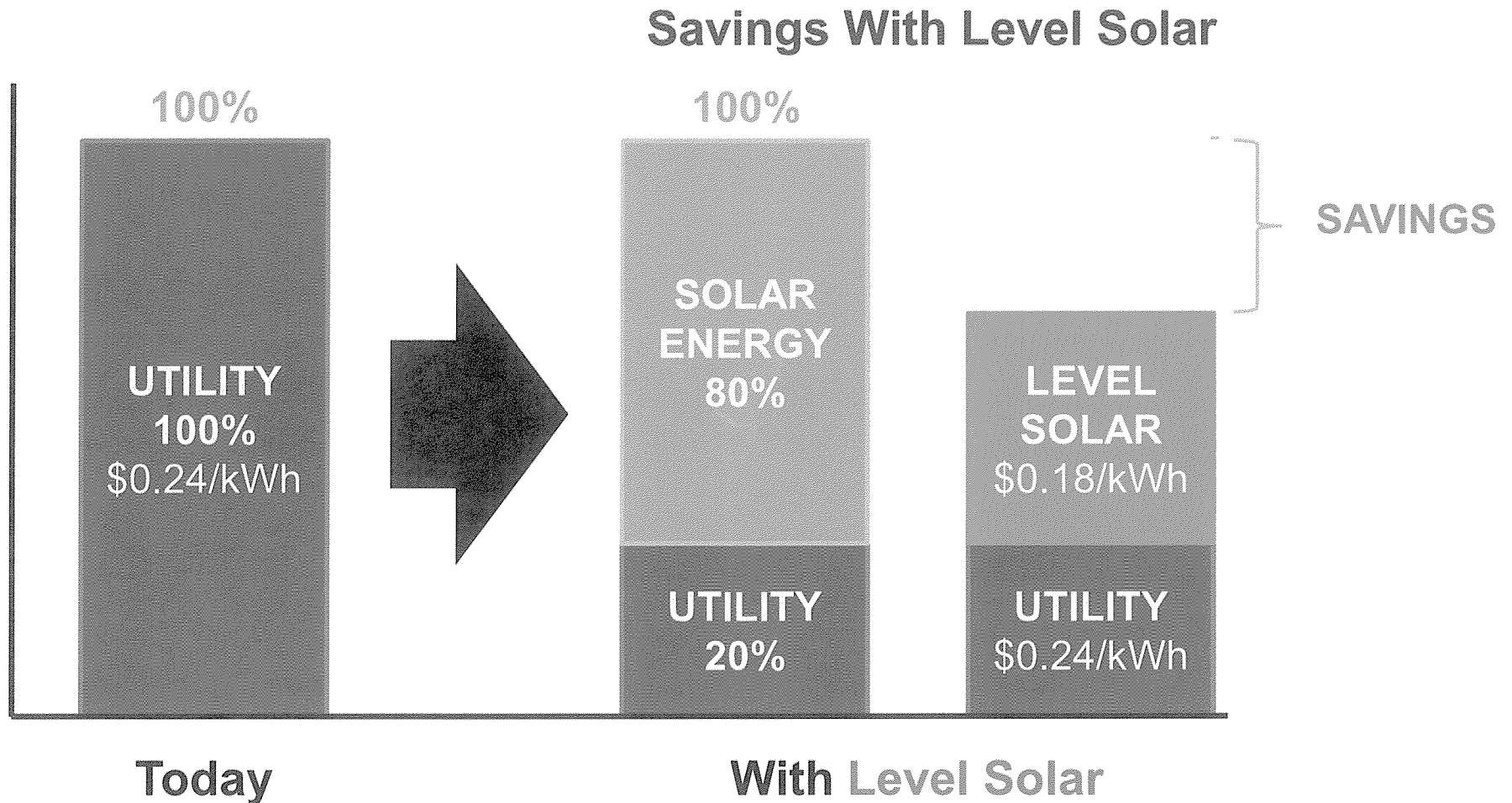


Home or building owner captures the savings!

**LEVEL
SOLAR**

MAKE A **POSITIVE⁺** CHANGE™

Home And Building Owners Save Immediately By Paying Less For Electricity

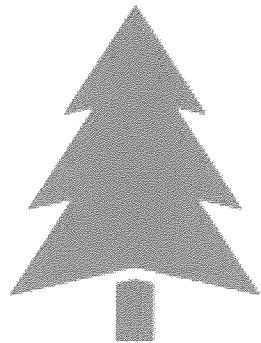


**LEVEL
SOLAR**

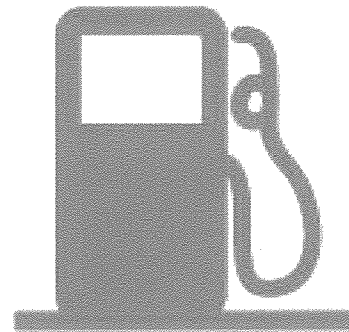
MAKE A **POSITIVE⁺** CHANGE™

The Environmental Impact Is Large And Immediate

A typical solar installation prevents over 250,000 lbs of CO₂ from entering the environment!



Planting 4,170
new trees



Offsetting 19,250
gallons of gas

LEVEL
SOLAR

MAKE A **POSITIVE⁺** CHANGE™

Solar Energy Is Labor Intensive And Creates Hundreds Of Clean Energy Jobs

Level Solar Job Creation Since 2013: 200+

Function	Roles	Headcount
Outreach	<ul style="list-style-type: none">• Solar ambassadors• Solar consultants• Event marketing	100 - 120
HQ	<ul style="list-style-type: none">• Engineering• Finance• Partnerships• Customer Service	50-60
Installation	<ul style="list-style-type: none">• Installers• Site Surveyors• Electricians	50-60

Level Solar Has A \$50MM Partnership With US Bank And NY Green Bank To Finance Projects



[Services](#) [News](#) [Government](#) [Local](#)

GOVERNOR **ANDREW M. CUOMO**

[PRESSROOM](#)

[SCHEDULE](#)

[LEGISLATION](#)

[ABOUT](#)

[CONTACT](#)

OCTOBER 21, 2015 | Albany, NY

Governor Cuomo Announces Three NY Green Bank Transactions to Improve Access to Clean Energy and Reduce Greenhouse Gas Emissions

RE/ANY

State Investment will Leverage Over \$170 Million in Private Investment to Expand New York's Clean Energy Markets

**LEVEL
SOLAR**

MAKE A **POSITIVE⁺** CHANGE™

New York City's Largest Opportunities In Solar Energy

- 1) **Large municipal buildings and schools:** No upfront cost installation, immediate savings through lower cost electricity
- 2) **Community solar programs:** Solar array is installed on a host building; Clean energy is provided to apartment owners through a partnership with the utility, i.e., virtual net metering with ConEd
- 3) **Solarize programs:** Promoting and encouraging solar installations on single family homes, e.g., Solarize Brownsville

Contact Information

Richard Keiser

CEO, Level Solar

richard.keiser@levelsolar.com

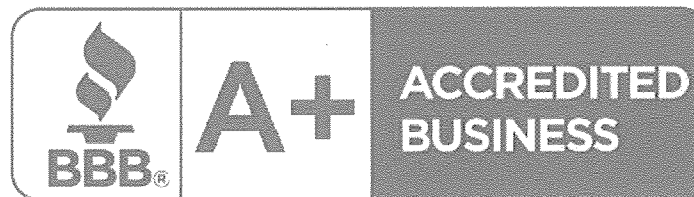
1-212-879-2900

Chris Hunter

VP, Strategic Partnerships

chris.hunter@levelsolar.com

1-917-667-4327



**LEVEL
SOLAR**

MAKE A **POSITIVE+** CHANGE™

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☒ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: SILKY MISRA

Address: 37-43, 77 ST., JACKSON HEIGHTS, NY

I represent: EMHAYA COMMUNITY DEVELOPMENT CORP.

Address: 37 43 77 ST. JACKSON HEIGHTS, QUEENS,
NY-11372

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: May 30, 2016

Name: David GMACH (PLEASE PRINT)

Address: Con Edison 4 Irving Place

I represent: Con Edison

Address: 4 Irving Place NY, NY

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: 5/31/16

(PLEASE PRINT)

Name: DAMIAN SCIANO

Address: 4 IRVING PL, 13NE NY, NY 10003

I represent: CON EDISON

Address: 4 IRVING PL, NY NY 10003

Q + A
only

THE COUNCIL THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: Chief Thomas Pigott

Address: 9 Metro Tech Brooklyn

I represent: F.D.N.Y.

Address: _____

Q + A
only

THE COUNCIL THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: Winnie Lei

Address: 9 Metro Tech Brooklyn

I represent: F.D.N.Y.

Address: _____

Q + A
only

THE COUNCIL THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: Chief Edward Ferrer

Address: 9 Metro Tech Brooklyn

I represent: F.D.N.Y.

Address: _____

◆ Please complete this card and return to the Sergeant-at-Arms ◆

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: 5/31/16

(PLEASE PRINT)

Name: Richard Keiser

Address: 236 W. 30th St NY NY

I represent: Level Solar

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☒ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: Dennis Phayre - Enter Solar

Address: 805 Third Ave Albany NY

I represent: Enter Solar -

Address: 805 Third Ave NY NY 12022

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. T2015-4514 Res. No. _____

☒ in favor ☐ in opposition

Date: 5-31-16

(PLEASE PRINT)

Name: Ben Arana

Address: 65-25 160th Street #3A Flushing NY

I represent: Local Union #3 IBEW

Address: 158-11 HIA JR AVE, Flushing NY 11365

◆ Please complete this card and return to the Sergeant-at-Arms ◆

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. T201645714 Res. No. _____

☒ in favor ☐ in opposition

Date: 5/31/2016

(PLEASE PRINT)

Name: Michael Yee
Address: 158-11 Harry Van Arsdale Jr. Ave Flushing
I represent: LU#3 IBEW + The Electrical Industry
Address: 158-11 Harry Van Arsdale Jr. Ave

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: 5/31/16

(PLEASE PRINT)

Name: ANTHONY FIORE
Address: Dir. of Energy Regulatory Affairs
I represent: for MOS
Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: 5/31/16

(PLEASE PRINT)

Name: DAN HENDRICK
Address: 3919 46 ST, SUNNYSIDE NY 11104
I represent: NRG
Address: 1115 BROADWAY NY NY 10010

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: 5/31

(PLEASE PRINT)

Name: BENJAMIN MANDEL

Address: Renewable Energy Policy Advisor

I represent: MOS

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: 5/31

(PLEASE PRINT)

Name: CAREY WIGOD

Address: Project Manager for Urban

I represent: Innovation and Sustainability at

Address: NYC EDC

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: Ruth Handberg

Address: 20 N Moore St #17 NYC

I represent: Damascus Citizens for Sustainability

Address: _____

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: May 31, 2017

(PLEASE PRINT)

Name: Chris Neidl

Address: 365 Clinton Ave

I represent: Here corner Solar

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: 5/31/16

(PLEASE PRINT)

Name: GINA BOORA

Address: _____

I represent: Chief Sustainability officer

Address: at DOB

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: 5/31/16

(PLEASE PRINT)

Name: Samantha Wilt

Address: 19 Croton Ave, Hastings on Hudson NY 10706

I represent: Natural Resources Defense Council

Address: 40 West 20th St, NYC 10011

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: Jeff Lord

Address: 164 Christian Hill Rd, Higganum, CT 06441

I represent: Clean Energy Collective

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: RONNIE MANDLER

Address: 20 W FAIRVIEW

I represent: BEST ENERGY POWER

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: 5/31

(PLEASE PRINT)

Name: TRIA CASE

Address: University Div of Sustainability

I represent: at CUNY

Address: _____