

ASX RELEASE

1 November 2023

ASX: NVU

## US Solar Trial Demonstrates >25% Improvement in Panel Performance

Nanoveu Limited (“Nanoveu” or the “Company”) (ASX: NVU), a company specialising in protective films and coatings for industrial applications, is pleased to advise it has successfully demonstrated the performance boosting potential of Nanoshield™ Solar after initial testing at Daylily Nursery Farm (Daylily), Tennessee, USA<sup>1</sup>.

### Highlights

- Nanoshield™ Solar boosted power output an average 25.4% compared to untreated solar panel controls over a 72 hour observation period
- Results demonstrate tremendous potential of Nanoshield™ Solar range to increase power output efficiency, particularly for aged installations > 10 years old
- Successful demonstration expected to support US commercialisation efforts starting with the Southeast US solar markets

Commonly, solar farms start to require significant maintenance or upgrades at around the 15 year lifespan<sup>2</sup>. According to Wood Mackenzie, some 23GW of US solar installations will approach this 15 year benchmark in the next 5 years<sup>3</sup>.

Replacing old panels and wiring to maximise efficiency requires substantial time and cost; whereas an advanced, easy-to-apply coating technology could increase the performance and energy output of older solar installations, representing a sizable market opportunity.

Commenting on the test results, Timothy Hitchcock, Daylily Nursery Farm owner, said, “Our solar installation was implemented in 2010 and has been a reliable source of supplemental power for us, but recently it has only been producing a fraction of its rated power. The initial results from Nanoveu’s treatment are impressive and very promising. Subject to a few more weeks of feasibility testing, we plan to treat our entire solar farm using Nanoveu Solar solutions.”

Nanoveu’s Managing Director Mr Alfred Chong, said “These early results indicate the potential of our Nanoshield™ Solar technologies to provide a new lease on life for older solar installations and protect newer ones. The success of our US trial will support our business development efforts to offer our Nanoveu Solar range to large solar infrastructure providers located across the US, starting with the Tennessee Valley and Southeast USA.”



Figure 1 – Timothy Hitchcock, Daylily Farm owner

<sup>1</sup> See ASX Announcement of 7 June 2023

<sup>2</sup> <https://www.utilitydive.com/news/us-solar-farms-are-aging-is-it-time-to-begin-repowering/690978/>.

<sup>3</sup> <https://www.woodmac.com/our-expertise1/focus/Power--Renewables/power-and-renewables/us-solar-market-insight/>

### Potential Solar Opportunities for Nanoveu in Southeast U.S.

Due to abundant sunshine and rapid load growth, Southeast U.S. has experienced one of the highest growth rates in Solar development with over 22,500 MW of capacity in 2023. (See Figure 2)

One of the leading public entities leading this growth is **Tennessee Valley Authority (TVA)**, which purchases power from Daylily Nursery. TVA is a federally owned electric utility corporation in the United States. TVA's service area covers all of Tennessee, portions of Alabama, Mississippi, and Kentucky, and small areas of Georgia, North Carolina, and Virginia. While owned by the federal government, TVA receives no taxpayer funding and operates similarly to a private for-profit company. It is headquartered in Knoxville, Tennessee, and is the sixth-largest power supplier and largest public utility in the country. TVA currently has 2800 MW of operational and committed solar at 4200 sites.

More than 400 MW of these installations are 8 years and older, such as Daylily Nursery.

#### Test Methodology

Daylily's solar farm was installed in April 2010 to generate up to 860 MWH per year. The Daylily site is one of the oldest farm-based solar installations in the U.S.

There are several installations with different panels and various inverter technologies at this farm. To demonstrate and document the effectiveness of the Nanoshield™ treatment, we tested a section of the solar farm with 10 identical and collocated pods, each with a dedicated inverter.

Each pod consists of 3 strings of 9 panels each (27 panels in each pod). Each pod is connected to a separate inverter. Each panel was initially rated as 150 watts per hour (wph) each.

All control and test strings were cleaned in an identical fashion with weeds and overgrowth removed. Nanoshield™ Solar coating was then applied to one pod while a second pod was also cleaned but untreated and used as a reference or control. (see Figure 3).

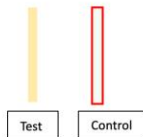


Figure 3

### SOUTHEAST SOLAR

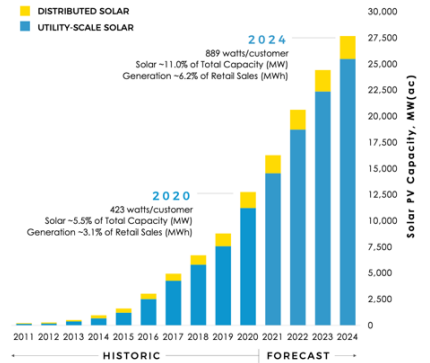


Figure 2 – leanenergy.org, 2023, Solar in the Southeast, Sixth Annual Report, < <https://cleanenergy.org/wp-content/uploads/Solar-in-the-Southeast-Sixth-Annual-Report.pdf>>.

9/15/23						
Time	Test Inv #5 After Treatment (watts)	Ref Inv #3 (watts)	Observed Difference (watts)	Inherit Difference (watts)	Effective Difference (watts)	% GAIN
3:30:00 PM	575	303	272	113	160	27.7
3:35:00 PM	634	381	253	108	145	22.9
3:40:00 PM	548	275	273	87	186	34.0
3:50:00 PM	466	219	247	129	118	25.3
4:10:00 PM	466	246	220	91	129	27.8
4:15:00 PM	493	246	247	89	158	32.0
4:23:00 PM	550	301	249	124	125	22.7
4:31:00 PM	601	301	300	138	162	27.0
10/7/23						
Time	Test Inv #5 After Treatment (watts)	Ref Inv #3 (watts)	Observed Difference (watts)	Inherit Difference (watts)	Effective Difference (watts)	% GAIN
12:23:00 PM	613	398	215	110	105	17.1
1:45:00 PM	640	422	218	110	108	16.9
2:10:00 PM	682	376	306	110	196	28.7
3:59:00 PM	569	295	274	110	164	28.8
10/8/23						
Time	Test Inv #5 After Treatment (watts)	Ref Inv #3 (watts)	Observed Difference (watts)	Inherit Difference (watts)	Effective Difference (watts)	% GAIN
11:21:00 AM	595	335	260	110	150	25.2
1:10:00 PM	602	403	199	110	89	14.8
2:05:00 PM	623	387	236	110	126	20.2
3:08:00 PM	569	295	274	110	164	28.8
3:20:00 PM	578	296	282	110	172	29.8
						<b>Noormalized Average: 25.4%</b>

Table 1: Nanoshield Solar Test Results at Daylily Farm on Sept 15th, October 7th and October 8th

## Testing Parameters

- All values are in watts
- Test Inverter #5 had the Nanoshield Solar treatment applied
- Ref inverter #3 was the control inverter
- Observed difference is the actual difference between watts readings
- Inherit Difference is the initial difference between the test and ref inverters output before the treatment. For test 1, the first value was measured (113) and the subsequent values were calculated. For tests 2 and 3 an average of 110 was used for the inherit difference.
- The normalized average was calculated by discarding the highest and lower readings of the 3-day measurement.

*This announcement has been authorised for release by the Board of Directors.*

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### **About Nanoveu Limited**

Nanoveu is a company specialising in protective films and coatings. <https://www.nanoveu.com/>

**Nanoshield™** - is a film which uses a patented polymer of Cuprous embedded film to self-disinfect surfaces. Nanoshield antiviral protection which is available in a variety of shapes and forms, from mobile screen covers, to mobile phone cases and as a PVC commercial film, capable of being applied to a number of surfaces such as door handles and push panels. The perfectly clear plastic film contains a layer of charged copper nanoparticles which have antiviral and antimicrobial properties. This technology is also being applied to fabric applications targeting use in the personal protective equipment sector.

**Nanoshield™ Marine** prevents the accumulation and growth of aquatic organisms such as algae, barnacles, and mussels on the hulls of ships, boats and other structures that are submerged in water.

**Nanoshield™ Solar** is designed to solve a major issue for solar panels, being reduction of power output from panel surface debris.

**EyeFly3D™** - is a film applied to digital displays that allows users to experience 3D without the need for glasses on everyday mobile handheld devices.

**Customskins** - are vending machines capable of precisely applying screen covers to mobile phones with an alignment accuracy of 150 microns.

**EyeFyx** - currently in the research and development stage, EyeFyx is a vision correction solution using hardware and software to manipulate screen output addressing long-sightedness without the need to wear reading glasses.

### **Forward Looking Statements**

Statements regarding plans with respect to Nanoveu's projects and products are forward looking statements. There can be no assurance that Nanoveu's plans for its projects or products will proceed as expected and there can be no assurance of future sales.