## NETL RESEARCH & INNOVATION CENTER

## NETL DRIVES RESEARCH TO PRODUCE GRAPHITE FROM CARBON WASTE MATERIALS

Carbon waste materials are exceptional feedstocks for making high-quality graphite suitable for battery and other high-performance applications.





Demand for graphite is expected to soar as U.S. production of electric vehicles increases.

Research projects by NETL and ORNL are developing technologies to quickly and inexpensively produce graphite — an essential component for battery electric vehicles and other green technologies.

 A novel process developed by NETL lowers process temperatures from 3,000 °C down to 1,500 °C and reduces process times from several days to just a few hours.



RESEARCH PRIORITY

- Graphite produced with the NETL process has been shown to outperform anodes made with commercially sourced graphite materials.
- Accompanying research at ORNL, supported by NETL, also significantly reduces process temperatures and time, which improves the overall carbon footprint of the graphite manufacturing process.
- The ORNL process allows low-value carbon feedstocks typically considered "non-graphitizable" to be converted directly into high-value graphite.



## PERFORMERS





## NETL ANNUAL ACCOMPLISHMENTS 2023



Fossil Energy and Carbon Management

