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

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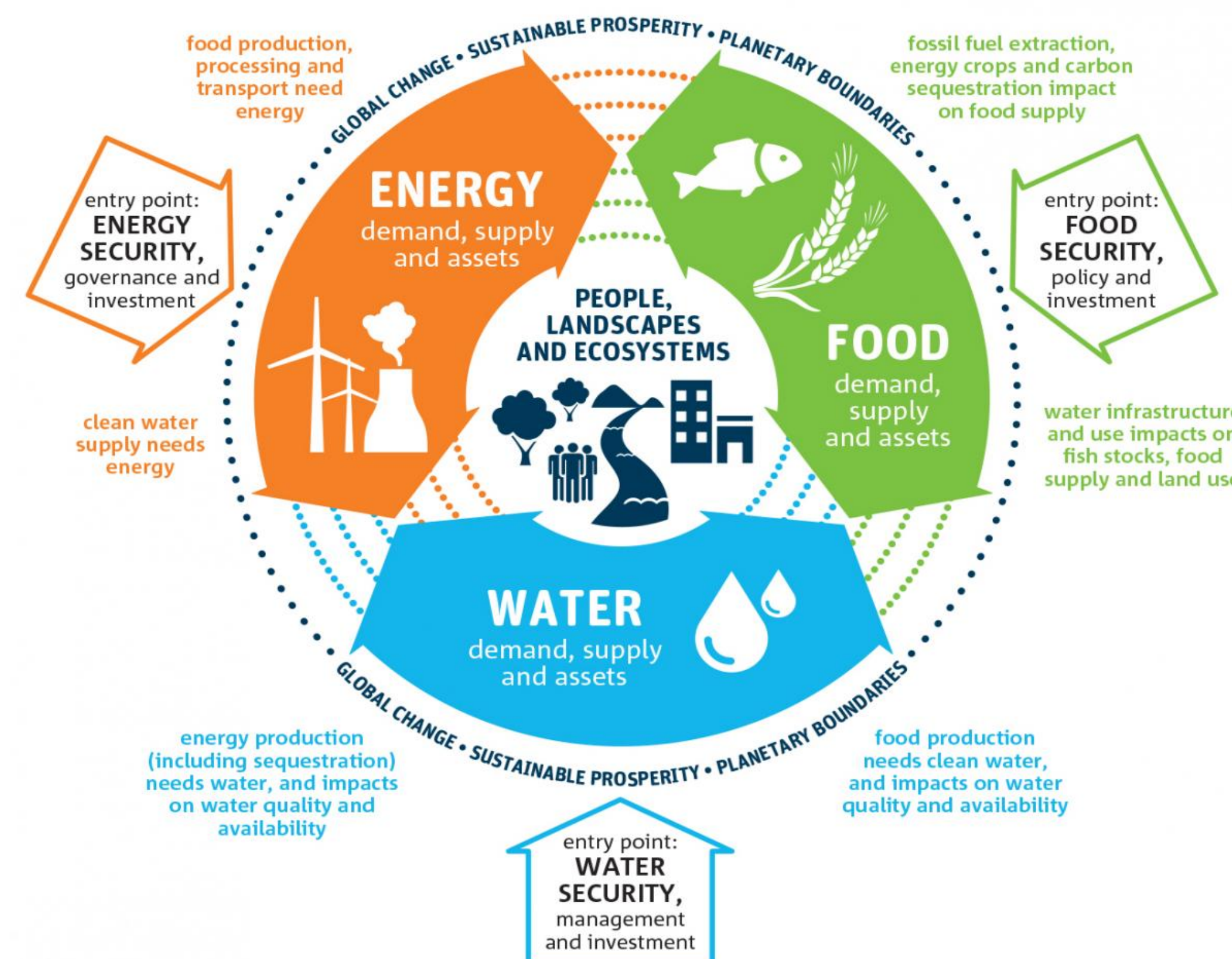
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NCDC 231 - National Collaborative for Food, Energy, and Water Education (NC-FEW)

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

Partner Institutions

National Invited Conference (May, 2018)

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

Questions? Contact Cory Forbes, Associate Professor of Science Education, Coordinator, IANR Science Literacy Initiative, Director, Nebraska Collaborative for Food, Energy, & Water Education, University of Nebraska-Lincoln

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