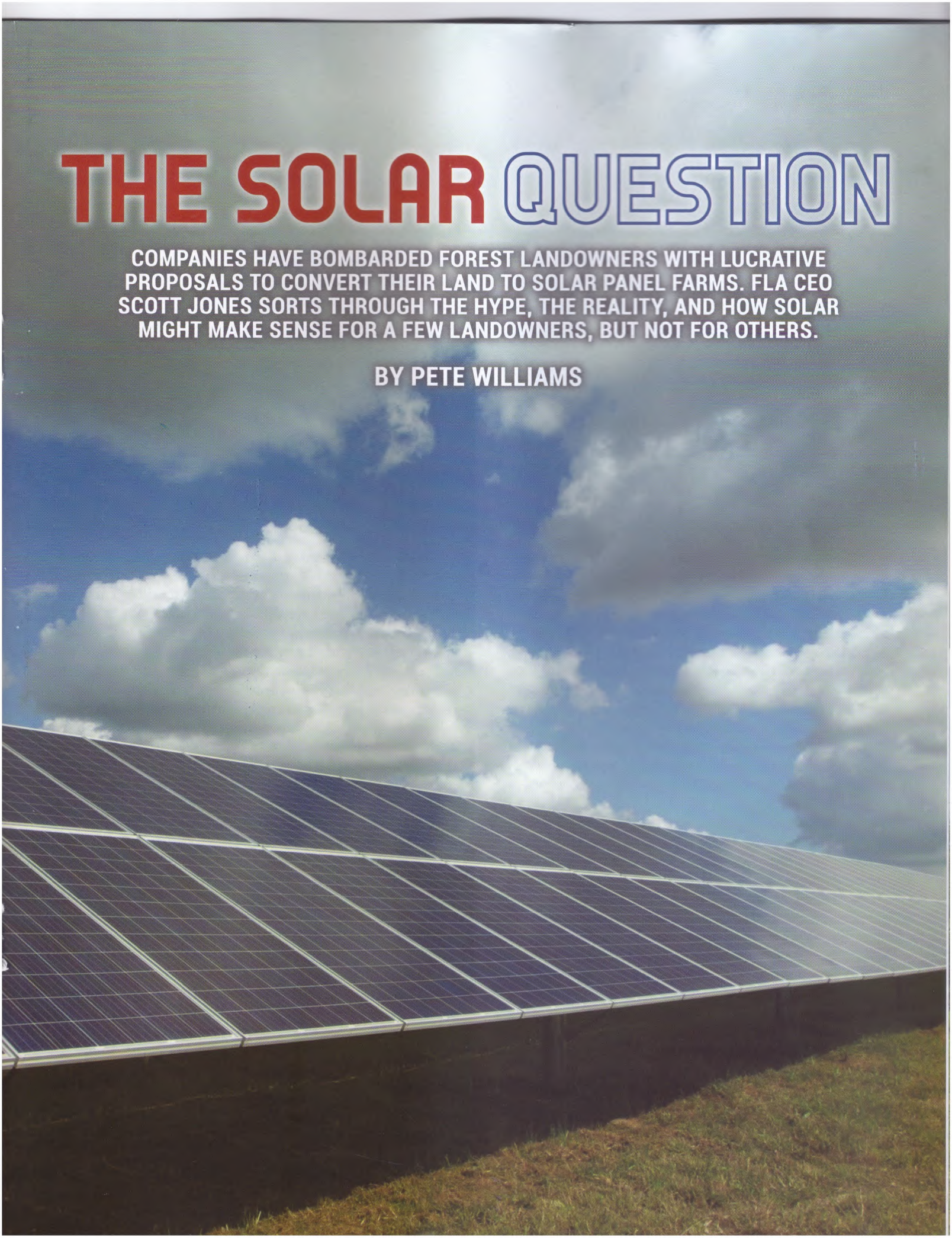
THE SOLAR QUESTION

COMPANIES HAVE BOMBARDED FOREST LANDOWNERS WITH LUCRATIVE PROPOSALS TO CONVERT THEIR LAND TO SOLAR PANEL FARMS. FLA CEO SCOTT JONES SORTS THROUGH THE HYPE, THE REALITY, AND HOW SOLAR MIGHT MAKE SENSE FOR A FEW LANDOWNERS, BUT NOT FOR OTHERS.

BY PETE WILLIAMS



Germany is one of the world's leadi solar producers, though the growi number of solar farms like this o have contributed to visual blig

In recent years, forest landowners have been approached by companies promising huge financial returns if they convert some or all of their property into solar panel farms. Is this a legitimate option? How is income treated? How long is the commitment? Is it even good for the environment if solar energy is produced at the cost of clearing forests? Are communities going to push back against this growing visual blight? FLA CEO Scott Jones has examined the solar issue and provides answers here.

Q: Forest landowners constantly are getting solicitations from solar companies wanting to lease their land. Is this something worth considering?

Jones: Absolutely. Anytime you're approached with a way to diversify income on your property as a way to remain economically successful so you can continue managing for future generations, you should consider it. The minimum requirement seems to be 1,000 acres. You need a large tract of land and it has to be relatively flat. Yes, you see panels on hillsides and along interstates, but ideally, you want flat land. It can't be next to wetlands or areas that are going to flood and you have to be next to electrical transmission infrastructure. They have to be able to connect this to deploy the electricity out to the grid. Location matters. Size and topography matter. Yes, you should consider it, but if you're thinking about how you can diversify with other income streams, you're going to clear some of these initial hurdles to see if solar is right for you.

Q: Is this an environmentally-friendly use of land if you're taking it out of tree production, reducing wildlife habitat, and creating visual blight?

Jones: No. There's no way to gloss over this and make it look better than what it is. It's the power companies responding to signals sent by the federal government on meeting carbon reduction goals in the future. It's hard to balance solar with the environmental quality of a forest. They're not anywhere close to equal. It's not a very environmentally friendly use of land and that's why they look for relatively flat topography an agriculture-type lands because they're not as prone to other environmental problems like erosion and sedimentation gettin into streams.

Q: How is solar panel lease income treated? Is it ordinary income or capital gains?

Jones: Ordinary income and that's the biggest change for private forest landowners who are used to timber income bein treated as capital gains because with timber the holding period clears the one-year test. We've held this investment for longer than a year. With solar, there are annual payments so they will be treated as ordinary income. That needs to be factored in when considering what the payments are; it will be taxed as ordinary income. It's comparable to a cell phone lease or any other non-forest income off such as hunt club leasing, pine straw, bee leases - any of those types of non-forest income tha are treated as ordinary income.

Q: The financial returns sound too good to be true – and then, only after waiting several years for the set-up to occu Are these financial returns for real?

Jones: That's still to be seen. The numbers are enticing and very attractive. Most projects will take three to seven years to

develop and the landowner will be paid a small amount during the development period then it will take one to two years for construction of the project and you'll be paid another modest amount during that time. Then it's the operations period and the big dollars come during those years. But the operations stage could take eight or nine years to get to. Landowners need to remember that this is not something where you'll come in and make a large amount of money quickly. It could be a long way down the road and during that time you're going through contracts, due diligence, permitting and financing issues, site prep, and once it's in the operations stage it's a 40-year commitment. The numbers are big and attractive and hard to ignore, but that's during the operations period, but not so much during the development and construction periods.

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- Scott Jones, FLA CEO

Q: How do you know you're getting maximum value in what's a new market?

Jones: That's a great question. No matter what prices are being offered – and they may be for real - but we still need to do some work to make sure we're valuing the property as we would with any lease or land use. Solar is not a very transparent market so landowners might not know what it's worth in this case. If you're being offered, say, $600 an acre, is the real value $1,200 an acre? If so, you should be getting more than 50 percent. We need to research the true value of leasing land for solar production and not just take the project developer's word on it.

Q: What happens if the solar firm goes bankrupt? What do you do with all of these panels on your property?

Jones: From prior experiences landowners have had with this type of infrastructure on the property, you're typically left with it. Even if the contract has provisions for removal or a decommissioning clause, those will be hard to exercise if the company is no longer there. The counterparty to the lease will be a special purpose entity with no assets other than the solar farm. A landowner will want to ensure that the farm is removed and the land remediated on bankruptcy or failure of the project. Some suggestions are a decommissioning bond or requiring the funding of a sinking fund over time that will have sufficient funds to allow the landowner to decommission the project. Legally, you will want to structure the sinking fund so that it is the landowner's money in the event of a bankruptcy. It's also important to note that these projects are being underpinned and held up by federal legislative goals that could change. If things change, the subsidies and incentive payments being made could be reduced or go away. It should be considered a risk that's out there. The incentive payments being made right now that made these projects viable could go away and could change. The attraction of solar may shift to something else. To that point, when you look at how much renewables make up our energy use, it's only 12 percent. It's growing, but of that 12 percent, only 11 percent is from solar and 39 percent is from biomass. Biomass makes up a larger percentage of renewable energy than solar does. When you put it in perspective, we're using more wood for renewables in this country than solar. So, while solar might be the cool new thing, it's still right there behind wood. If you're growing wood, you're already growing renewables.

Q: What happens if the solar firm is sold and the new company does not want to honor the agreement?

Jones: All of this speaks to the importance of having a solid contract and making sure that a landowner has a representative reviewing the contract that has their best interests in mind and not just taking a form contract from the solar company. It is almost a certainty that the project will be sold, likely more than once, similar to an oil and gas lease. It is important to structure the lease so that a subsequent owner must accept the terms of the lease agreement with the landowner.

Q: As a landowner, am I liable for people trespassing and getting hurt coming in contact with these panels?

Jones: It's an interesting question because it does create an attractive nuisance. As landowners, we have recreational protection, we're not liable for a lot of activities that happen on our property such as hunting-related activities since typically most states cover landowners through recreational protection acts. But with other activities, if you have a pond on your property that people know about and they swim and fish there, it creates an attractive nuisance and because of that, you must carry liability coverage for these attractive nuisances. If you don't currently carry general liability for your vacant land and you're going to put solar panels out there, you better start carrying it. That's another cost to consider when you think of solar. Most lease agreements will provide indemnification to landowners and the operator will maintain insurance. The landowner needs to make sure they are named as additional insured.

Q: The visual blight of solar farms is terrible. Already there are reports around the country of pushback. How do I know if my county or community will approve of this? Is there permitting involved?

Jones: Permitting is absolutely involved. Many jurisdictions around the country currently do not have solar ordinances but this is changing. It seems like whenever anything starts growing to scale, people start questioning where it will end up. This happened with biomass in the Northeast. Biomass generators started popping up and, all of a sudden, we heard complaints of air quality, smell, and trucks coming in and out all the time. We started getting community pushback and we're seeing this with solar, which is much more visible. It takes up a big area of land. They will find balance but where that balance will be achieved will be tougher than with biomass. It's going to be a lot tougher for solar projects because these commercial projects need to be developed in areas with high residential use. Just as with biomass plants, there's a balance to be struck.

Q: Forest landowners generally don't like long-term encumbrances to their land whether in the form of conservation easements or the long-term leases required by carbon credit companies (at least until recently). Solar requires long-term commitments. Isn't this another long-term pitch to be avoided?

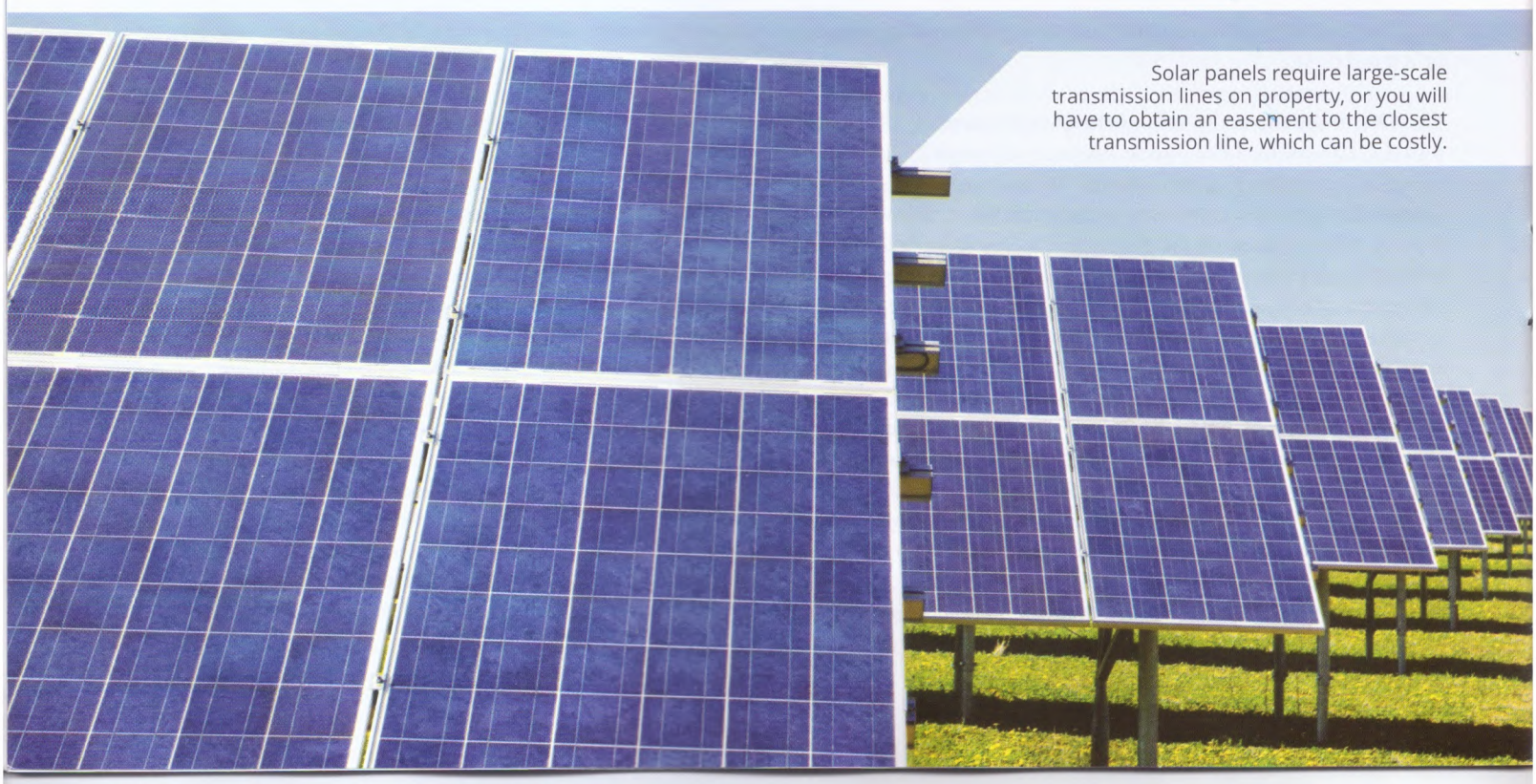
Jones: Just like conservation easements, solar is another tool in the toolbox for the landowner. Solar must be a consideration because while it's not going to be for everybody it might be for somebody. Landowners are always going to have different tools they use to achieve the goals they have for their property and the more tools they have the more successful they'll be. When we take away optionality on land, it impacts our ability to be successful. The tool must remain in the box for the landowners where it makes sense. I don't think this is going to be an option for a lot of landowners, but for the ones for whom it does, it might make sense. Most of these commitments are 40-plus years. That's a long-term commitment and it puts that land in that use for a long time. You're not in the forestry game anymore, now you're in the solar game. It's for the landowner that has a large amount of acreage and is looking for some diversification.

Q: How close do you need to be to an electric source?

Jones: You're going to need large-scale transmission lines on your property, or you will have to obtain an easement to the closest transmission line which can be very costly. The technology has gotten so much better and that's facilitated the growth of solar. Ten years ago, this wasn't an option; there wasn't dispatchable power. That's been wind and solar's Achilles' heel for a long time. It can't be stored and used when it's needed, it has to be used when it's generated. That's the edge biomass has. You can pile the chips up and use them as needed. Wind and solar have to be used right then and they've gotten better with battery technology where they can store some of it and use it on demand, but it's still not dispatchable. It requires battery storage and other things to make it more competitive. That's why coal and nuclear and natural gas are always so valuable; you just crank a knob when you need more. The sun doesn't always shine and the wind doesn't always blow which makes it difficult for these types of renewables to stay competitive, but they are part of the mix.

Q: If we're cutting down trees to create solar farms, is there even a positive result from an environmental standpoint? After all, we're no longer sequestering carbon, providing wildlife habitat, or generating clean air and water.

Jones: You want to look at it from a carbon perspective. That's



Solar panels require large-scale transmission lines on property, or you will have to obtain an easement to the closest transmission line, which can be costly.

why some are pushing solar-powered generation, to reduce our dependence on carbon-heavy materials to create electricity. It's all being done in the name of carbon and to deploy this on private forestlands, you have to remove trees that are sequestering carbon. What this all speaks to is balancing the carbon equation is difficult for any of these projects aimed at reducing net carbon in the environment. How does that all get balanced? What are the overall carbon savings producing electricity from solar versus what's lost from removing the trees that are sequestering carbon as they grow? That balancing doesn't happen. The metrics to measure the overall carbon impacts of one product over another are questionable. No one has good metrics on how these things get measured and in the carbon world, the reaction to an action is termed leakage and additionality. If I create this solar project over here, but I remove the carbon sequestering value of the trees, there's leakage. But did I add anything more by producing solar electricity versus coal? I haven't seen that equation worked out to where you can state definitively that the result of this decision created a net carbon benefit over what I was doing. From a carbon standpoint, it's still a question of does it create a net carbon benefit or not? That has to still be answered.

Q: Is there any thought that today's solar panel technology will be obsolete a decade from now and that the panels on my land will need replacing? Most technology, after all, gets smaller and more efficient.

Jones: That's a fantastic question. The answer would be 'I hope so.' I would hope we'd continue to innovate and find new ways to do things more efficiently and with fewer materials and even make it to where opportunities are out there for smaller acreages to develop these projects. Right now, a 1,000-acre threshold – even if it were 500 – is a lot of land and these developments have to be done at a large scale and it makes the decision process that much harder because you're encumbering that much land taking out that much value from the production you'd normally be doing. I would hope that the process would get better and smaller, and it would open up more opportunities to develop smaller projects that weren't so land-intensive.

Q: What if the panels are damaged via hurricane, fire, or tornado?

Jones: These projects are built to withstand hurricanes but they're not resistant to hail and the developer will try and include some force majeure provision in the lease in the event of a natural disaster. With all the increased weather activity we've had across the country, hail is a serious concern and does a lot of damage to these panels. How that's handled, I'm not sure. What happens to payments when you're not operating needs to be determined. What happens when panels are damaged and not producing, what happens to those payments? How long does it take to replace them? Especially with supply chain issues. Is the landowner still compensated if they're not operating? All of these questions should be answered at the front end of the negotiation.

Solar projects require large tracts of land, usually 1,000-acre minimum, and it has to be relatively flat.

Q: I don't want a full-blown solar farm on my forestland. But I'm interested in having a small solar farm of sorts to power my cabin and barn, a slightly-larger operation than rooftop panels on a residential home in a subdivision. Does that make sense economically?

Jones: It makes total sense. We see this all the time with panels powering gates on the property to reach areas where transmission lines don't reach. From a residential standpoint, solar makes a lot of sense. It's just these larger commercial-scale projects that are land-intensive that need to be looked at and evaluated more before you have a definite recommendation of, yes, you should do this. Should you consider it? Sure. It is something that we can say definitively that you should do? No. There are a lot of considerations that need to happen before a recommendation can be made. But for residences and hunting camps and gates, solar makes a lot of sense. Our landowners are in rural areas where hookups to electrical lines can be very expensive, so putting it in panels to power your cabin or camp makes a lot of sense.

Q: With the rise in land prices and an encouraging spike in raw stumpage prices (finally), wouldn't this seem like a bad time to get out of forest management?

Jones: I think so. The advice we give landowners is to not make short-term decisions on long-term investments that carry risks as these do. There's a lot of optimism in the forest landowner community right now because we see the response of wood-using facilities coming to where the supply is, where we're growing the wood. We have such a tremendous backlog of homebuilding in this country that we're going to continue to need this wood and there's a growth in the biomass energy sector. Pellets are an expanding market and saw timber will continue to be a growing market. For landowners, the U.S.is the wood basket of the world and we're going to still have these opportunities to be compensated for what we're growing. If this were 10 years ago, there would be a greater appetite for landowners to convert to other uses. But now with the way things are turning and the optimism of the market responding to the amount of wood we have across the U.S, things are looking good right now. It might be a bad time to think of getting out of forest management. We have a lot to be optimistic about and look forward to right now.