

# Utilizing LED Lighting and EPAct Tax Incentives in Chicken Growing Industry

*By Kenneth Wood, Andressa Bonafé and Rachelle Arum*

Kenneth Wood, Andressa Bonafé and Rachelle Arum discuss how chicken farmers in the United States can reduce their energy costs and qualify for an EPAct tax deduction by installing LED lighting in place of incandescent lighting.

Americans eat more chicken than any other country in the world, most of which comes from the United States. The country has over 30,000 family-owned poultry farms and over 70,000 broiler houses.<sup>1</sup> In addition to complying with food processing companies' standards, chicken growing facilities must consider yields per square foot and energy consumption. These energy-intensive facilities can profit from moving away from incandescent technology and installing LED lighting in its place. This transition means energy-cost savings and a large EPAct tax incentive opportunity as well.

**Kenneth Wood** is a LEED AP with Energy Tax Savers, Inc.

**Andressa Bonafé** is a Tax Analyst with Energy Tax Savers, Inc.

**Rachelle Arum** is a Tax Analyst with Energy Tax Savers, Inc.

## Tax Opportunities

Pursuant to Code Sec. 179D, as enacted by the Energy Policy Act of 2005 (EPAct),<sup>2</sup> buildings making qualifying energy-reducing investments in their new or existing locations can obtain immediate tax deductions of up to \$1.80 per square foot.<sup>3</sup>

If the building project doesn't qualify for the maximum \$1.80 per square foot immediate tax deduction, there are tax deductions of up to \$0.60 per square foot for each of the three major building subsystems: lighting, heating, ventilating and air conditioning (HVAC) and the building envelope. The building envelope is every item on the building's exterior perimeter that touches the outside world including roof, walls, insulation, doors, windows and foundation.

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**Exhibit 1. Potential EAct Tax Savings Available for the Chicken (Broiler) Growing Industry**

Property	Total Square Footage	Lighting		HVAC Maximum Deduction	Building Envelope Maximum Deduction	Total
		Minimum Deduction	Maximum Deduction			
Total Industry Sq. Ft. (Estimated)	2,018,800,000	\$ 605,640,000	\$ 1,211,280,000	\$ 1,211,280,000	\$ 1,211,280,000	\$ 3,633,840,000

Estimates based on using 2006 data extrapolated out at the same percentage increase as is expected in lbs. increase between 2006 and 2012 three percent.

Exhibit 1 presents potential EAct tax savings available for the chicken (broiler) growing industry.<sup>4</sup>

**LED Lighting**

One of the greatest considerations when changing technologies within the broiler growing industry is whether the growing cycle will be affected. This

question was posed and answered by a University of Arkansas field study which pitted several lighting technologies against each other both in terms of energy efficiency and broiler production.<sup>5</sup> The study was controlled so that some of the houses kept their incandescent bulbs and some of the houses utilized newer fluorescent and new LED lighting technology. The study enlisted the support of both the growers

**Exhibit 2. EAct Potential Benefits in Chicken Growing Industry**

Name of Brand Supplier by Grower	Total Square Footage	Lighting		HVAC Maximum Deduction	Building Envelope Maximum Deduction	EAct Deduction Totals
		Minimum Deduction	Maximum Deduction			
	684,420	205,326	410,652	410,652	410,652	1,231,956
	195,000	58,500	117,000	117,000	117,000	351,000
	170,000	51,000	102,000	102,000	102,000	306,000
	166,000	49,800	99,600	99,600	99,600	298,800
	86,000	25,800	51,600	51,600	51,600	154,800
	65,790	19,737	39,474	39,474	39,474	118,422
	54,000	16,200	32,400	32,400	32,400	97,200

Note: The above results are limited to those growers who participated in the Arkansas study.

and an anonymous chicken processing company; both were characterized as eager participants.

The study concluded that long life, low-wattage LED lighting is a viable alternative for chicken-growing facilities. This technology has proven to support optimum yield performance of the birds and was harmless to the growing cycle. In addition, the study facilities realized major energy-cost savings from the LED lighting. LED lighting lasts 40 times longer than traditional technologies and uses one-tenth the electricity that today's incandescent light bulbs use. Along with energy-cost reduction, LED represents a significant tax savings opportunity. LED projects usually qualify for considerable EAct tax deductions most times at the \$1.20 to 1.80 per square foot level.<sup>6</sup>

The square footage of the grower facilities included in the study and the potential EAct tax deductions are shown in Exhibit 2.

## Environmental Responsibility

Conserving energy and protecting the environment is a good policy on its own and one that attracts environmentally conscious customers. A growing number of prominent companies are implementing supplier sustainability programs, which are raising sustainability standards throughout the entire food supply chain. Food processing suppliers selling to Walmart,<sup>7</sup> a large chicken purchaser, for instance, must respond to 15 sustainability questions, concerning energy and climate, materials efficiency, nature and resources and people and community. Target, another large chicken purchaser, also has its own sustainability program.<sup>8</sup> These first-tier suppliers are encouraging similar sustainability for lower-tier suppliers, which also must be ready to implement energy costs. Energy-efficiency measures, such as

lighting and HVAC upgrades, represent major steps toward a better environmental performance. EAct tax deductions are available to assist companies in this endeavor.

## Conclusion

To both decrease operating costs and increase their supplier positions under consumer sustainability programs, both growers and chicken processors can benefit from LED lighting upgrades. Growers can increase profits by lowering energy costs, and processors can boost their supplier status with Walmart, Target and other major chicken purchasers. Chicken farmers who are able to change to more efficient LED technology will enjoy energy savings and a high likelihood of receiving a \$1.80 per square foot tax deduction.<sup>9</sup>

## ENDNOTES

- <sup>1</sup> Damona Doye, Brian Freking, Shannon Ferrell and Josh Payne, *Broiler Production Considerations for Potential Growers*, OKLAHOMA COOPERATIVE EXTENSION SERVICE, 2008.
- <sup>2</sup> Energy Policy Act of 2005 (P.L. 109-58) ("EAct").
- <sup>3</sup> Charles Goulding, Jacob Goldman and Christopher Winslow, *The EAct and Alternative Energy Tax Aspects of Walmart's Supplier Sustainability Program*, CORP. BUS. TAX'N MONTHLY, Jun. 2011, at 13.
- <sup>4</sup> James M. MacDonald, *The Economic Organization of U.S. Broiler Production*, Economic Research Service, USDA, 2008; and Nation Chicken Council, [www.nationalchickencouncil.org/](http://www.nationalchickencouncil.org/).
- <sup>5</sup> *Supra* note 1.
- <sup>6</sup> Charles Goulding, Kenneth Wood and Raymond Kumar, *Optimizing the 3, 2, 1 LED Lighting Tax Deduction Countdown*, CORP. BUS. TAX'N MONTHLY, Jul. 2010, at 13.
- <sup>7</sup> *Supra* note 3.
- <sup>8</sup> Charles R. Goulding, Andressa Bonafe and Raymond Kumar, *Tax Aspects of Target's Corporate Responsibility Program*, CORP. BUS. TAX'N MONTHLY, Aug. 2013, at 11.
- <sup>9</sup> See also, Dr. H. L. Goodwin, Susan Sullivan and Susan Watkins, *Field Demonstration of Advanced Lighting Technologies for Poultry Houses*, University of Arkansas System's Division of Agriculture, 2011.

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