



# National Collaborative for Research on Food, Energy, and Water Education (NC-FEW)

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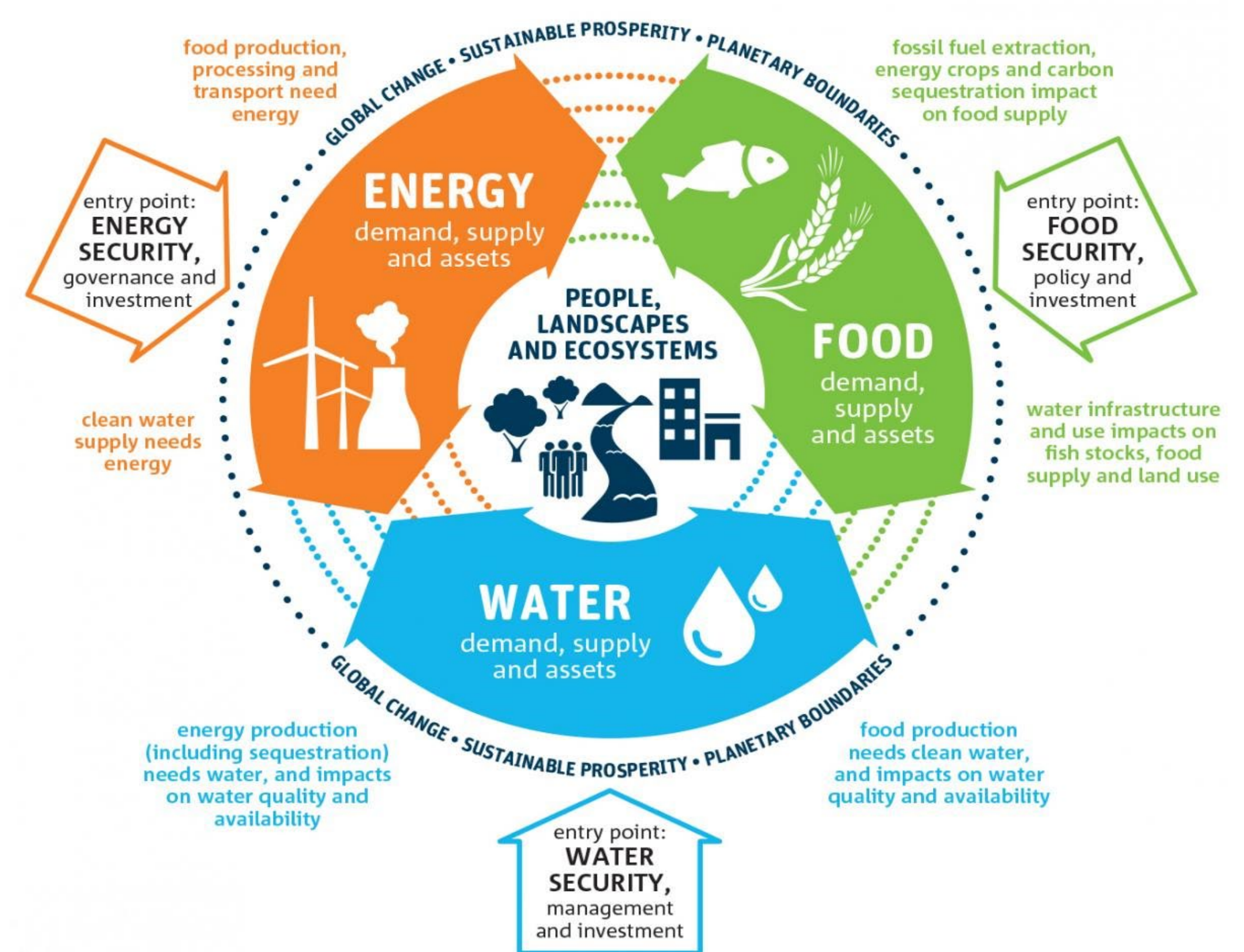
## Overview

**Mission:** A sustained, systemic, and interdisciplinary education initiative, including program evaluation and discipline-based education research (DBER), focused on Food-Energy-Water-Nexus (FEW-Nexus) spanning a wide array of contexts. Education program and empirical research are unified by core models, strategies and commitments, but implemented in diverse ways reflecting unique elements of localized FEW-Nexus issues. This approach uses novel theoretical and analytical perspectives emphasizing coupled human-natural systems as the core element of postsecondary teaching and learning within the FEW-Nexus.

**Assumption:** The FEW-Nexus affords a novel theoretical and analytical lens through which to both foster and understand science literacy from 'cradle to grave'.

### Goals:

1. Advance effective, research-based FEW education efforts
  2. Foster FEW education research to evaluate the effectiveness of FEW education programs
  3. Enhance collaboration around FEW education that aids in educational responsiveness to emergent FEW issues and catalyzes robust DBER
- Interdependence and inter-linkages between water, energy, and food means that changes in one system can have far-reaching impacts in other systems, resulting in significant ecological, economic, social, and political consequences.
  - The Food-Energy-Water Nexus concept has emerged as a unique opportunity to pursue a sustained, systemic, and interdisciplinary education initiative.
  - Preparation for the food, agriculture, natural resources, and human sciences (FANH) workforce
  - Teaching and learning in science, technology, engineering, and mathematics (STEM)
  - Science-informed decision-making and systems thinking
  - Curriculum development, professional development for instructors, assessment design,
  - Postsecondary and K-12 classrooms, informal and non-formal learning environments, and in public spaces.
  - NSF and USDA-NIFA's *Innovations at the Nexus of Food, Energy, & Water (INFEWS)* initiative



## National Invited Conference (May, 2018)

## Research Coordination Network (RCN)

May 22-23, 2018, Virginia Tech Executive Briefing Center, Arlington, VA

### Conference Goals:

1. Advance the conversation around NC-FEW educational efforts and education research
2. Lay the foundation for cultivating an NC-FEW community

### Keynote Speakers:

- Rachel Melnick, USDA-NIFA and Tom Torgersen, NSF
- Kacy Redd (APLU/NSEC)
- Jeff Weld, White House Office of Science and Technology Policy

### Themes:

- Systems thinking
- Argumentation, evidence-based reasoning
- Citizen science
- Contextualized and localized issues
- Equity and environmental justice
- Decision-making, STEM literacy, civic engagement
- Interdisciplinary training

### Contexts:

- Higher education and postsecondary settings
- Teacher education and professional development
- K-12 student learning in formal classroom settings
- Informal/non-formal/public settings



INFEWS/T3 RCN: *Cultivating a National Collaborative for Research on Food, Energy, and Water Education* (NC-FEW; NSF ECR-EHR Core Research #1856040)

Establish NC-FEW as a hub for a networked improvement community (NIC) that will advance education research and educational programming grounded in the FEW-Nexus

### RCN Goals:

1. Synthesize current education research on educational programming grounded in the FEW-Nexus
2. Identify and promote best practices in education research on educational programming grounded in the FEW-Nexus
3. Foster collaboration among community members representing diverse disciplines, fields, expertise, and institutions
4. Enhance capacity for extramural funding in support of education research on educational programming grounded in the FEW-Nexus
5. Cultivate a community identity among NC-FEW participants

### RCN Activities

- Invited conferences
- Crosswalk interdisciplinary standards for teaching and learning
- Research syntheses (i.e., literature reviews)
- Innovative new collaborative teams and funding proposals
- Workshops and online module to support FEW-Nexus education researchers
- Quarterly webinars
- Newsletters and communication



<http://www.ncfew.org>