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Q&A with Luke Ashworth, Northeast Channel Partner Manager | [Nuance Energy](#)

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Tell us about Nuance Energy and your role with the company.

Nuance Energy is making solar energy substantially more affordable. The company's patent-pending Osprey PowerPlatform®, is a revolutionary new solar ground mount racking system that employs a unique earth anchor foundation technology and a modular, scalable design that enables contractors, integrators and EPCs to achieve peak profitability through the industry's lowest installation costs and fastest time-to-revenue for ground mounted systems.

Nuance Energy's mission is to lead solar innovation while focused on the solar industry's downstream value chain saving partners and customers time and money.

Luke Ashworth is the Northeast Channel Partner Manager. His responsibilities include the Northeast and the East coast regional sales, solar distributor operational support and contractor field training for Nuance Energy. Luke is also Nuance Energy's account manager for our solar distribution network.

Tell us about Earth Anchor mounting system.

The Earth Anchor Foundation System utilizes an old technology, the earth anchor to secure structures to the ground. This application is used in many other industries for holding down guide wires on windmills and utility towers and telephone poles to holding back the earth in retaining walls and many other

engineered applications. We created another use for an amazing technology and engineered our proprietary Earth Anchor Foundation System to secure any supporting structure that holds one or more solar panels, solar inverters and energy storage components. This technology allows a project to mitigate a lot of the typical pain points which are usually associated with solar ground mount installs making it faster and cheaper to install and with fewer assets required.

When an Earth Anchor is driven to a depth of 4' to 5' it creates a cone of influence around it with the soil its embedded in. This cone of influence could be as much as 2 to 3 thousand pounds of soil per anchor and the typical install uses about 26 cubic feet of earth as a natural ballasting effect. The beauty of the Earth Anchor Foundation System is you can add additional anchors should you run into less than ideal soil conditions AKA soft soil. This is an area where other foundation systems struggle as there is only so much you can do to a pile driven post or you must add more concrete for ballast. Our system can adapt to various soil conditions by adding additional anchors if needed to create an overall pull test requirement.

Each anchor that gets driven into the soil gets tested in real time soil conditions on the job site which means the local AHJ is receiving real time data on the condition of the soil not based on calculations down months in advance using a costly Geotechnical Report. The installer is no longer relying on the geo tech to provide the AHJ with data they need to pass inspection. Instead the AHJ is now relying on actual real time load test data provided. This is the preferred choice by the AHJ, but all others ground mount systems installed today use this antiquated method costing time and money. In fact, our solar racking systems provide a more accurate representation of the soil as every earth anchor gets load tested to 1.5x the worst case design loads required by the local AHJ and not just a sampling of the site like you would get with traditional pile driven systems using a Geo Technical report. This can save thousands of dollars on larger projects and allows the projects to kick off sooner not having to wait for the reports to come back.

We provide an install manual and training which outlines how to install multiple anchors if needed to achieve overall pull out resistance for each anchor point. This eliminates the fear of refusal rates like you see with other systems which could mean the difference whether a site is adequate or needs to be abandoned. Again, there isn't a lot you can do to a steel I-beam. It either works or it doesn't. More than a few degrees off center will require the installer to pull it out and re-install. In challenging terrain, that can really add up to a costly install. We mitigate all that risk using our Earth Anchor Foundation system



How does the Earth Anchor mounting system mitigate the risk of frost upheaval?

Frost upheaval occurs moisture in the soil freezes and expands. This expansion tends to push against large surfaces like concrete or steel posts. The unique quality of the Earth Anchor which has proven itself time and time again is that there is virtually no surface within the frost column for the frost to push against thus eliminated the fear that frost will somehow pull the anchor out of the stable ground below.

In regions where the frost depth is 48" below the surface Nuance Energy provides an anchor that gets driven to 5' below the surface. This allows for the anchor to be embed into soil which will always remain stable. Unlike large pile steel or concrete piers which have a lot of surface area for the frost to push against the Earth Anchor only provides a small stainless-steel cable. Combine that with the weight of the system pushing down from above which is roughly 200 lbs. per shoe plate, and you get a push and pull situation which is very effective in combating uplift by both wind and frost. What generally happens is the frost takes the path of least resistance and rises around the shoe plates.

How does your system work to save an installer time and money?

To start our system is a complete solution. We supply everything needed from the mids and ends to mount panels all the way down to the anchors themselves. Gone are the days of ordering parts from several different vendors. We stock our product on the shelves of several Distributors both on the east coast and west coast of the US. Knowing this you may even want to order the remaining balance of the system from those distributors as well. It's a one stop shop.

Secondly the system is incredibly simple to erect. I've been to places where I didn't speak the language of the people installing our system and was able to teach them how to install this system using nothing more than hand gestures and a few google translate words. This ease of install will decrease your labor costs and your time to install. Thirdly with the purchase of a few hand held pieces of equipment like a Rotary Hammer Drill and impact drivers you will have the ability to finish projects on your own schedule not having to rely on third party installers to do parts of the project for you, or renting large equipment to dig holes for concrete piers. This allows you to control your own fate and install on your time making it easier to schedule more jobs.

Imagine a residential contractor lands a 75kW project. Does he take it or risk losing cash flow from his 3-man crews turning 6kW residential roof top jobs every 3 days? If he took the job, he would take 3 crews off roof for 4 weeks for this larger project. Do the math. 18kW every 3 days. 21 days a month = 126kW. It doesn't make economic since. But now the same contractor installs the 75kW system using the Osprey PowerPlatform. (2) 3-man crews install 75kW in (1) week. That's 24kW vs 75kW. Pretty straight forward how the Osprey saves time and "makes" you money.

When you add in all the soft costs of installing rooftop solar with multiple crews vs ground mount solar you realize even more savings.

INDUSTRY'S FASTEST INSTALLATION TIME + DRAMATIC COST REDUCTIONS



Is it possible to install this system year-round?

The answer is most definitely yes! We sell a drill bit with the same size diameter head as the width of our anchors. This allows you to drill through the top layer of frost and get down below the frost line to embed the anchor. I have had crews install an entire megawatt of solar in mid-January through 10" of frost in 4.5 weeks with an 8-man crew.

The only thing we suggest due to the nature of the product sitting on top of the soil is to revisit the site 3-6 months after the install happens because generally the ground beneath the shoe plates will find a settle point at which time you just need to resynch the cables back down to the shoe plates and using our patent pending adjustable leg to fine tune the array if needed using nothing more than an impact drill and a 3/4" socket. Year round also increases revenue to contractor, keeps staff working through the winter.



Do you supply engineering to back up your product?

Yes. Nuance Energy has created a 149-page comprehensive calculation packet which outlines the loads required for each of the different size options. We also provide site specific engineering upon request for a nominal fee which is governed by the number of Ospreys purchased. We also have Dimensional Drawings and Assembly Drawings as well for each table size.

Do you supply training for this product?

Nuance Energy holds contractor Demo days at each of its distributor locations semiannually. We have also created a dedicated online learning center. The LMS takes a new contractor through the assembly and build watching videos to become certified. The idea is to run through the virtual reality build of the Osprey before you get to the job site so that there is no guessing where parts go. There are also several other informational documents on this training site as well. Our goal is to make it easy for the customer to find answers by having a single place to go for those answers.



Why is it so important for a developer to understand the ground and soil conditions when designing a solar array?

Understanding the soil and ground conditions is critical information in most cases as a lot of systems out there have limitations which often require big machines or more material such as concrete to overcome.

That's where we come in. We have devised alternate methods for anchoring our system, say into bedrock or soft sandy soils. We typically shine where others fail when it comes to this mainly due to how minimally invasive the earth anchor installation process is. We sell a 1 3/8" wide drill bit which can be used to drill a pilot hole in more difficult soils like hard clays or rocky soil using nothing more than a Rotary Hammer Drill. This approach takes far less effort to achieve and, in most cases, makes it easier to install our system in less than ideal conditions.

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