Energy Vision for the Future

As part of FutureWork, stakeholders participated in a special energy sector “Leadership Hackathon” focusing on an important question: “What can North Carolina do now to ensure the right mix of new employees given the utility business model changes?” Stakeholders gained perspective on this challenge from four panelists: Rob Manning, Vice-President, Transmission Power Delivery and Utilization Research, Electric Power Research Institute; Ivan Urlaub, Executive Director, North Carolina Sustainable Energy Association; Andre Pettigrew, Clean Economy Consultant; and Chris Hage, Lead HR Consultant, Workforce Strategy, Duke Energy.

Stakeholders and panelists formed discussion groups to design strategies targeting this workforce challenge. After their work was done, participants voted for strategies they felt were the most important. Topping the list was a unanimous decision that we must first “develop an

FutureWork Forum: An Exclusive Recap

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How does your county rate on the Disruption Index?

How does your county rate on the Disruption Index? Is your county more vulnerable to future jobs disruption due to automation and technology? See IEI’s FutureWork Disruption Index for North Carolina and access interactive maps of your county.

Hear from North Carolina Leaders on
energy vision for North Carolina’s energy economy before considering other workforce development strategies. Why is this visioning necessary?

First, information technology has transformed our society. New energy technologies are becoming ever more affordable and changing our homes, how and where we work, and the infrastructure connecting and powering our communities. For several decades, energy consumers in North Carolina have relied on service from their energy utilities. When we only had five resources (coal, oil, natural gas, nuclear and hydropower) to meet our energy needs, the traditional utility business model was the preferable technological and economic approach. Now, advancements in technologies, declining energy costs and the Internet of Things allow customers and service providers to manage their own energy consumption and control their utility.

Clean energy technologies such as solar power, wind power, and ways to use energy more efficiently, are outpacing additions in traditional energy sources like natural gas, nuclear and coal. The U.S. market for energy storage solutions will likely grow 100% per year, which will also continue to drive down the cost of electric vehicles, broadening the universe of control and choice for customers. But while these changes are beneficial for consumers, they are great challenges for utilities and the energy industry.

An additional challenge raised by many stakeholders was that energy is polarized in today’s politics, and that a major threat to maintaining a healthy utility and competitive industry is the ongoing lack of bipartisan state level support for a vision and paths forward for our energy economy.

North Carolina must have the right workforce in large enough numbers to run the future utility. We also have to maintain the job creation and economic development potential we have as a globally competitive energy industry. How big is the opportunity? When it comes to jobs, North Carolina’s clean energy industry is on target to add more than 15,000 new jobs by 2026. Over this same time period, 50% of Duke Energy employees, about 7,000 people, will become eligible for retirement. Further, Duke Energy and the entire industry will need growing expertise in cyber security and grid modernization, and many local energy resources such as offshore wind may or may not be developed, presenting additional job and economic growth potential.

Preparing our workforce for 22,000 or more additional energy sector jobs by 2026 in a highly dynamic, rapidly growing, and heavily politicized issue area leads to a central question: How are we going to get there? We cannot address the needs of our workforce until we have a vision that converges us on a path to ensure divergent politics and interests do not unwittingly prevent us from having an affordable and robust energy economy.

A vision must grapple with the following three forces:

- North Carolina’s globally competitive position in advanced technology sectors includes traditional energy, but also the newer technology areas of smart grid, energy storage, intelligent and high performance buildings, electric vehicles, solar, bioenergy, wind energy, and smart transportation.
- The number of North Carolinians experiencing new energy
options and control is growing each year as prices offered by non-utility companies continue to decline.

- The laws and rules governing our regulated utilities still exert a strong financial preference within the utility business model toward building traditional power plants (using the big five traditional resources), while limiting the utility’s options to work with industry to cost-competitively offer customers newer technologies and services directly or as part of their regular service.

These forces are causing an important divergence between the utility, the energy industry, and the customers they serve. This divergence is an artifact of outmoded laws and rules that we do not know how to update because we do not have a unifying vision for our energy economy toward which we can all work and benefit from.

Every energy decision made today in North Carolina causes one to lose when another gains. When the utility exercises its preference to build a profitable new power plant or power line (necessary to the whole system or not), they recover the cost from their customers. When the energy industry works with customers to deploy a newer technology with minimal utility involvement and using their own money, only the amount the utility pays for the electricity generated or the renewable energy certificates created can be recovered from all customers and no utility profit is allowed. To date, in North Carolina’s experience, the first scenario makes customers’ rates and bills go up but financially strengthens the utility, and the second scenario causes a downward pressure on customers’ rates and bills, but financially weakens the utility. This is why North Carolina’s current and proposed clean energy laws are so controversial, because it is difficult to see how using newer technologies has actually caused electric rates and your bills to go up less than if we had continued to meet our needs in the old way of only building traditional power plants and more power lines.

This divergence of interests will only intensify as new technology costs decline further and customers find new ways to affordably finance and use newer technologies without utilities earning a profit on customers’ investments. As a result, all parties involved will continue making individual decisions that appear to be efficient and affordable, but in the big picture, may not be. The sure fire way to guarantee electricity rates and bills will rise, is for all of us to continue allowing energy to be politicized and by failing to align around shared goals and a transparent planning process that ensures energy is inclusive of and beneficial for all customers, maintains financially strong and secure utilities, and ensures our competitive energy industry adds thousands more jobs annually for the next decade to North Carolina’s energy economy.

For all of these reasons, stakeholders started to converge around an understanding that our utilities and energy industry will have overlapping workforce needs, where they could find themselves competing for employees if we don’t have a workforce development plan informed by a vision for our advanced energy sector.

This year’s Leadership Hackathon made the critical first step in beginning to clarify what success looks like for an energy vision, and showed by popular vote that a vision for our energy economy is a critical next step to preparing for the FutureWork of energy across North Carolina.