

## Energy Efficiency Policies for Agriculture and Rural Development

For 29 years, ACEEE's energy efficiency experts have helped to shape our nation's energy efficiency research and policy agenda. We achieve our success through...

- conducting in-depth technical & policy analyses
- advising policymakers, energy professionals & utilities
- working collaboratively with businesses & other organizations
- organizing conferences
- publishing conference proceedings and reports
- educating consumers & businesses

Collaboration is key to ACEEE's success. We work with organizations around the globe including federal, state, and local government agencies, utilities, research institutions, businesses, and public interest groups. Our focus is on 6 primary program areas:

- Energy Policy
- Economic Analysis
- Buildings, Appliances, & Equipment
- Utilities
- Industry & Agriculture
- Transportation

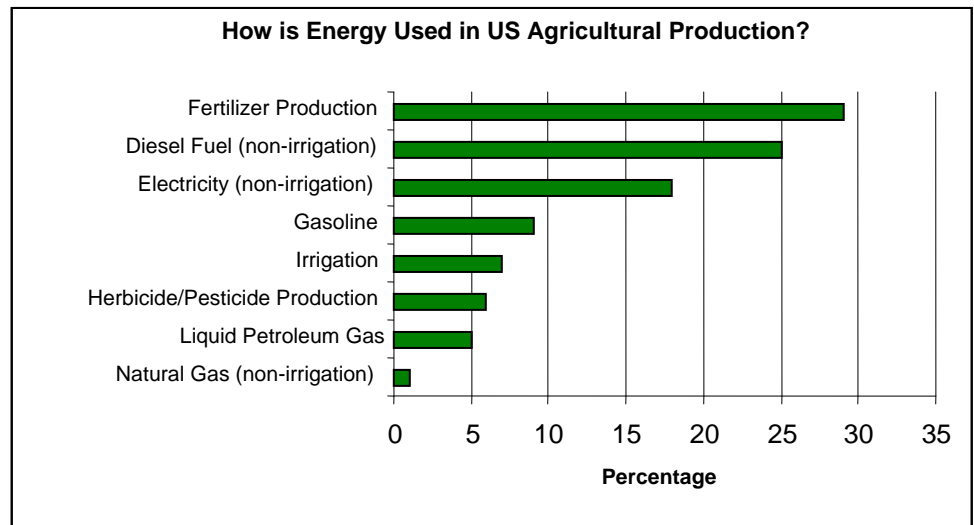
ACEEE is leading the development of technology and policy solutions that ensure the security of our energy systems. As energy leaders, we promote the vibrancy of the American economy and the sustainability of the environment world-wide.

### ACEEE RECOMMENDATIONS

- ACEEE supports the *Rural Energy for America Program (REAP)* as authorized under the *2008 Farm Bill Energy Title*, and urges Congress to fund this vital program at the full authorized level. REAP will save money and energy for agricultural producers and rural small businesses by providing grants and loan guarantees for energy efficiency improvements, including energy audits, feasibility studies, project development, and other technical assistance.
- The extension system, which has been the primary avenue for education and technical assistance in rural communities, requires revitalization and better funding. In particular, USDA should undertake an effort to develop energy efficiency materials and training to aid extension staff. One option is to increase funding for entities such as the National Center for Appropriate Technology's ATTRA program, and to support its efforts to train cooperative extension agents as energy educators. See [www.entap.org](http://www.entap.org) for details.
- Additionally, USDA should work collaboratively with EPA to develop an ENERGY STAR® specification for rural applications, focusing on programs that promote the ENERGY STAR brand and encourage the purchase of Rural ENERGY STAR products by providing financing options and educational outreach to rural communities.

### THE ISSUE

The agricultural sector is one of the most energy-intensive sectors of our economy, relying on direct sources of energy, such as fuels or electricity that power farm activities, and indirect energy sources, such as fertilizers or other agricultural chemicals. When energy prices are unstable or increasing, farmers, ranchers, and rural communities are significantly and adversely affected as agriculture becomes unprofitable. In 2005 alone, U.S. farmers spent \$5.84 billion on diesel fuel and another \$2.30 billion on gasoline.<sup>1</sup> Energy efficiency cannot change the price of fuel, but it is the major near-term resource that can reduce fuel use and respond to immediate energy challenges in rural America.



### SUMMARY

There is significant potential for energy and cost savings in the agriculture sector. A conservative analysis shows these savings to be over 34 trillion Btus and one billion dollars

per year.<sup>3</sup> ACEEE does not include non-energy benefits, such as increased financial stability due to reduced energy cost exposure, and decreased use of other resources, such as water — a particular concern for many Western states. The study referenced above estimates savings of \$436 million annually by increasing energy efficiency in irrigation alone.

Additionally, there are noteworthy climate change benefits. Motors, vehicles, and lighting are among the largest direct energy end-uses on the farm, and the former largely rely on gasoline and diesel. In 2005, diesel fuel accounted for 43% and electricity for 33% of agricultural sector CO<sub>2</sub> emissions.<sup>4</sup> The indirect energy embodied in fertilizers and agricultural chemicals is nearly as important, as these chemicals produced by energy-intensive industries use natural gas and a variety of chemicals as feedstocks. By implementing efficient technologies and practices, the agriculture sector can reduce its reliance on fossil fuels and its carbon footprint, while decreasing the risks due to energy price volatility.

#### ACEEE CONTACTS

Sarah Black  
[sblack@aceee.org](mailto:sblack@aceee.org)  
(202) 507-4033

Neal Elliott  
[nellott@aceee.org](mailto:nellott@aceee.org)  
(202) 507-4009

---

<sup>1</sup> Svejkovsky, C. 2007. *Conserving Fuel on the Farm*. ATTRA fact sheet series, [www.attra.ncat.org/attra-pub/consfuelfarm.html](http://www.attra.ncat.org/attra-pub/consfuelfarm.html).

<sup>2</sup> John Miranowski, "Energy Consumption in US Agriculture." In *Agriculture as a Producer and Consumer of Energy*, CABI Publishing, Cambridge, MA, pp. 68-111, 2005.

<sup>3</sup> Brown, E. and R.N. Elliott. 2005. *Potential Energy Efficiency Savings in the Agriculture Sector*. ACEEE Report IE053. Washington, D.C. [www.aceee.org/pubs/ie053.htm](http://www.aceee.org/pubs/ie053.htm).

<sup>4</sup> *U.S. Agriculture and Forestry Greenhouse Gas Inventory 1990 – 2005*. Global Change Program Office, Office of the Chief Economist, U.S. Department of Agriculture. Technical Bulletin No. 1921. August 2008. [http://www.usda.gov/oce/global\\_change/AFGGInventory1990\\_2005.htm](http://www.usda.gov/oce/global_change/AFGGInventory1990_2005.htm)