

**Statement of Joe Bryan, Senior Fellow, Atlantic Council Global Energy Center**  
**US Senate Committee on Energy and Natural Resources**  
**Hearing on the Impact of COVID-19 on Mineral Supply Chains**  
**June 24, 2020**

Senator Murkowski and Senator Manchin, members of the committee, thank you for the opportunity to testify today. My name is Joe Bryan and I am a senior fellow with the Atlantic Council's Global Energy Center. I was previously the Deputy Assistant Secretary of the Navy for Energy and prior to that, spent 14 years working in the Senate. I spent most of that time on the Armed Services and Intelligence Committee staffs.

We are in the midst of an historic shift in global energy. From the electrification of transportation to the integration of renewable energy into the grid, Li-ion batteries are at the center of that transformation. The massive global investment we see in the Li-ion supply chain, mostly driven by expected demand for electric vehicles, speaks to the pace and scale of that shift.

Other witnesses will detail the US competitive position in the race for supply chain investment. Suffice it for me to say, the United States is getting lapped. And while China is the dominant player, we are quickly losing ground to our European allies as well. This is a problem. Our supply chain weakness has obvious economic implications. But it also creates risk for our military and, more broadly, US national security.

From communications gear that keeps our troops connected on the battlefield; to unmanned aerial and subsurface platforms; to tactical ground vehicles transitioning from lead acid, Li-ion batteries are everywhere. That is not surprising. Energy storage can not only increase capability but, by reducing fuel use, can also help take convoys off the road and our troops out of harm's way.

Li-ion is also key to future capabilities. Army Futures Command is imagining what an all-electric Brigade Combat Team might look like. The Navy's has an electric ships office. And the deployment of next generation weapons systems like lasers and rail gun will depend, to one extent or another, on energy storage. The future is electric, and Li-ion batteries are essential to that future. That is why the current state of our supply chain is so concerning.

Over the past few months, COVID-19 has exposed our vulnerability to supply chains for critical materials, and not just personal protective equipment. **For example, COVID-19 impacted global shipments of cobalt, a key mineral in the production of Li-ion batteries.**

The cause of the disruption this time was a pandemic. But it could have been a material shortage; a trade dispute; or, in the worst case, a military conflict that cut off access to key materials. The bottom line is that a weak battery supply chain carries significant risk.

But the Li-ion market also represents an opportunity. The State of Ohio recently landed a \$2.3B investment from General Motors and South Korea's LG Chem to build a battery plant in Lordstown, Ohio. That facility will bring more than 1000 jobs to the Mahoning Valley. We can't change geology and create resources where they don't exist. But we can change direction and compete for supply chain jobs in minerals processing, anode, cathode and cell production. That cannot happen soon enough.

The scale of global investment in the Li-ion supply chain is massive and investment patterns will have geopolitical impacts. Right now, commercial relationships are being forged and trade alliances

hammered out. Decisions made over the next few years will define the global transportation industry for decades to come and plant the seeds of future political alliances. Maintaining our global influence and diplomatic leverage depends on us not just getting in the race but setting the pace.

From establishing priorities for research and development; to setting conditions for attracting investment; to, most importantly, hitting the accelerator on transportation electrification, there are things we can do. To date, our actions have matched neither the scale of the opportunity, the efforts of our competitors, nor the risk we accept should we remain on the sidelines.

Thank you and I look forward to your questions.