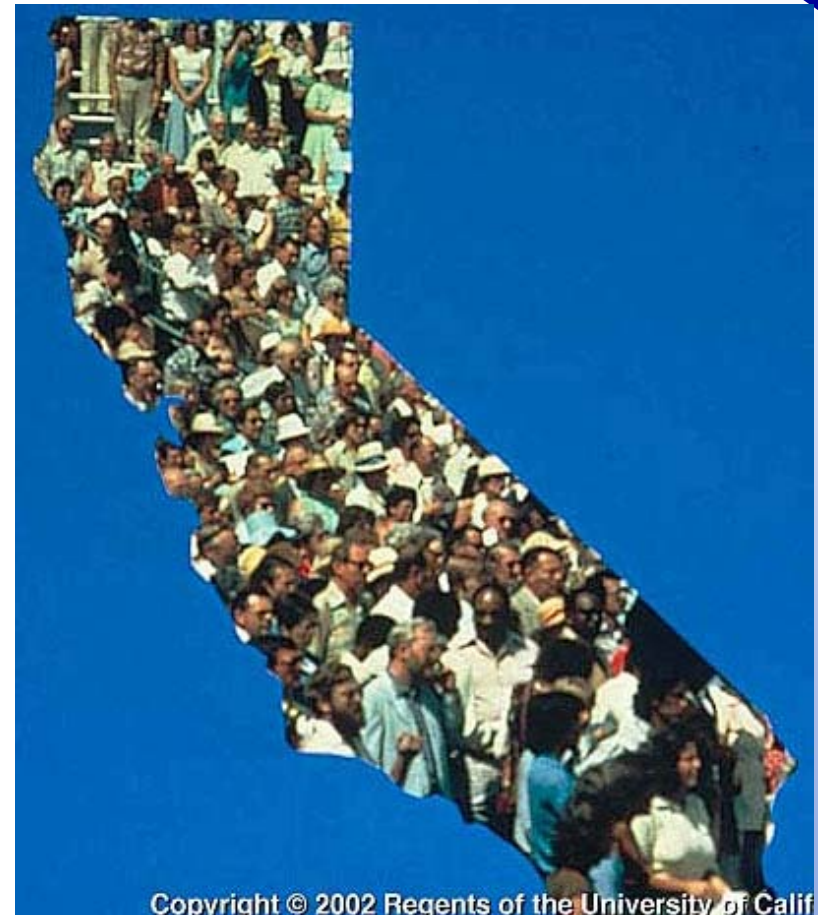




# The Role of Extension in Energy

## Challenges & Opportunities

**Daniel M. Dooley**  
**Senior Vice President**  
**University of California**  
**Little Rock, Arkansas**  
**July 1, 2009**





**“I don’t skate to where the puck is, rather, I skate to where it will be.” Wayne Gretzky commenting on his success as a scorer**

**In many ways Extension is chasing the puck. We are late to the energy game and seem unwilling to modify our systems to accommodate major new issues.**





## **Trends are frightening**

- **Budgets and FTE are diminishing across the country.**
- **In many cases, county support is withering.**
- **Extension tends to define itself by past accomplishments rather than future opportunities.**
- **We define our engagement narrowly rather than as a part of a broader responsibility**



Figure 2-1. Trends in Agricultural Experiment Station and Cooperative Extension Academic FTE.

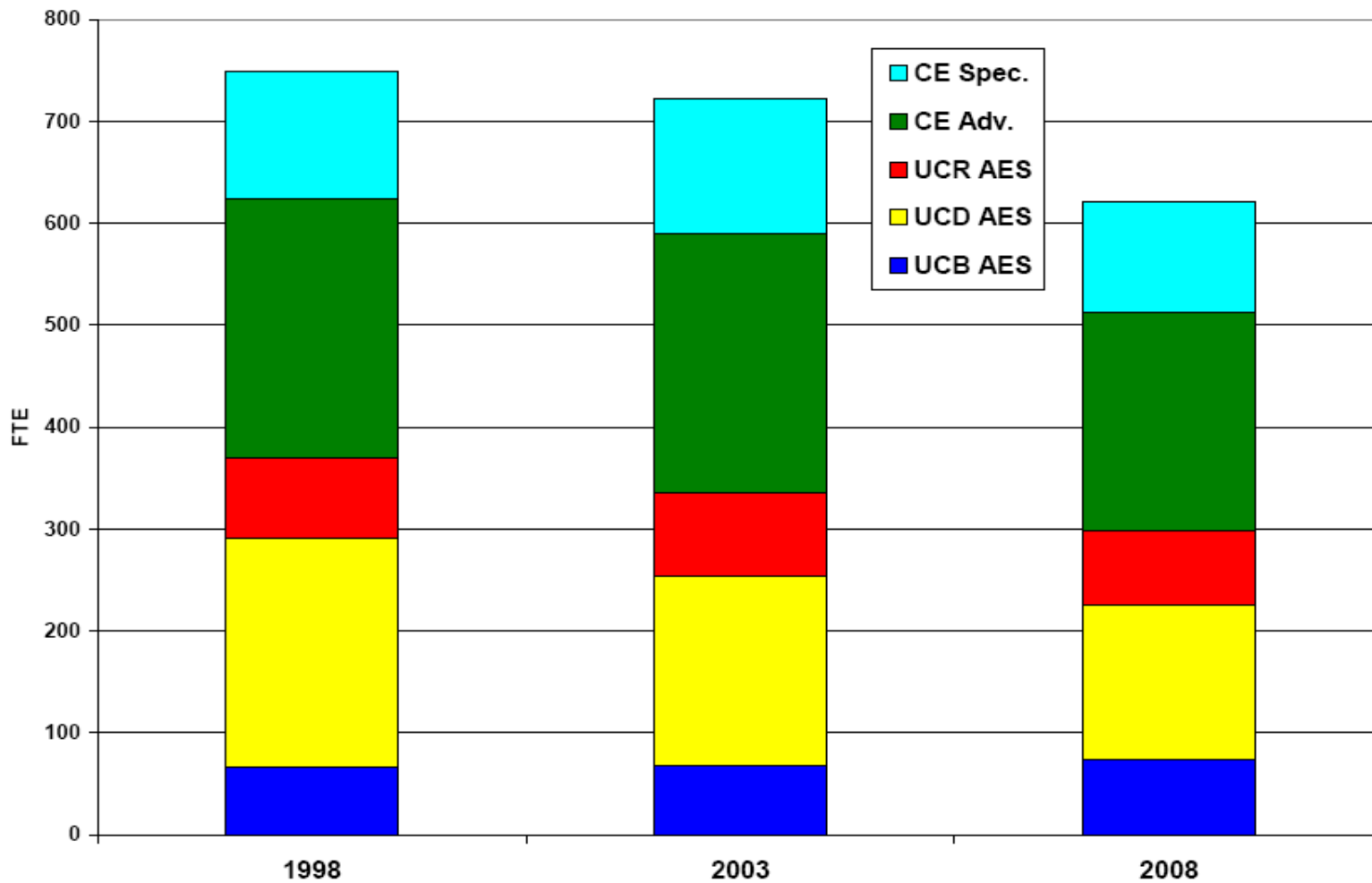




Figure 2-2. Trends in Cooperative Extension Academic FTE – 1915 - 2008.

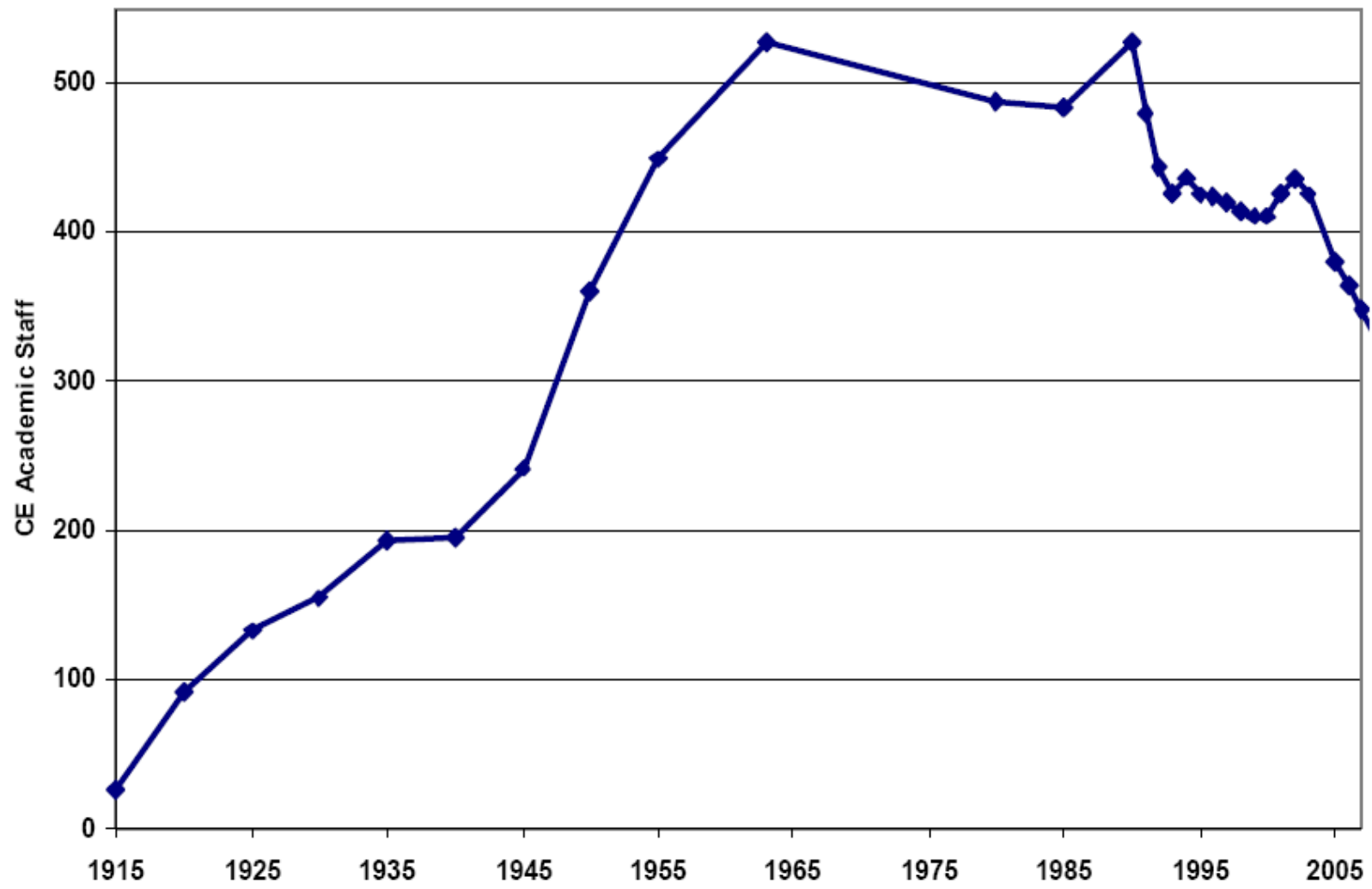
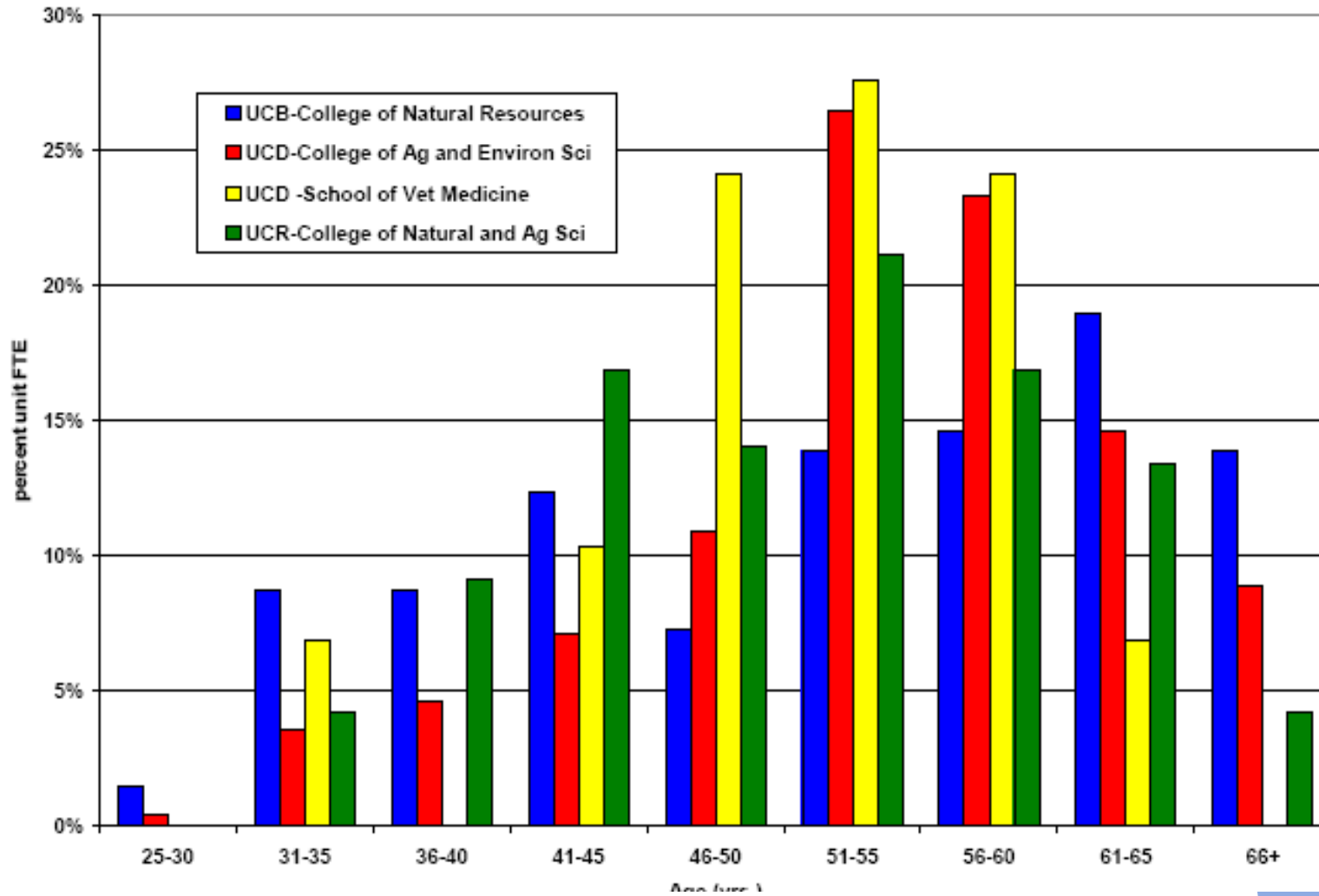




Figure 2-7. Age Distribution of AES and CE Academics by Campus.





## How do we respond?

- UC engaged a demand based planning effort.
  - Focus on future needs
  - Don't worry about alignment with existing structures
  - Align resources around future demand
- Result is a Strategic Vision for UC



UNIVERSITY of CALIFORNIA  
Agriculture &  
Natural Resources



2025

University of California  
Division of Agriculture and Natural Resources  
**Strategic Vision**



Healthy Food Systems

Healthy Environments

Healthy Communities

Healthy Californians







# Strategic Vision

- **The Vision proposes 9 strategic initiatives as a start...**
  - **The initiatives are multidisciplinary, integrated ideas that represent the best opportunities for our considerable infrastructure and talent to seek new resources and new ways of partnering...**
    - **Thinking outside our normal boxes and disciplines and organizing differently**
    - **Partnering with the broader science community**



# Energy is a Critical Component

- **An initiative to energy security and green technologies through innovative science linking engineering, agriculture, biological and environmental sciences.**
- **The ANR role:**
  - **Develop and support innovative production technologies that minimize fossil fuel consumption and use renewable energy sources throughout the food production system.**



## Energy is a Critical Component

- **Develop innovative new technologies and marketing, genetic, genomic, engineering, and agronomic techniques to produce renewable energy from agricultural and natural resource products and waste.**
- **Form innovative partnerships with public agency and private sector interests to create energy savings in food and water systems.**
- **Conduct science-based energy policy research**



## **A couple examples**

- **The Energy Biosciences Institute at UCB**
- **The California Biomass Collaborative**



# Energy Biosciences Institute

- **BP has entered into a partnership with the University of California Berkeley and its strategic partners — the University of Illinois and the Lawrence Berkeley National Laboratory — to establish the Energy Biosciences Institute.**
  - **The Director and several Associate Directors have Ag Experiment Station appointments.**
- **The Institute will bring together some of the world's best research minds to unlock the potential of both basic and applied biological sciences and find ways to produce energy with little environmental impact.**



# Energy Biosciences Institute

- **Energy Biosciences Institute will:**
  - **Be an integrated research institute dedicated to harnessing revolutionary developments in biology to achieve breakthroughs that will provide new energy solutions;**
  - **Initially focus on renewable fuels from existing and new crop plants, but is expected to consider a wide range of applications of biology in the energy sector and address such areas as improved recovery, conversion and carbon sequestration;**
  - **Be the world's first and only public or private institution with a focus on both basic and applied biological research relevant to energy;**



# Energy Biosciences Institute

- **Energy Biosciences Institute will:**
  - **Create the new discipline of Energy Biosciences;**
  - **Conduct research into the economic, social and environmental impact of energy choices and alternatives, including crop displacement, people impacts and global climate change;**
  - **Be governed by representatives from BP, the Universities and the Laboratory; the management team will include a director located at UC Berkeley and a deputy director located at the University of Illinois.**
- **Linkages to Extension have already occurred.**



# California Biomass Collaborative

- **California Biomass Collaborative, a statewide collaboration of government, industry, environmental groups, and educational institutions administered for the state by the University of California at Davis.**
- **Sponsored by the California Energy Commission and other agency and industry partners, the Collaborative works to enhance the sustainable management and development of biomass in California for the production of renewable energy, biofuels, and products.**





# California Biomass Collaborative

- The Collaborative realizes its mission through statewide coordination with government and industry; resource inventory and generation assessment; facility performance reporting and evaluations; technology research, development, demonstration, and deployment; the study of policy issues and implications; developing standards; research management; education and training; and extension and public outreach.
- It directly connects the University and Extension to public policy agencies and affected stakeholders.



## Summary

- **These are new models organized differently**
- **Extension must be innovative.**
- **Extension cannot sit on its heels.**
- **Extension must define itself by the future and organize and collaborate around contemporary issues like energy.**