

## Sustainable Agriculture Clean Energy Demonstration Site

### Problem/Issue Statement

Agriculture is energy intensive, consuming more than 1,714 Trillion BTUs (USDA ERS, 2016) for fertilizer and pesticide production and equipment operations. This energy is primarily from non-renewable resources, making carbon neutral farming impossible. Using new nuclear energy technology (e.g. microreactors), it is possible to reduce carbon emissions and improve agricultural sustainability through produced energy savings and reduced greenhouse emissions. Microreactors are ideally suited for energy intensive remote operations such as agriculture. Because microreactors can be used as a dependable distributed energy source and are deployable to remote locations, they have the potential to transform agriculture and rural America.

### Request Description

Nationally there are several new ongoing microreactor demonstration projects which have been initiated to improve the critical, reliable and clean energy infrastructure. Kansas State University, in partnership with the Idaho National Lab Microreactor Program and the Ultra-Safe Nuclear Corporation, is requesting \$150 million to acquire a microreactor and develop a microreactor clean energy demonstration facility for agriculture.

### Request Goals and Expected Outcomes

K-State is a world leader in agriculture systems and engineering, a microreactor demonstration project will generate significant interest in microreactors for farming communities. This microreactor can lead the state of Kansas and Mid-West region to support sustainable agriculture. A new factory fabricated microreactor can provide energy independence, demonstrate sustainable agriculture and provide economic opportunities to the community. K-State will house the microreactor end-use demonstration facility which will showcase the hydrogen production and Bio or Agro-waste gasification for agricultural communities and will accelerate the deployment of clean energy microreactors in Mid-west region.

### Appropriations Subcommittee

- Agriculture, Rural Development, Food and Drug Administration, and Related Agencies
- Commerce, Justice, Science, and Related Agencies
- Energy and Water Development, and Related Agencies
- Interior, Environment, and Related Agencies

### Request Type

Funding Request

Bill Language Request

