



## Land Use & Natural Resources Committee

Item #16-3-2  
Action

February 25, 2016

### National Science Foundation Grant Proposal

**Issue:** The National Science Foundation is seeking proposals for its Innovations at the Nexus of Food, Energy and Water Systems initiative.

**Recommendation:** That the Land Use & Natural Resources Committee recommend that the SACOG Board authorize staff to serve as co-principal investigator for a National Science Foundation grant if funding is awarded.

**Discussion:** In partnership with the U.S. Department of Agriculture National Institute of Food and Agriculture, the National Science Foundation (NSF) has released a solicitation for its new Innovations at the Nexus of Food, Energy and Water Systems (INFEWS) initiative. INFEWS aims to understand, design, and model the interconnected food, energy, and water systems (FEWS). The anticipated amount of funding available is \$50 million for an estimated 22 to 40 awards.

University of California, Division of Agriculture and Natural Resources Vice President, Dr. Glenda Humiston, asked SACOG to join a team of researchers at UC Berkeley and Lawrence Livermore National Laboratories (LLNL) to submit a proposal to enhance data and modeling capacity of the RUCS toolkit. RUCS is considered a critical starting point for building technical and stakeholder support for agriculture and food system initiatives throughout the state. The project would build upon the UrbanFootprint land use model, which SACOG has been developing with the state and other major metropolitan regions, with a concentration on FEW systems functionality for the rural module of the model. The proposal addresses NSF goals of:

1. Advancing “understanding of the food-energy-water system through quantitative and computational modeling”;
2. Developing “real-time, cyber-enabled interfaces that improve understanding of the behavior of FEW systems and increase decision support capability”;
3. Supporting “research that will lead to innovative system and technological solutions to critical FEW problems”;  
and
4. Growing “the scientific workforce capable of studying and managing the FEW system through education and other professional development opportunities.”

These goals also align with SACOG’s adopted strategic plan.

The team is seeking \$3 million for the project. SACOG staff would provide model design support to meet needs for the RUCS program and local stakeholders. The project lead, UC Berkeley, would administer the project and build the modeling platform with assistance from LLNL. At the writing of this staff report, specifics of the project budget for SACOG staff time have not been established. Proposals are due March 22, 2016.

Approved by:

Mike McKeever  
Chief Executive Officer

MM:DS:ts

Key Staff: Kacey Lizon, Planning Manager, (916) 340-6265  
David Shabazian, Rural-Urban Connections Strategy Manager, (916) 340-6231