

EPAct 2005 Tax Incentive Synopsis

The *Energy Policy Act of 2005* contains some significant tax incentive provisions to promote energy efficient building design.

Commercial buildings entering service between January 1, 2006 and December 31, 2007 may realize a tax deduction of \$1.80 per square foot by using 50% less energy than a baseline building designed to meet ASHRAE 90.1-2001 with respect to lighting, HVAC, envelope, and hot water systems. In order to gain the full deduction, all areas of savings must be addressed.

Recognizing that lighting may provide the simplest path to significant energy savings, the EPAct specifically allows lighting to be considered as a separate system. A tax deduction for of \$0.30 - \$0.60 per square foot lighting alone is available on a linear sliding scale for power use reductions of 25%-50% beyond ASHRAE 90.1-2001 requirements. The following page contains a Whole Building Method overview of this scale and the general Lighting Power Density targets required to meet typical deduction levels.

Reducing the total connected lighting load is only a part of capturing the available tax deduction. Lighting controls must fully comply with mandatory and prescriptive requirements of ASHRAE 90.1-2001 and must, at a minimum, provide for bi-level switching in all occupancy areas except hotel and motel guest rooms, store rooms, restrooms, and public lobbies.

Calculated lighting levels within areas submitted for this tax deduction must also be consistent with the appropriate recommended practice guidelines set forth in the Handbook of the Illuminating Engineering Society (IESNA) 9th edition.

Example:

Let's assume a fairly standard 20,000 square foot office building that operates lighting 12 hours per day, 5 days per week. Energy is assumed to cost \$0.10 / kWh.

	ASHRAE 90.1-2001	25% Savings	40% Savings
Operating Hours	3120	3120	3120
Building Area (s.f.)	20,000	20,000	20,000
LPD (W/ft²)	1.3	0.98	0.78
Annual kWh	81,120	61,152	48,672
Tax Deduction	\$0.00	\$6,000.00 (\$0.30 / s.f.)	\$12,000.00 (\$0.60 / s.f.)
Annual Energy Savings	\$0.00	\$1,996.80	\$3,244.80

The best way to save energy in the built environment is through high performance building design that promotes productivity and user satisfaction.

For more information on high performance design consult the following resources:

- Advanced Buildings: www.advancedbuildings.net
- New Buildings Institute: www.newbuildings.org
- Advanced Lighting Guidelines: www.newbuildings.org/lighting.htm
- EPAct 2005 information from NEMA: www.efficientbuildings.org

Subsequent guides in this series will consider lighting design for specific project types.

Lighting Power Densities Using the Building Area Method		Percent Energy Savings Beyond Requirements of ASHRAE 90.1- 2001			
Based on Table 9.3.1.1	LPD	25%	30%	35%	>=40%
Building Area Type	(W/ft ²)	\$0.30 Deduction	\$0.40 Deduction	\$0.50 Deduction	\$0.60 Deduction
Automotive Facility	1.50	1.13	1.05	0.98	0.90
Convention Center	1.40	1.05	0.98	0.91	0.84
Court House	1.40	1.05	0.98	0.91	0.84
Dining: Bar Lounge/Leisure	1.50	1.13	1.05	0.98	0.90
Dining: Cafeteria/Fast Food	1.80	1.35	1.26	1.17	1.08
Dining: Family	1.90	1.43	1.33	1.24	1.14
Dormitory	1.50	1.13	1.05	0.98	0.90
Exercise Center	1.40	1.05	0.98	0.91	0.84
Gymnasium	1.70	1.28	1.19	1.11	1.02
Hospital/Healthcare	1.60	1.20	1.12	1.04	0.96
Hotel	1.70	1.28	1.19	1.11	1.02
Library	1.50	1.13	1.05	0.98	0.90
Manufacturing Facility	2.20	1.65	1.54	1.43	1.32
Motel	2.00	1.50	1.40	1.30	1.20
Motion Picture Theatre	1.60	1.20	1.12	1.04	0.96
Multi-Family	1.00	0.75	0.70	0.65	0.60
Museum	1.60	1.20	1.12	1.04	0.96
Office	1.30	0.98	0.91	0.85	0.78
Parking Garage	0.30	0.23	0.21	0.20	0.18
Penitentiary	1.20	0.90	0.84	0.78	0.72
Performing Arts Theatre	1.50	1.13	1.05	0.98	0.90
Police/Fire Station	1.30	0.98	0.91	0.85	0.78
Post Office	1.60	1.20	1.12	1.04	0.96
Religious Building	2.20	1.65	1.54	1.43	1.32
Retail	1.90	1.43	1.33	1.24	1.14
School/University	1.50	1.13	1.05	0.98	0.90
Sports Arena	1.50	1.13	1.05	0.98	0.90
Town Hall	1.4	1.05	0.98	0.91	0.84
Transportation	1.2	0.9	0.84	0.78	0.72
Warehouse	1.2	Note: Warehouses <i>must</i> meet 50% energy savings			0.6
Workshop	1.7	1.275	1.19	1.105	1.02

Please note that this information is subject to change. Rules regarding these tax code changes are currently being formulated by the appropriate agencies.

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