



The Importance of Energy Efficiency to Agriculture & Rural Communities

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The American Council for an Energy-Efficient Economy is a nonprofit 501(c)(3) founded in 1980. We act as a catalyst to advance energy efficiency policies, programs, technologies, investments, & behaviors.

Our research explores economic impacts, financing options, behavior changes, program design, and utility planning, as well as US national, state, & local policy.

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Rural Energy Use in Context

- Urban/suburban & rural energy use are very different
- Only one in ten households are in rural communities
- On average rural households are 30% bigger, but use only 10% more energy & are generally newer
- Rural households have fewer energy options
- Transportation options & vehicles are different
- Typical rural family drives more than 7,000 additional miles annually

Housing Unit Characteristics by Urban/Rural Location, 2005

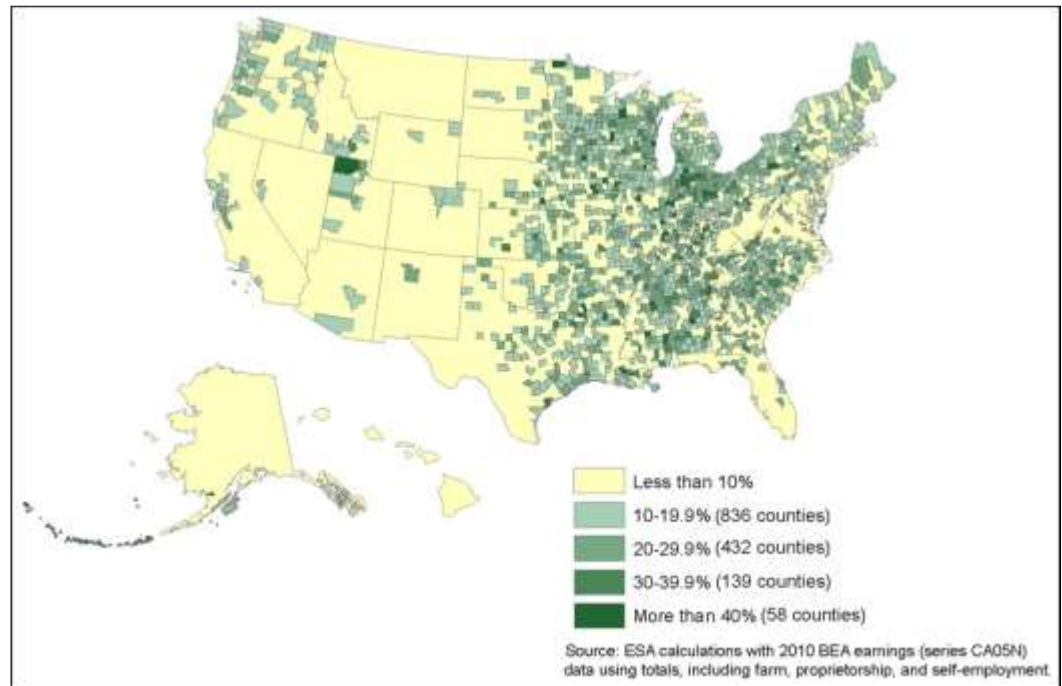
Housing Unit Characteristics	Housing Units (millions)	Urban/Rural Location (as Self-Reported)			
		City	Town	Suburbs	Rural
Electricity	111.1	47.1	19.0	22.7	22.3
Natural Gas	69.5	33.3	13.3	16.9	5.9
Wood	14.4	3.6	1.8	2.5	6.5
Fuel Oil	8.4	2.6	1.7	1.4	2.8
LPG	12.6	1.4	1.1	1.6	8.4
Kerosene	1.7	0.3	0.2	0.2	0.9

Source: EIA, 2005 RECS

The Rural Economy

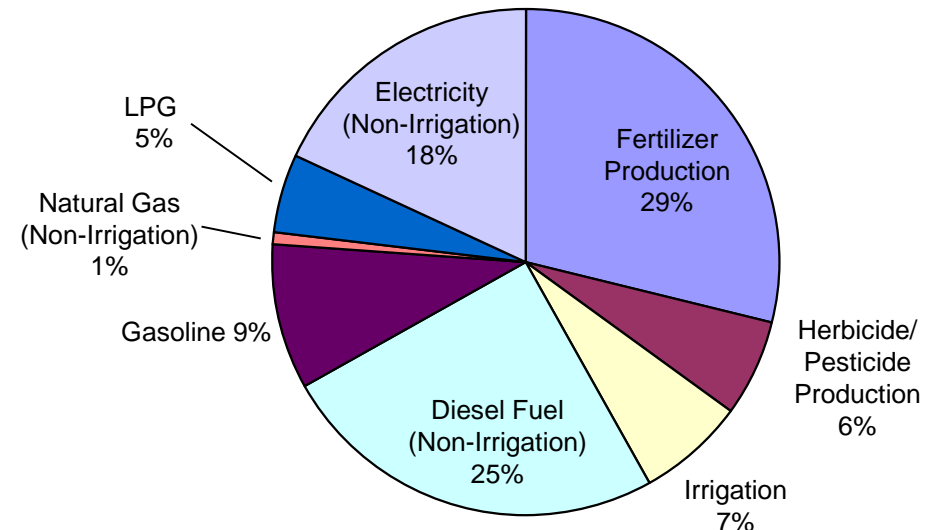
- Rural economies are dependent on agriculture, forestry, mining & manufacturing
- More than 2/3 manufacturing is in counties outside metro regions
- Industry accounts for majority of direct, indirect & induced jobs in rural communities
- Many farmers & ranchers also work in manufacturing

Share of Earnings Accounted for by Manufacturing by County, 2010



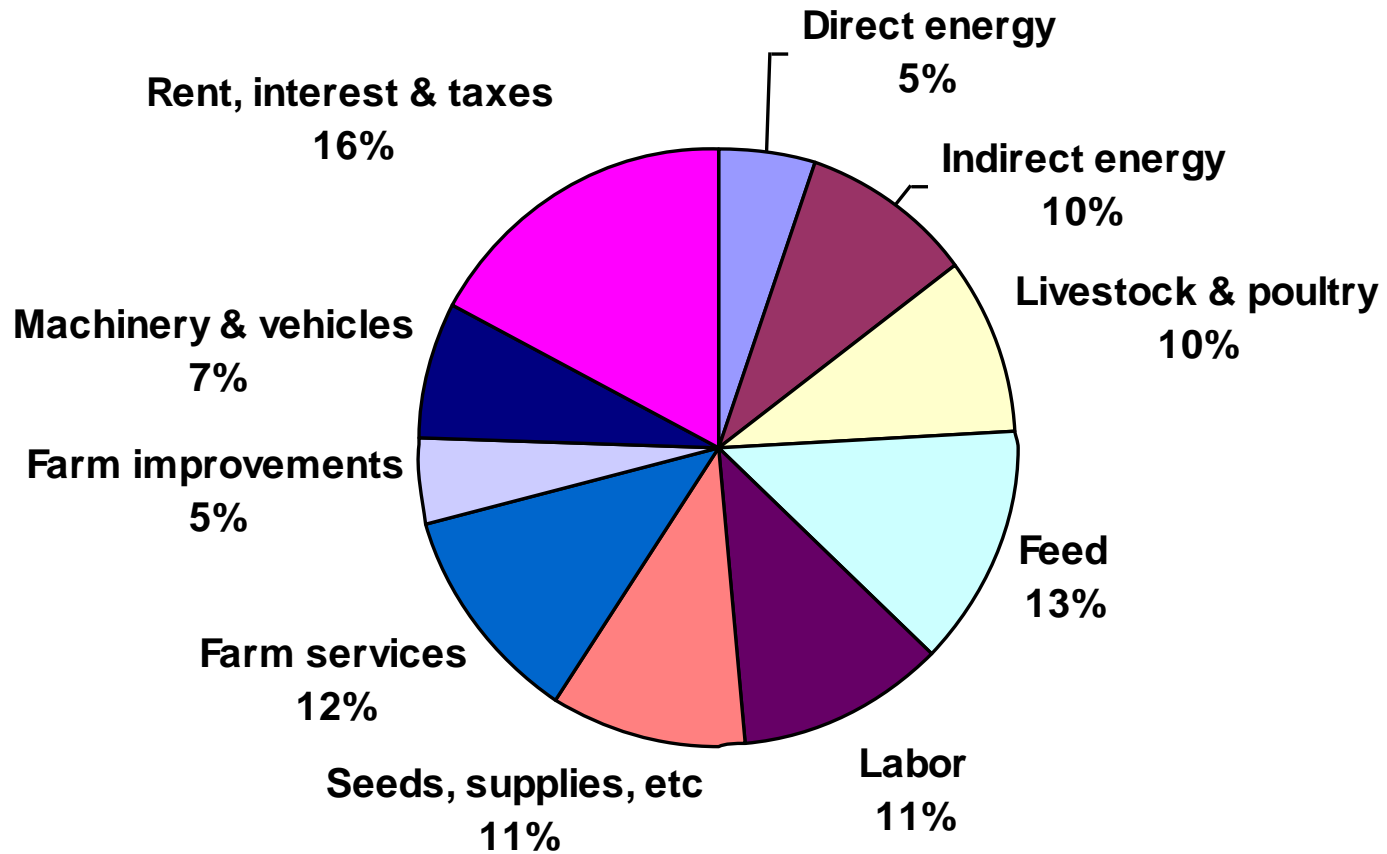
Energy Use in Agriculture

- Agriculture one of the most energy intensive economic sectors
- Ag consumes 1-3% total U.S. energy—food systems 10-17%
- Important to consider both:
 - Direct energy (fuel & electricity)
 - Indirect energy (fertilizer, feed & water)



Energy is one of the largest controllable costs of agricultural production

Farm Production Expenditures 2004



Source: USDA/ERS 2006

Challenges for Energy Efficiency in Agriculture

- Farmers are busy—energy efficiency an afterthought
- Competition for dollars intense
- Need to work through existing trust networks
- Farm operations are complex—need to understand the impacts of measures
- In many cases, electricity savings is modest so utilities impact limited

Conclusions

- Rural communities & energy use is different from metro areas
- Energy resources & uses then to be different
- Rural transportation & vehicles are different than in metro regions
- In general, rural businesses tend to be more energy intensive, with ag, forestry, mining & manufacturing dominating
- We need tailored programs to respond to rural needs

Slides at <http://www.slideshare.net/NealElliott/NASEO-Ag-and-Rural-2-2017>

Upcoming ACEEE Conferences

Hot Water Forum	February 26	Portland, OR
National Symposium on Market Transformation	April 2	Arlington, VA
Energy Efficiency Finance Forum	May 21	Chicago

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