

UC Davis – Chevron Joint Research Agreement

**Joint IEPR and Transportation Committee Workshop on
Biofuels in California**

13 January 2009

California Energy Commission, Sacramento, California

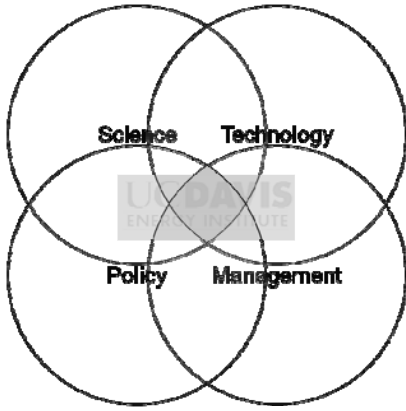
**Bryan M. Jenkins, Professor
Director, UC Davis Energy Institute**

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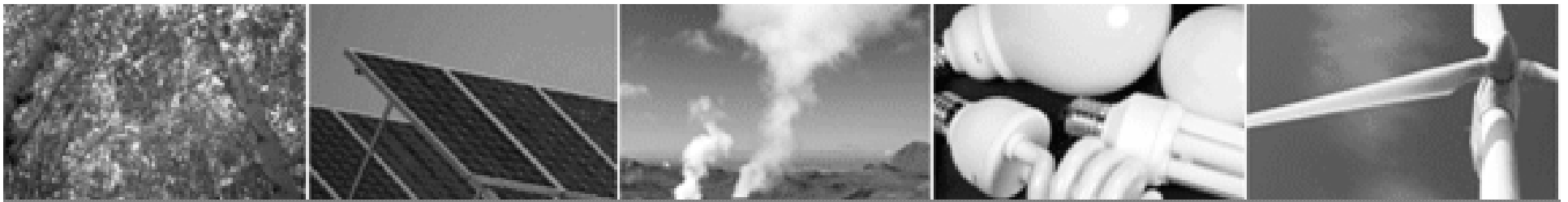
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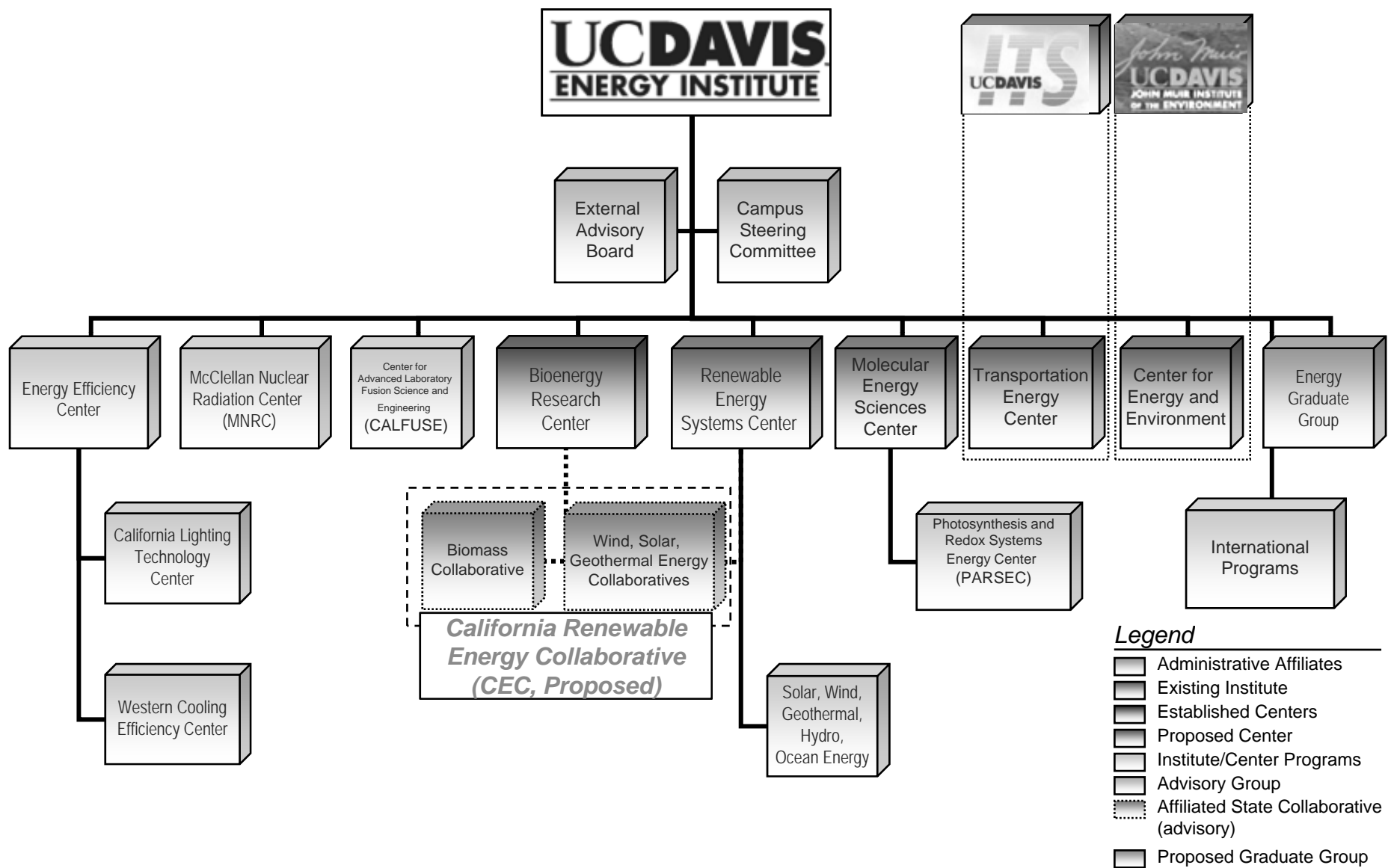
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UC Davis Energy Institute

- Established Fall 2007
- Campus-wide program
 - Administered through Office of Research with multi-College support
- Created to focus and bring together campus strengths in energy research, education, and outreach, and to build new interdisciplinary programs and capabilities
- Proposed Energy Graduate Group for advanced degrees in Energy Science and Technology and Energy Policy and Management







UC Davis – Chevron Joint Research Agreement

Biofuels Research: \$25 million/5 years

**Chevron
Technology
Companies**

**and the Richmond
Technology Center**

Research Projects and Equipment Grants

41 Funded Projects

\$15,000,000

multi-year projects

Equipment Grants

\$1,250,000

Currently in 3rd year of
program



Leverages Programs at UC Davis in Biomass, Bioenergy, Biofuels, and Bioproducts Research

UC Davis has long history of biomass and bioenergy research:

- Thermochemical conversion processes
 - Combustion, gasification, pyrolysis with applications to power and heat generation, syngas production
 - Inorganic material behavior, trace elements
 - Feedstock modifications
- Biochemical conversion processes
 - Anaerobic digestion, solid state fermentation, composting
 - Fermentation systems
 - Enzymatic processing
 - Biogas power systems, biomethane, hydrogen, liquid fuels
- Biofuels production and processing
 - Alcohols, biodiesel, other liquids
 - Engine performance testing
 - New sources, crops, molecular and cellular biology, photosynthesis, enzymes
- Bioproducts
 - Composite materials, chemicals, others
- Logistics and economics, integrated systems, resources, harvesting systems, systems analysis and modeling
- Environmental and social impacts, life cycle assessment, policy
- Interdisciplinary, multiple departments and institutes across campus

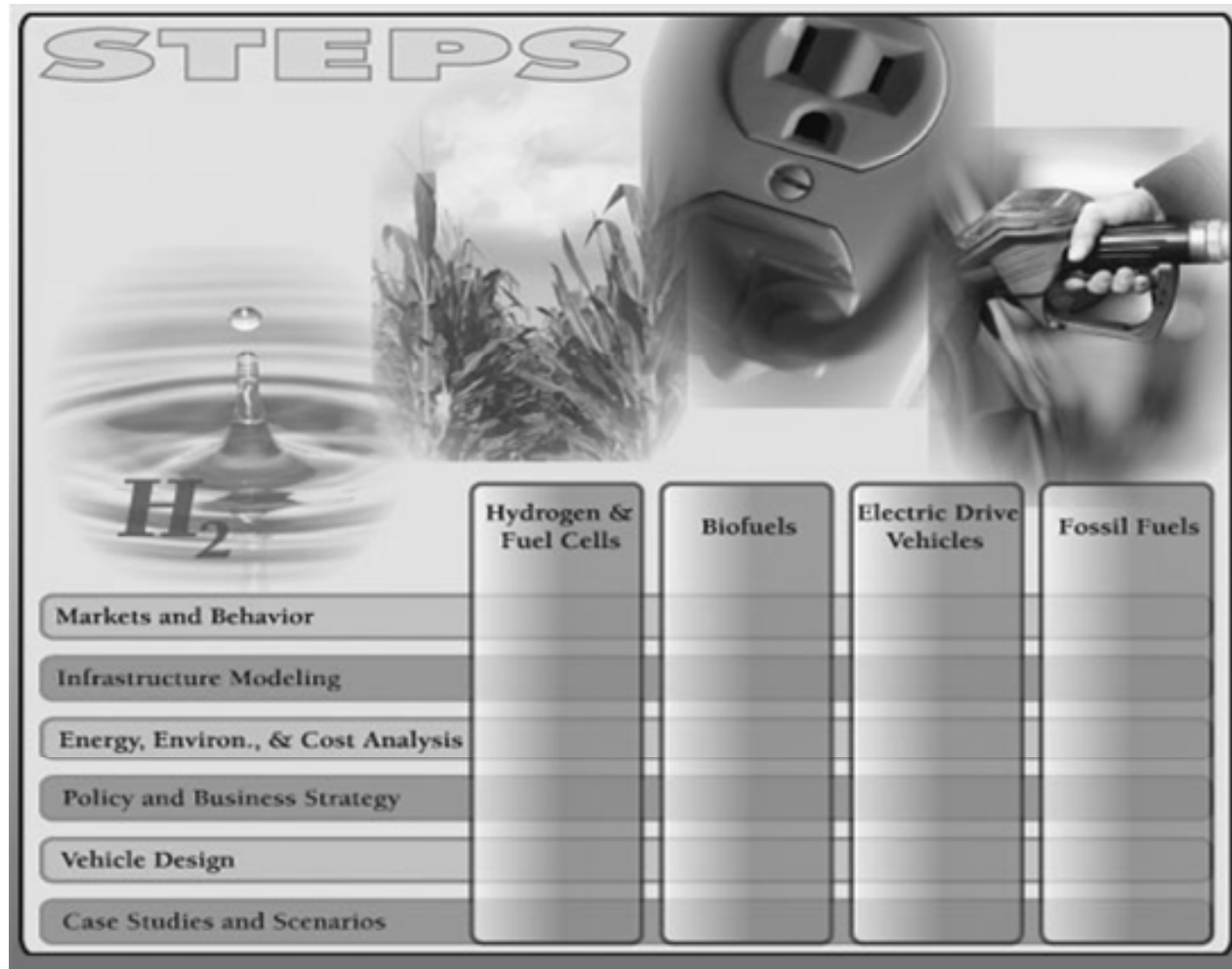


California Biomass Collaborative

- Established in 2003 under a grant from the California Energy Commission
 - Mission to support the sustainable management and development of biomass in California
 - Addresses multiple aspects of a diverse resource base and industry
 - Electricity generation, fuels, bio-based products, resource management, infrastructure

<http://biomass.ucdavis.edu/>

UC Davis Institute of Transportation Studies Sustainable Transportation Energy Pathways (STEPS)



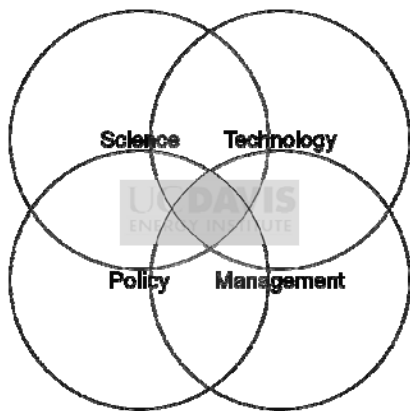
The Bioenergy Research Group at UC Davis



UC Davis

Bioenergy Research Group (BERG)

- 100+ researchers
- Research Committees
 - Molecular and Cellular Chemistry, Biology, and Genetics
 - Plant and Microbial Systems
 - Biomass Production Systems
 - Process and Systems Engineering
 - Resource Management and Environmental Quality
- Foundation of Bioenergy Research Center as part of UC Davis Energy Institute
- Contact: Prof. David Neale, chair
dbneale@ucdavis.edu



Further information:

UCDAVIS

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