



**Newman Consulting Group, LLC**  
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## **The Energy Policy Act of 2005 – EPAAct 2005**

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# Getting Tax Deductions for Improving the Energy Efficiency of Your Building

(or, How to Get the Government to Pay You  
to Save Money)

But They Don't Make It Easy!!

# Applicability

- Homes
- Vehicles
- Natural Resources
- Renewable Energy
- Fuel Cells, Microturbines
- ***Commercial Buildings – This is What We're Looking At***
- Etc.

# Applicability – Commercial Buildings

Offices, Retail Buildings, Warehouses, etc.

- Also Includes Public Buildings, e.g., Schools
- Rental Housing > 4 stories
- No Process Loads

Note: For Public Buildings, Credit Can Pass Through to “*Person Primarily Responsible for Designing the Building*”.

**A P.E. Has to Watch Out for Engineering Ethics Considerations Here.**

# Applicability – Commercial Buildings (cont.)

- New Construction in Existing Building Also Eligible for Deduction
  - Up to \$0.60 / sq ft for any of the 3 Energy-Using Systems: Lighting, HVAC, Building Envelope

Note: “Plug Loads” Not Included

# What is the Deduction?

- Tax Incentives for 50% Savings Compared to ASHRAE 90.1-2001 Baseline with addenda a,b,c & k, as of April 3, 2003 [prior to Lighting Power Density (LPD) Reduction]
- Building Must Meet Scope of Standard 90.1 relative to type of building
- The Tax Deduction Cannot Be Greater Than the Actual Cost of the Project
- **Note It Is a *Tax Deduction* – *Not a Tax Credit* - for Commercial Buildings**
  - This makes it available to REITs
  - Legislators don't like credits – prefer deductions so taxpayer is using mostly its own funds
  - Deduction is subtracted from income before tax is calculated; therefore not nearly as large a saving as a tax credit, which is deducted from the actual tax due
  - Deduction taken on “Other Deductions” line of corporate tax rates
  - Deduction must be added to the “Basis” of the building for tax purposes
- Complete Bill is 1724 pages  
Section on Commercial Buildings - only 24 pages (Section 1331)

# Example of Tax Credit

- Assume Taxpayer is in 20% Bracket
- Assume \$200,000 Taxable Income
- Therefore Tax Liability = \$40,000
- Assume Tax Credit is \$30,000
- Revised Tax Due is only \$10,000  
( $\$40,000 - \$30,000$ )

# Example of Tax Deduction

- Assume Taxpayer is in 20% Bracket
- Assume Taxable Income of \$200,000
- Tax Liability = \$40,000
- If Tax Deduction is \$30,000, *Taxable Income* is Reduced to \$170,000
- Tax Due Now Becomes \$34,000 (20% of \$170,000 rather than 20% of \$200,000)
- Savings is only \$6,000 Rather than the \$30,000 from a Tax Credit, but Still a Savings!

# Time Availability of the Deduction

- January 1, 2006 through December 31, 2008
  - Original Bill was through 12/31/07
  - Upgrades must be completed by 12/31/2008, i.e. “In Service”
  - ***Deduction must be taken for year work was completed***
  - Bill signed by President in August, 2005
  - Preliminary IRS Regulations out – June 26, 2006
  - Final IRS and Treasury Regulations out – May, 2007 ??????
- Extensions may increase eligibility through 2010 or beyond
  - Several bills now in Congress to increase deduction and extend bill end date

# What is the Deduction – for Commercial Buildings?

- Total of Up To \$1.80 / sq. ft. of Building Area
  - 1/3 of Incentive Available Separately for Each of Main Building Systems:
    - Envelope – Up To \$0.60 (16 2/3% > 90.1)
    - HVAC, Water Heating – Up To \$0.60 (16 2/3% > 90.1)
    - Lighting – Up To \$0.60 (16 2/3% > 90.1, with exceptions)
      - *Interim* Lighting Rules Use ASHRAE Prescriptive Lighting Tables 9.3.1.1 and 9.3.1.2
      - Interim Rules Only in Effect Until Final Regs. Published in Federal Register
      - Sliding Scale from \$0.30 to \$0.60 for 25-40% Under ASHRAE LPDs, Except Warehouses Must Be 50% Under to Get \$0.60 (No Sliding Scale)
      - Lighting Quality Must Meet IES Standards
      - Exterior Lighting Not Included in Calculations

**Note: Can do *something* in any of the 3 areas and get *partial* deduction, except for lighting in warehouses**

# The Sliding Scale Formula

LPD savings between 25-40% = % of the max deduction of \$0.60 - According to Formula Below

Applicable Percentage Formula:  $\$0.60 \times \{50\% + [50\% \times (\% \text{ reduction of LPD} - 25\%) / 15\%]\}$

Example: 30% LPD Savings = \$0.40

$\$0.60 \times \{0.50 + [.50 \times (30 - 25) / 15]\} = \$0.40$

# Four Requirements to Qualify

- Simulations to Determine Savings
- Inspection to Verify Compliance
- Documentation Provided to Building Owner
- All Completed By Qualified Individual

# Who Determines Compliance?

- “Qualified Individuals”
  - 3<sup>rd</sup> Party Inspectors – Review Plans & In-Place Construction
    - Cannot Be Employee of Entity Claiming Deduction
    - Professional Engineer
      - **Be Careful** – E & O Insurance does not allow a P.E. to “Guarantee” results
    - Licensed Contractor

# How is Compliance Determined?

- ANSI/ASHRAE/IESNA Energy Standard 90.1-2001, as in effect on April 3, 2003
  - Includes Addenda 90.1a-2003, 90.1b-2002, 90.1c-2002, 90.1d-2002, 90.1k-2002
- Performance Rating Method (PRM) of Appendix G of Standard 90.1-2004
- Reference Building Must Use Certain Requirements from 2005 California Title 24 Nonresidential Alternative Calculation Method (ACM) Approval Manual (This Needs Clarification)

# What is the “Reference Building”?

“A Building Located in the Same Climate Zone That Is Comparable to the Taxpayer’s Building Except That Its Systems Meet Only the Minimum Requirements of Standard 90.1-2001, with Amendments Previously Shown”

# What Software Can Be Used for Modeling the Building?

Programs Are Listed on DOE Website:

[www.eere.energy.gov/buildings/info/tax\\_credit\\_2006.html](http://www.eere.energy.gov/buildings/info/tax_credit_2006.html)

[www.eere.energy.gov/buildings/info/qualified\\_software/](http://www.eere.energy.gov/buildings/info/qualified_software/)

As of 02/20/2007, there were 6 programs listed –  
3 private, 3 public

# Further Information

- 2005 CA Title 24 ACM Approval Manual
  - [www.energy.ca.gov/title24/2005standards/nonresidential\\_acm/index.htm](http://www.energy.ca.gov/title24/2005standards/nonresidential_acm/index.htm)
- [www.efficientbuildings.org](http://www.efficientbuildings.org)
- [www.nema.org/gov/efficientbuildings](http://www.nema.org/gov/efficientbuildings)
- [www.advancedbuildings.net](http://www.advancedbuildings.net)
- [www.lightingtaxdeductions.org](http://www.lightingtaxdeductions.org)

# For Further Information

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“We Do Not Inherit The Earth From Our Ancestors,  
We Borrow It From Our Children” – Native  
American Proverb