



## NEWS Release

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**NEW JERSEY RESOURCES CHAIRMAN AND CEO LAURENCE M. DOWNES  
DISCUSSES THE PATH TO 2050: NEW JERSEY'S CLEAN ENERGY ECONOMY**

**New Brunswick, N.J.** – New Jersey Resources Chairman and CEO Laurence M. Downes discussed the challenges and opportunities on The Path to 2050: New Jersey's Clean Energy Economy at the Center for Energy, Economic and Environmental Policy at the Edward J. Bloustein School of Planning and Public Policy at Rutgers University. "Our success," he stated in his address, "will be judged by how well we deliver what customers want: reliable affordable, clean energy - energy that is the backbone of a robust, sustainable economy for New Jersey."

A copy of the prepared remarks is provided below.

**The Path to 2050: New Jersey's Clean Energy Economy**

**Laurence M. Downes**

Chairman and CEO, New Jersey Resources

Good morning.

Before I begin, my thanks to Frank Felder and Carl Van Horn for this opportunity to speak with you today. As Director, Frank's leadership has guided the Center's research on the important relationship between energy, the economy and environmental policies. The interplay between these policy areas is key to our discussion today.

I've also been fortunate to work for many years with Carl Van Horn who has a deep understanding of economic development and many of the other areas we'll be addressing today. Carl's work as the founding director of the John J. Heldrich Center for Workforce Development

is critical to all of us in this room as we identify new opportunities to build a stronger and fairer economy in New Jersey.

Today, I'm going to take you on a journey as to how we can reach New Jersey's goal to have 100 percent clean energy generation by 2050.

First, I am going to focus on what our customers want and need from their energy providers and how we must deliver reliable, affordable and clean energy to them as we transition to a new, robust energy economy.

Second, I'm going to talk about the agenda that Governor Murphy has set for us, and how important it is that we work now, together, to reach our clean energy goal.

And, third, I'll share an innovative menu of possible energy solutions that will allow us to achieve the Governor's vision and grow New Jersey's economy.

As energy consumers at home and at work, each of us wants reliable, affordable and cleaner energy in our lives.

So, how do we get there? Let's start by looking ahead.

Today is Monday, April 18, 2050. It is a beautiful spring day. In New York, the World Series champion New York Mets are playing the Yankees. In Washington, DC, our nation's first president to be born in the 21<sup>st</sup> century is midway through her second term. And, in September of 2050, I will be 93 years old.

And, here in New Jersey, we are celebrating the fact that we did it. We have reached our 100 percent clean energy goal. The energy is not just clean, but affordable. Not only affordable, it is also reliable.

How did we do this? How did we get here?

We did it by listening to everyone, by including everyone and by being bold and innovative. We helped customers use less energy and gave them the tools to make it happen; so that today, in 2050, our economy produces more output with less energy consumption than ever before.

- We built more solar and offshore wind.
- We invested wisely to integrate renewables into the electric grid.
- We modernized our energy infrastructure, transforming it into a flexible, resilient, smart and affordable network.
- We leveraged alternative fuels for transportation.
- We made important breakthroughs to advance new technologies.
- We now store energy in high capacity batteries and use new low carbon fuels.
- And, we have found ways to capture, reuse and reduce carbon dioxide in the atmosphere.

As a result, we built a stronger, fairer economy. Our clean energy industry of 2050 is a leading economic driver for the state and propels substantial capital investments.

Our higher education institutions, including Rutgers and others, have become national leaders in developing new energy technologies and encouraging private sector research and development.

We added hundreds of thousands of new jobs in clean energy.

And, retrained workers in our state to align their skills to support our clean energy economy.

We cleaned our air and moved to a low carbon energy system.

And, most important, we made the world a better, healthier place for our children and grandchildren... and for generations to come.

Some may say it cannot be done. I believe it must be done, it can be done and it will be done.

Governor Murphy has challenged us to develop this clean energy economy. Or as Nobel Laureate, Bob Dylan, put it: “you better start swimming, or you’ll sink like a stone.”

Seriously, we should all be excited to be part of this historic transformation. We have a strong foundation to build on.

New Jersey has one of the largest solar markets in the nation. Our state’s power sector has one of the lowest carbon emission rates in the country. In fact, New Jersey’s power sector has reduced emissions by 12 percent since 2005. We have made good progress in energy efficiency.

So, why are we doing this?

There is an urgent need to advance this energy agenda. The impact of greenhouse gas emissions is real and must be addressed. According to the Environmental Protection Agency, increased greenhouse gas emissions will impact everything from our food supply and water resources, to infrastructure and our own health. Given these far-reaching impacts, all of us need to help bring about the changes we need to see.

Now, everyone wants reliable, affordable, clean energy. How can I say this with certainty? Our company gets over a million calls from our customers each year. 30 percent of calls are about reliability and 53 percent are about affordability. And, over 50,000 customers have taken advantage of our energy efficiency programs.

Governor Murphy has made his clean energy priorities clear.

- Establishing New Jersey as a national leader in solar power and grow jobs in that field.
- Positioning New Jersey as a clean energy storage leader with 600 MWs of energy storage by 2021 -- and, 2,000 MWs of storage by 2030.
- Adding 3,500 MWs of offshore wind by 2030 -- enough to power 1.5 million homes.

- Investing in projects to transmit electricity more efficiently and dependably, including modernizing the grid, and encouraging smart grids, micro-grids and advanced metering.
- Electrifying transportation to cut emissions and support the production of alternative fuel vehicles.
- Increasing funding and provide market incentives for energy efficiency.

Since taking office in January, the Governor has made progress by directing New Jersey to re-enter the Regional Greenhouse Gas Initiative, or RGGI. The proceeds from RGGI will help New Jersey dedicate millions of dollars toward energy efficiency in the future; and, by setting a price on carbon, we will help in the fight against climate change. This is a strong start.

The Governor also advanced important bills on clean energy and nuclear power... and to continue the growth of renewables and energy efficiency and ensure reliability during this transition. In short, we are on our way.

So, is the Governor's plan ambitious and focused on the right priorities? Absolutely.

Is it easy? No, it will not be easy.

There are critical roles for everyone in advancing this new energy future: policy leaders, homeowners, utilities, regulators, environmentalists, businesses, universities and research centers, and many more.

Our youth have embraced this and are already supporting the clean energy economy. We must help their cause through our leadership and actions to ensure they have a future with a strong economy and a healthy environment.

The Environmental Defense Fund called Governor Murphy's clean energy agenda a potential "game changer" for New Jersey, and an opportunity for the state to be a leader in fighting climate change while creating more jobs. I couldn't agree more.

Let's talk about the ways we can achieve our 2050 goal. I'll start with the simplest and most powerful tool: energy efficiency.

Increasing energy efficiency to reduce carbon emissions is more critical than ever before. If families and businesses use less energy, providers will be able to produce and deliver less energy. That, in turn, will benefit the environment, save customers money and helps us meet our clean energy goal.

The New Jersey Conservation Foundation is the latest organization to document what we've known for years, that energy efficiency is the lowest cost form of clean energy.

I'm glad to say that New Jersey has recognized the significant impact of energy efficiency – and better yet, we have room to grow. Our state's new legislative goals more than triple the current pace of savings from energy efficiency. And, we can achieve those results by enhancing how we provide energy efficiency programs and services.

How will we do this?

We will need to continue to educate customers about their energy usage, and show them how to use less. We must remove the economic barriers that prevent customers from embracing energy efficiency.

Customers need low or no interest repayment programs for their energy efficiency upgrades, so there are no upfront costs and they can pay over time for purchases on their utility bill. Customers need rebates, incentives and special financing - especially those who are most in need.

I should also point out energy efficiency is a major source of green jobs. Today, there are more than 31,000 jobs in the state dedicated to energy efficiency.

Our company has grown the number of contractors participating in our energy efficiency programs from 100 to over 2,600 contractors over the past decade. The economic benefit is also important. Those contractors have contributed almost \$375 million in economic activity in our service territory alone. If we expand these efforts throughout the state, the potential impact is enormous.

The evolution of the solar market began in New Jersey almost 20 years ago when the electric markets were deregulated in 1999. Since that time, our solar investments have produced enough energy to power nearly 400,000 homes in our state.

Solar represents a significant economic opportunity for our state's future. According to the National Renewable Energy Laboratory, the investment for New Jersey's solar market could reach \$40 billion over the coming decades.

Much has been reported recently about the amount spent on solar incentives. Consider these facts: Solar incentives have totaled about \$2.5 billion, stimulating more than \$9 billion in private capital. That is nearly four dollars of investment for every one dollar of incentives. And, for each dollar we spend on state incentives, we can bring roughly one dollar back to New Jersey's economy from the federal government in the form of tax credits.

Imagine that...New Jersey getting something back from Washington.

How has the economy benefitted from this?

The \$9 billion invested in solar has created more than 7,100 new jobs over the past decade; with 10 percent job growth last year alone. The very good news is the demand for solar continues to grow, largely driven by it becoming more affordable for customers.

In 2008, solar installation costs for an average residential home were \$80,000. Today that is closer to \$25,000 -- less than a third of what it cost a decade ago.

It is clear the market is growing, technology is improving, and the environment and economy are benefitting.

Just last week, the Legislature passed a clean energy bill that is now on Governor Murphy's desk. This bill is a strong step forward to sustain market growth and jobs.

Looking ahead, we need a long-term plan to ensure the growth and vibrancy of our solar market. To continue our progress toward the 2050 goal, we need to focus on the following areas.

- Developing a new incentive program that will lead to further cost reductions
- Creating the environment to advance large solar projects, including community solar.
- Addressing land use and interconnection issues to meet our environmental goals, and...
- Reviewing net metering policies to ensure that solar customers are being fairly compensated, without shifting cost burdens to non-solar customers.

We are very optimistic about the future of solar in New Jersey.

We also have some good news on offshore wind power. Recent policy support is cause for long-term optimism in New Jersey and along the eastern seaboard. This support is already stimulating development activity and attracting experienced global developers to our state.

Although offshore wind is typically the most expensive, it is clear that with scale and experience, costs can come down to levels that require fewer subsidies.

And, wind power can also lead to thousands of new jobs. In fact, a U.S. Department of Energy study stated offshore wind development in the Mid-Atlantic Region could sustain over 13,000 jobs annually from 2020 to 2030.

In January, Governor Murphy signed an Executive Order directing the Board of Public Utilities to implement the Offshore Wind Economic Development Act. Already that policy is paying dividends. In just the past two weeks, Danish power company, Orsted, a world leader in offshore wind farm development announced it will open an office in Atlantic City next month and start hiring.

The long-term benefits of offshore wind for New Jersey are clear.

There are a number of key areas that will also be critical to meeting our 2050 goal, including transportation, modernizing the grid, natural gas and new technologies. I'll comment briefly on each one.

Electrifying transportation and leveraging alternative fuels is extremely important to achieving New Jersey's clean energy economy. It is a fact that most of New Jersey's greenhouse gas emissions come from cars and trucks.

Some industry analysts currently predict the costs for electric passenger vehicles might break even with internal combustion engines in the mid-2020s. This means the electric vehicle market

could begin to compete in the next decade without incentives, allowing electric vehicles to play a significant role lowering emissions. Alternative fuels, such as compressed natural gas and hydrogen, offer an additional opportunity for fleets.

Modernizing the electric grid will be another important step to achieve our goal of 100 percent clean energy generation by 2050. This will require innovative thinking about regulation, market structure and policies, and involve a diverse group of partners, including regional grid operator PJM, energy and technology companies, university and research institutes, regulators and government leaders.

The grid of the future will need to integrate different energy sources, such as solar, wind and battery storage in a way that maximizes grid reliability and optimizes costs. As you will see, natural gas will play a key role in the integration.

Investing in tomorrow's grid is a critical piece of our ability to deliver reliable, affordable and clean energy to customers.

Let's talk about natural gas and what it has already done to accelerate our transition to a cleaner energy future. Since 2008, lower natural gas prices have saved New Jersey customers more than \$5.5 billion. At the same time, solar incentives have cost customers about \$2.5 billion, and incentives for energy efficiency have cost customers approximately \$1.5 billion.

The simple fact is that low natural gas prices have allowed us to accelerate our clean energy investment, and saved New Jersey residents more than a billion dollars. Going forward, natural gas prices are expected to remain low, which will keep our energy transition affordable and support clean energy growth.

In addition, the flexibility of natural gas generation to adjust quickly to the intermittent output of renewables will provide grid reliability as we add more solar, wind and new technologies to the mix.

Let's also spend a moment imagining the role the natural gas network could play in a low carbon world. The network is a safe, resilient energy delivery system. It is a valuable asset that is worth billions, and it could - and should - be leveraged to provide additional value decades from now to support our 2050 plan.

Think, for a moment, about how the development of low carbon fuels could advance our agenda. Consider what the natural gas network could be if it can deliver a low carbon fuel. Some of these new fuels may include: Renewable biogas products from plants or waste, and hydrogen gas-powered from renewable energy sources.

And, all segments of the natural gas supply chain must invest in building and maintaining an airtight natural gas delivery system. This is a tremendous opportunity for the natural gas industry to step up and evolve to reduce fugitive emissions. It is an opportunity the industry must drive forward.

Over the last 30 years, new technologies have profoundly altered energy markets and our expectations for the future. And, looking ahead 30 years, we are optimistic about the technologies that will drive us to our 2050 goal.

A lot of research is going into finding ways to integrate solar with building materials including windows, siding and roofing. Solar would move from an investment decision after the fact, to a benefit for every new construction home purchased, or an easy add on for a home improvement project.

Superconductive transmission would allow energy to be carried across major regions of the United States without line losses.

And, carbon capture would take carbon from a power plant's emissions, from customer equipment, or even directly from the air, converting it to other materials that can be reused.

And, nuclear fusion is a technology to watch. Now, I'm not an expert in this area, however, a number of well renowned research institutions – from MIT to Princeton - are testing this technology, which could be commercially viable in the next few decades.

We should not underestimate the power these new technologies can bring over the next thirty years. They will be critical to meet our 2050 goals.

So, here is our path forward.

To execute the Governor's plan, we will expand solar and develop offshore wind. We will reduce our total energy demand through energy efficiency programs, and we will support grid reliability and flexibility with natural gas generation to accommodate increased levels of clean energy generation.

These will be major accomplishments.

The next opportunities come after that.

As we move beyond 2030, new technologies must come into play to achieve 100 percent clean electric generation by 2050. Some of those new technologies I've talked about today.

- Energy storage will be a game changer for solar and wind.
- We will capture carbon and turn it into a useful product.
- Our grid will become smarter and more flexible.
- Alternative fuel vehicles will be as popular as cell phones.
- And, technologies that lower the carbon in our generation fuel mix, will allow us to use our energy infrastructure in a new way.

I will end where I began. Ultimately, our success will be judged by how well we deliver what customers want: Reliable energy. Affordable energy. Clean energy. Energy that is the backbone of a robust, sustainable economy for New Jersey.

One of my favorite books is “*Only the Paranoid Survive*” by Andy Grove, the legendary founder of Intel. The phrase “only the paranoid survive,” is the story of my life.

What I’ve talked about today is what he describes as a ‘strategic inflection point.’ It is the moment when massive change occurs, and things are never the same. And, everyone involved has a choice: adapt and change - or become irrelevant.

We are at that inflection point for energy—as an industry and as a state.

If we all work together – and put customers at the heart of our efforts – we will manage this strategic inflection point successfully. We can create a more vibrant energy economy here in New Jersey, and become a beacon for other states navigating the same challenges.

We will be successful by working together. We won’t always agree on everything, but what we can agree on is that our state is counting on us to get this right for our families ... and, for generations to come.

Thank you.

### **About New Jersey Resources**

**New Jersey Resources** (NYSE: NJR) is a Fortune 1000 company that, through its subsidiaries, provides safe and reliable natural gas and clean energy services, including transportation, distribution, asset management and home services. NJR is composed of five primary businesses:

- **New Jersey Natural Gas**, NJR’s principal subsidiary, operates and maintains over 7,400 miles of natural gas transportation and distribution infrastructure to serve over half a million customers in New Jersey’s Monmouth, Ocean and parts of Morris, Middlesex and Burlington counties.
- **NJR Clean Energy Ventures** invests in, owns and operates solar and onshore wind projects with a total capacity of more than 300 megawatts, providing residential and commercial customers with low-carbon solutions.
- **NJR Energy Services** manages a diversified portfolio of natural gas transportation and storage assets and provides physical natural gas services and customized energy solutions to its customers across North America.
- **NJR Midstream** serves customers from local distributors and producers to electric generators and wholesale marketers through its 50 percent equity ownership in the Steckman Ridge natural gas storage facility and its 20 percent equity interest in the PennEast Pipeline Project.
- **NJR Home Services** provides service contracts as well as heating, central air conditioning, water heaters, standby generators, solar and other indoor and outdoor comfort products to residential homes throughout New Jersey.

NJR and its more than 1,000 employees are committed to helping customers save energy and money by promoting conservation and encouraging efficiency through Conserve to Preserve<sup>®</sup> and initiatives such as The SAVEGREEN Project<sup>®</sup> and The Sunlight Advantage<sup>®</sup>.  
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