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MEET  
THE PANEL**RICH DEWEY**

**Title:** President & CEO  
**Company:** NYISO

**LEE EVANS**

**Title:** President  
**Company:** ReWire Group LLC

**DAVID SANDBANK**

**Title:** Vice President of Distributed Energy Resources  
**Company:** NYSERDA

**BILL JORDAN**

**Title:** Founder & CEO  
**Company:** Jordan Energy & Food Enterprises

**JAMIE THOMPSON**

**Title:** President & CEO  
**Company:** American Energy Care & AEC Solar

**LAURIE POLTYNSKI**

**Title:** Director, Customer and Community Management  
**Company:** National Grid

**NOAH C. SHAW**

**Title:** Partner, Co-Chair, Renewable Energy Practice  
**Company:** Hodgson Russ LLP

# Industry ROUNDTABLE

# ENERGY

PRESENTED BY:



How will new climate legislation affect your business? What are the challenges and opportunities that came with the new climate goals? How much more potential does solar have to grow? Law firm Hodgson Russ and the Albany Business Review hosted a discussion to answer these questions and more. Cindy Applebaum, market president and publisher of the Albany Business Review, moderated the discussion.



### What are some of the ways the state's new Climate Leadership and Community Protection

**Act will shape how New York generates, delivers and uses energy?**

**BILL JORDAN:** Mandates and goals have been aggressive. Some big picture trends are fairly certain. There will be such more solar, wind and storage. We'll be incorporating generation delivery and use of energy. The Climate Action Council, which is required by this law, will help guide some of these answers to these questions.

**RICH DEWEY:** It's going to have a pretty dramatic impact, in terms of the supply. One of the things we're looking at as grid operators is how to maintain a generation fleet that can meet the needs of consumers for times when the intermittent sources are not producing.

A lot of it is going to be based on wind and solar, but as we know, there are days where the wind doesn't blow at all and the sun doesn't shine very much. But we still need to have a generation fleet that's prepared to meet the load. It's going to be an interesting challenge to provide the right kind of pricing signals so that generators can respond in a way that can balance the intermittent sources. We're probably looking at different revenue models for those kinds of genera-

tors, and making sure they've got adequacy to perform when we need them.

**JAMIE THOMPSON:** There's also going to be a shift in the way that people live and react to the markets because as regulations change, it's going to change how people have to heat and cool their buildings. It's going to change at their homes. When are we going to wash our clothes? The commodity becomes more expensive, and more importantly, less expensive at night. It's going to give them an opportunity to save money.

**LEE EVANS:** It's going to be interesting to have the Climate Action Council's 22-person scoping plan occur. All these people are going to agree on what to do? Also, regarding people who are disproportionately affected by climate change, are jobs and money going to go to those areas based on the new laws? I hope it works.

**LAURIE POLTYNSKI:** It's dramatic. At National Grid, have our 80 by 50 plan. We've just bought Geronimo, which is a solar wind company, and we've been doing energy efficiency for years. At the end of the day, I worry, for example, about our large manufacturers that need gas. Gas is out of the picture down the road, and so how will those companies continue to run? The other thing I worry about is low-income affordability.

How do we keep it affordable? I agree we need to be green, but we also need to be affordable.

**DAVID SANDBANK:** New York state has some of the most aggressive targets in the country, and doing nothing is a bigger cost. The whole concept is to get to 70% renewables by 2030 and 100% carbon-free by 2040. When you're going to do that, you're going to rely on the grid, the distribution network and much more to convert a lot of fossil fuel into electricity and electrification. One of the key components to that is energy storage because you can't have intermittent technologies without energy storage.

We're also going to change the way in which we generate our electricity to renewable resources. Thirdly, we're going to be able to convert a lot of the fossil fuel into electricity, which is then going to be generated by mostly solar, wind and hydro. It's going to change a lot of things. It's going to change the way we drive our vehicles and how we charge our cars. We're going to have to make our buildings smarter. The grid's got to be much more flexible. This is just the very beginning of a long, necessary process.



### As the state pursues these goals in legislation, what are some of the challenges and what are some of the opportunities?

**DEWEY:** The pace at which we need to add renewables to the grid has got to be at a rate that we've never achieved in the past. It's a pretty aggressive step up. When you look at the number of renewables on the grid, the hydro resources which are really important and really valuable, they are about 21% or 22%. In the last 10 years we've added another 3% to 5%. In the next 10 years, we've got to go from 25 to 70. It's actually higher than that when

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Standing, left, Bill Jordan, Jamie Thompson, David Sandbank, Lee Evans. Seated, left, Laurie Poltynski, Noah C. Shaw, Rich Dewey.

DONNA ABBOTT-VLAHOS

you figure that nuclear is not renewable. Nuclear is carbon free, but it's not renewable, so the pace with which we need to fund, site, build and interconnect renewables is arguably five-plus times a greater rate than we've done over the last 10 years.

How do we remove the administrative barriers? How do we knock down some of the regulated barriers of Article 10 and the likes? Those kinds of things are going to have to really work smoothly.

**EVANS:** This is an interesting question because a challenge to somebody is an opportunity to somebody else. There's going to be some disruption during this transition for people in certain jobs and certain industries. Legislation is going to have to balance some of that and help people through the transition with workforce training, but there are going to have to be restrictions on internal-combustion engine cars and developers for new development.

There will be some mandates about efficiency and renewable energy for retrofits, and so the challenge is going to be the restrictions and the mandates that are going to have to occur in order for this to happen. But that is going to create opportunities for people and new jobs in the green economy.

**POLTYNSKI:** Opportunities also include innovation. We've talked about battery storage and new technologies, and I think a challenge is getting people to engage. Buildings are going to need to change. People are going to need to change. Will people start buying the electric cars? People are going to need to think and act differently, and so I think that'll be a challenge.

**THOMPSON:** The challenges here are similar to every other industry that goes through growth. It comes down to money. It comes

down to funding those industries – how to fund the projects that are around those industries and then attracting the people into those industries. There's a lot of people already in New York in these industries. Where we are right now is exciting because we're positioned to become the leaders in the world.

**SANDBANK:** We all have to work together. This isn't going to happen just by having a mandate. This is going to happen by all of us working together to solve a problem. Some of those challenges right now are integrating the renewables onto the grid and siting issues. I really like what I'm seeing from the state around putting together working groups that bring together all stakeholders to figure out how to solve these problems. NYSERDA's guidebook for communities is really working well to provide local communities the information and tools to be able to incorporate renewables into their inner communities and keeping their community's character intact.

**NOAH C. SHAW:** Siting is the biggest one that comes to mind. All of these siting and regulatory entities are trying to figure out how to deal with an incredibly large influx of new, complex, different projects. When you think about the life cycle of this industry, we're still really at the beginning. The trick will be to not get it wrong too many times at the beginning because we've got progress that has to be made. And so, the advocacy by the industry and the vision of policymakers over the course of the next couple of years to get siting decisions and processes worked out so that the appropriate stakeholders are being given their due, will be incredibly important.

One of the aspects of the Climate Leadership and Community Protection Act is that

it doesn't say a lot about transportation. We talk about 85% greenhouse reduction by the middle of the century. One third of the emissions in the state are from transportation, but it doesn't really say a lot about how we're going to get there. We have 6% of the fast chargers for electric vehicles that California does. We have fewer fast chargers in New York state than Maryland and Massachusetts, which have fewer than half as many cars, so we've got a lot of progress that needs to be made, with respect to how the rate structures and incentives to work.

Ninety percent of the buildings that are going to exist in 2050 already exist. That's another one-third of the emissions profile for the state. The financing mechanisms that need to be put in place to provide a value proposition for building owners and commercial real estate developers and others to retrofit their buildings, are significant, and new and more different, than they have been. And it's something we have to get right within the next three to five years, or lose the pace.



**What's the outlook for the role of fossil fuels in the state, especially natural gas?**

**POLTYNSKI:** Again, I worry about the industrial and manufacturing industries. There's no technology, for example, to replace those steam boilers in paper mills. You can't replace them with solar and wind, and so we worry about having enough gas for them until those technologies develop.

We have started a gas demand response program. In those peak hours, can gas customers shut off or shut down for gas energy efficiency? We've been dealing with energy efficiency, both on the electric and gas side, for years. Renewables and natural gas. We've been working with farmers to see if

**HODGSON'S TAKE**

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**NOAH C. SHAW,** Partner; Co-Chair, Renewable Energy Practice, Hodgson Russ, LLP. Noah concentrates his practice on renewable energy, sustainable development, clean technology, land use and economic development and related matters. He provides a broad range of guidance and assistance with respect to the strategic, regulatory, financial and policy matters that arise in clean technology and renewable energy markets.

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TAKE**

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**NOAH C. SHAW,**  
Partner; Co-Chair,  
Renewable Energy  
Practice, Hodgson  
Russ, LLP

we can develop ways to turn food and farm waste into energy. At the end of the day, though, I still worry about those industrials.

**JORDAN:** Natural gas is going to be solar's chief cost competition. In the medium- and long-run, solar wins on price. In our industry, natural gas has been talked about as a bridge technology that's better than other fossil fuels, to help get us there. I happen to agree with Gov. Cuomo's decision not to allow fracking in the state. They wouldn't say what chemicals they were going to put into the water and into the sand, and so I think that we'll have that competition in the short- medium- and long-run. We will win on cost, and companies have to adapt. IBM had to adapt when the personal computer came about, and the fossil fuel industries are adapting to a reality that will have a greater percentage of renewables.



**Can New York make a transition to carbon-free energy without breaking the economy?**

**SANDBANK:** Yes. We have one of the most aggressive clean energy goals in the nation, but we're doing it in a very fiscally responsible manner while growing our clean energy industry. The transition to 100% carbon free is, No. 1, a job creator. I've seen that firsthand. The Clean Energy Industry Report shows that we have 159,000 jobs in the state of New York just in the clean energy sector. Energy efficiency accounts 123,000 of these,

but that's because that's been around longer. Could you imagine what it's going to be like, five or 10 years now, for renewables? If we plan responsibly and send the right price signals, deploying renewables and storage is going to benefit everybody. It will make the grid cleaner, more reliant, resilient and more affordable for everybody.

**JORDAN:** The amount of wealth creation that's going to happen in this transition is related to lowering the cost of energy but having more of it, and so the early adopters are really going to be the biggest beneficiaries. It's also going to be an engine for job creation. We're a small but growing company based here in the Capital District. For the first nine years, we drove east two hours because power prices were higher and incentives were better in Connecticut, Massachusetts and New Jersey. This is the first year that we're spending over 50% of our time in New York because New York is now ready. All of the dialogue around meters and the right evaluation has come to fruition now. It's not perfect, but it will continue to improve and you can make a living. There's going to be a lot of jobs in this state for the energy sector.

**SHAW:** It's also worth noting the scale of offshore wind whenever you're talking about the New York state economy and renewable energy. Each of the two projects that the state awarded this past year are expected to create nearly 10,000 jobs apiece, with average salaries in the six figures. That is extraor-

dinary job creation, and the vast majority of those jobs will be New York state workers. They'll be paid prevailing wage, and they'll be subject to Project Labor Agreements.



**Are there enough people to fill these jobs?**

**JORDAN:** Yes. GE has a pipeline of 26 gigawatts of wind, nine of which they're manufacturing in France now. We need that manufacturing in New York state, so people will come to those kinds of jobs. Global-Foundries is an example of a semiconductor industry, so I think that we will have the workers to do that.

**THOMPSON:** I don't think we do now. But as these industries and New York are perceived as leaders, people are coming here. New York has suffered from people wanting to leave the state. As we create these technologies and these opportunities, people want to come here. The new generation wants to go to where there is clean energy, and so when we become a leader in these industries, people want to come here.

We work all over the country. Our biggest difficulty now, as we continue to grow, is people. We can't find people that have been trained. A lot of us suffer from that, but as we become known as a state with universities that also focus on energy, it'll bring people back here.

**EVANS:** I suggest that in talking about the

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future, we also go back and look at education for K-12, and that we start now training our people to be part of these new industries as they come on board.

**THOMPSON:** So much of this is technology based, and kids that are in high school now or younger will learn it very quickly. Kids in college are learning it because they're learning how to manipulate technology. We speak about the smart grid and intelligent buildings. It's technology based, and it's understanding, how do I help my building? How do I help my home live and breathe based on how it's being used?

**POLTYNSKI:** With artificial intelligence and machine learning, someone's going to have to know how to understand and manipulate that data. We've got line crews and technicians that work on our lines that are now installing the smart city technology. It's the same job, but different technology going on the pole.

**DEWEY:** Energy decisions are going to factor into every facet of the economy because it's going to be so impactful in terms of how energy is going to be priced, how it's going to be scheduled, how it's going to be utilized. It's going to factor into every industry and every job within every industry.

### ? How much more potential does solar have to grow?

**SANDBANK:** A lot. Since the beginning of 2012, solar has increased over 1,700%. The majority of that capacity has been in the past few years. We currently have a little over 1.8 gigawatts of solar energy statewide and our pipeline is over 1.3 gigawatts. There's almost a pipeline of distributed solar scale. I'm not talking about large-scale renewables, just distributed solar. That's a big pipeline. A pipeline almost equal to what we have installed currently, so it's accelerating rapidly, and there's a lot of new applications coming in every day.

We have a mandate in NY-Sun for distributed solar to go from three gigawatts by 2023, to six gigawatts by 2025. That means we have to do exactly what we're doing, but more of it and faster. We've done a great job up to this point, but having the CLCPA bill is really dictating the direction and speed at which we need to go.

**JORDAN:** There's three segments. There's the residential, there's the distributed, there's the utility scale. Each of those segments is going to continue to grow. In general, solar will be closer to its end user than other forms of energy, so you cut down on the transmission and distribution costs. Solar will be the lowest-cost alternative in all markets. It's just a matter of when sequencing will rise in relationship to current cost of power.

**POLTYNSKI:** We've done a lot of little projects in solar right now, and our territory is 74% of what we've done for renewables on the distributed side. But it's 432 megawatts and it's 20,000 tiny, little projects. We are definitely going to need the large scale.

**DEWEY:** I put a little different twist on it



DONNA ABBOTT-VLAHOS

and I'd be remiss, as the grid operator, not to incorporate this. When you start talking about the opportunity for solar, I agree with everything you said. Tremendous opportunity. When you look at it from the standpoint of what's the opportunity for very valuable solar? The ability to meet the load is so highly dependent on the deployment of storage.

When we say six gigawatts, 1,800 megawatts now, that's the capability of the systems at noon. At 5 p.m., when the electric system is hitting its peak, those numbers are at 40% of that level. When you start thinking about having that grid capacity in the middle part of the day, you need it at 5 p.m. Effective deployment of storage, in the right quantities at the right locations, is going to be so important to really drive up the value of the investments in the storage. We've got to have good storage. Not only does the technology need to evolve, but it's got to be deployed in the right locations at the right moment.

**THOMPSON:** Residential and commercial storage can also serve a big need for that market. It can be adopted quicker, and the technology is there. It's being used in other states and we're using it here, in New York state, now. It flattens out that grid and provides terrific benefits to the user, to the host, to the battery- or storage-system owner, as well as to the grid, and it's why it's encouraged by entities around the state.

**EVANS:** We've moved to community solar because renters don't have roofs that they own, and it's one of the ways they can get involved in solar in this marketplace. That's huge for rewiring and what we're trying to do is get more and more people involved in this.

### ? How is the energy industry educating, specifically, the residential market for the changes?

**POLTYNSKI:** We're all learning it. Reforming the Energy Vision has allowed us to do demonstration projects like the Smart City. We've learned a lot in Schenectady on the smart city technology, and what to do there. With the neighborhood solar in Buffalo, we're learning as we go, too, so that we can educate ourselves in order to educate the public.

### ? What role does energy efficiency have in helping the state meet its energy goals?

**EVANS:** It's huge. Energy efficiency is the lowest cost energy, and should be the No. 1 thing we're doing. When you reduce the amount of energy that you're using, you insulate the envelope. Do everything you can to use less energy, because everything else you do is better.

**JORDAN:** It's really quick to analyze 12 months of growth in size for solar. But we're always happy to sell less solar by starting with an energy audit and the energy efficiency steps that are the lowest hanging fruit, and then putting the renewables at the right size for your operation.

**THOMPSON:** I think the act requires 23% of the decarbonization to come from energy efficiency. That number is low, potentially. I think we can beat that number a lot. We go into buildings and we reduce the cost by 50%, 60%, 70%, and then add solar. If we look at whether we should use less or build more generation, I think we know the answer.

**EVANS:** Energy efficiency is not sexy, unfortunately. It's invisible, but it is the key to everything that we're talking about. If you can start there, then all the other stuff that we're talking about is better. ▨

## COMING UP

Industry Roundtable is an ongoing series of discussions with business leaders sponsored by Hodgson Russ. Look for the next Industry Roundtable discussion in the **December 13** edition on health care.

### December 13

Health care

### January 15

Gaming

### February 12

Labor & Employment

### March 18

Restrictive Covenants/Land Use

### May 13

Construction