



**Copper Development  
Association Inc.**  
Copper Alliance

February 22, 2019

Aida Camacho-Welch  
Secretary of the Board  
New Jersey Board of Public Utilities  
Post Office Box 350  
Trenton, New Jersey 08625-0350

Re: SREC New Jersey Solar Transition: P.L.2018, c.17 (the "Clean Energy Act")

Dear Secretary Comacho-Welch,

The Copper Development Association (CDA) is the North American based not-for-profit association of the global copper industry, influencing the use of copper and copper alloys through research, development, and education, as well as technical and end-user support. Copper is an integral part of energy markets due to its reliability, efficiency, and performance. These physical properties are vital in the collection, storage, and distribution of energy from solar, wind, and other renewable sources that are rapidly integrating into the electrical grid and its supporting infrastructure. CDA commends the State of New Jersey for effectuating policy that will continue to stimulate investment in the solar energy workforce. The recently signed Clean Energy Act (A 3723), along with Executive Order No. 28 both validate the State's focus on the expansion of renewable energy generation and its accompanying workforce.

### **Solar Market Opportunities**

Given the rise in renewable energy construction and deployment there is increasing demand for new accompanying grid infrastructure across New Jersey and nationally. The solar industry has grown dramatically over the last decade, becoming the largest source of new electricity capacity around the world. The solar PV market continues to transition from being dependent on government incentives and environmentally conscious wealthy homeowners to a cost-effective source of electricity that is gaining traction across market segments and customer types. The economics of solar PV now make it one of the cheapest sources of electricity in several US states and close to natural gas plants in others, even when it must compete against established plants. Solar PV hardware manufacturers have largely delivered on ambitious cost reduction targets during the past 5 years, and with the introduction of new high efficiency modules, they are now focusing on reducing soft costs like labor, customer acquisition, financing costs, and permitting. Vertical integration has resulted in market consolidation and the emergence of globally active platform companies. It will also ultimately result in greater potential for long-term growth for the solar sector.

The next few years, between 2019 and 2022, will see incentives to the solar industry reducing and, in some cases disappearing, but that is not expected to cause a significant change in the growth rate as cost reductions in solar are expected to continue thanks to a healthy number of new technologies coming to improve system efficiency, increasing its competitiveness even without subsidies. The impact of solar PV in the electricity sector goes beyond the price of electricity. Its modularity allows the installation of PV systems beyond the transmission grid and all the way to the electricity consumer premises, changing the way the market operates from a hub and spoke design to a networked one composed of customers that both consume and produce electricity.



### **Copper's Role In Solar Systems**

The generation of electricity from renewable energy sources such as solar has a copper usage intensity that is typically four to six times higher than it is for fossil fuels. In fact, between 5,400 and 15,400 pounds of copper are used in order to produce a single megawatt of solar generated electricity. This required volume of copper substantiates copper's resource role in the expanding renewable energy markets. Although the amounts of copper used per MW of solar installed capacity has decreased in the last decade do the technology advancements, this decline has been compensated by a significant increase of solar installations. The growth in the solar PV industry is expected to drive significant amounts of copper demand (1.925 billion lb) over the next decade.

### **Policy Driving Markets**

Several states are taking active steps to devise, implement and administer energy policies and master energy plans that advance their renewable energy economies. CDA commends New Jersey for taking vigilant steps to phase out the current SREC program, and to subsequently work towards deploying more distributed solar assets. This ensures that more behind-the-meter solar will be sourced to the grid, which thus protects current solar jobs. These directives reflect a more innovative and forward-thinking approach to renewable energy policy. Modernizing our energy infrastructure and increasing our ability to deploy residential, utility-scale and community solar systems will be critical for our country's energy resilience, reliability and workforce. On the material side, copper's use in solar systems significantly increases the conductivity, sustainability, and durability not only in the electrical applications themselves, but also in all interconnecting energy system infrastructure - critical components for increasing the reliability, resiliency and security of the electric grid.

CDA supports the State's commitment to finding current and future solutions for the modernization of energy infrastructure and its electricity generation sources. This is largely made possible through ambitious and cutting-edge public policy that addresses both the challenges as well as the opportunities with renewable energy. The phasing out of the SREC program as directed within the Clean Energy Act is a step in the right policy direction. CDA looks forward to the ongoing dialogue, evolution and implementation of public and regulatory policies that aim to foster the growth and expansion of the aforementioned clean energy technologies across New Jersey's economy.

Sincerely,

Zolaikha Strong  
Director – Energy Policy & Electrical Markets



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