



# Benefits, Costs and Risks of Green Building

AIA Northern Virginia  
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# Federal Green Building Initiatives

**Presented by:**  
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*“As the largest consumer of energy in the U.S. economy, the Federal government can and should lead by example when it comes to creating innovative ways to reduce greenhouse gas emissions, increase energy efficiency, conserve water, reduce waste, and use environmentally-responsible products and technologies.”*

**President Obama**



The Federal government occupies nearly 500,000 buildings, operates more than 600,000 vehicles, employs more than 1.8 million civilians, and purchases more than \$500 billion per year in goods and services.



## Executive Order 13514

Signed in 10/09, and building on the previous administration's Executive Order 13423, this order sets sustainability goals for Federal agencies and focuses on making improvements in their environmental, energy and economic performance. It requires Agencies to set a 2020 greenhouse gas emissions target, increase energy efficiency, reduce fleet petroleum consumption, conserve water, reduce waste, support sustainable communities and leverage Federal purchasing to promote environmentally-responsible products and technologies.



# GSA Energy Successes

- Since 2003, GSA reduced energy intensity by 14.3% in GSA-owned and GSA-leased buildings where it is responsible for making utility payments.

[reduction of 878 billion BTUs]

- 48 LEED certifications.
- In 2009, GSA procured 10.8% of its electricity from renewable sources. GSA facilities generated 7,500 million BTUs of on-site, renewable energy from photovoltaic arrays, solar-thermal collectors and geothermal projects.



# GSA High Performance and sustainable Buildings

- ◆ By 2015 18% of GSA-owned buildings > 5,000gsf and leases > 5,000 gsf will incorporate the sustainable practices in the Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings  
[design, construction and operations and maintenance]
- ◆ GSA currently controls 6,000+ buildings and leases > 5,000gsf



# GSA Greenhouse Gas Reduction Goals

GSA is adopting a “cradle-to-cradle” philosophy in which products and processes are designed so that waste produced by one production cycle fuels others resulting in:

- By 2020, reduction GHG emissions by 30% from 2008 levels

[2.6 million tons of carbon dioxide to 1.8 million tons]

- Introduction of education and awareness initiatives to motivate tenants, GSA contractors and GSA employees to make behavioral changes to reduce energy and water consumption





# GSA Zero Environmental Footprint (ZEF)

GSA can accept higher risks than the private sector can tolerate and it can deliver a Gov't that produces more while consuming less and drives the nation to a resource-neutral, post-carbon economy by:

- ◆ Aligning private sector incentives with public policy
- ◆ Modernizing the way the Gov't sources
- ◆ Accelerating innovation in green technology and business practices
- ◆ Changing the culture



# GSA Supplier Greenhouse Gas (GMG) Emissions Inventory Pilot

- ◆ Participants are the Top 200 Federal suppliers that voluntarily participated in the 2010 Carbon Disclosure Project
- ◆ Purpose is to identify the benefits & challenges associated with inventorying and disclosing GMG emissions data via a registry
- ◆ Intended results include: identifying types of outreach & training, direct assistance and incentives that will encourage Federal contractors to inventory and disclose their GMG emissions data in the future



# Impacts on GSA Acquisition

- ◆ Green purchasing language in new contracts
- ◆ By Sept. 30, 2011, update Product and Service Code (PSC) manual to include codes identifying acquisitions with sustainable characteristics
- ◆ Solicitation language requiring:
  - Commitments to obtain third party certifications (LEED)
  - Achievement of stated energy savings
  - Reduction of construction materials and waste



## Recent GSA Solicitation language

*Must meet LEED-NC – Lessor, at their expense, shall obtain this certification within 12 months of occupancy. If Lessor fails, Gov't may assist the lessor in implementing a corrective action program to achieve certification and deduct all Gov't costs from the rent.*

*New construction shall achieve Energy Star score of 75 or above within 18 months after reaching 80% occupancy and must retain the score. Failure results in corrective action plan and deduction of Gov't costs.*



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# 2010 Tax planning Federal Energy Tax Credits

**Presented by:**  
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October 1, 2010



# Objectives

- ◆ **Energy**
  - Overview of Energy Policy Act
  - Available tax savings
  - Requirements and costs
  - Identifying potential opportunities



# ENERGY POLICY ACT OF 2005



- ◆ Congress passed legislation in August of 2005 to encourage energy-efficient building construction.
- ◆ The Act creates a tax deduction of up to a \$1.80 per sq. ft. of the cost of building.
- ◆ Deduction is available to the owner of the asset **OR** the designer of government-owned property.
- ◆ Act originally set to expire 12/31/08. Short time frame and low awareness
- ◆ The Emergency Economic Stabilization Act of 2008 (HR-1424), approved and signed on October 3, 2008, extends the benefits of the Energy Policy Act of 2005 through December 31, 2013.



# Why the Low Awareness?

- ◆ The IRS did not promote this benefit.
- ◆ lack of guidance and guidelines for how to obtain the benefit

Who qualifies?

Who can do the certification?

What types of assets qualify for the deduction?

What should a report look like?



# SEC. 179D - ENERGY EFFICIENT COMMERCIAL BUILDING PROPERTY

- ◆ Any property that is depreciable asset
- ◆ Installed on or in any building in united states
- ◆ Installed as part of the interior lighting, heating, cooling, ventilation and hot water systems
- ◆ Or the building envelope
- ◆ Is done as part of a plan designed to reduce total annual energy use by at least 50% less than guidelines of the 2001 ASHRAE 90.1 standard



# Potential assets that may qualify

- ◆ New construction
- ◆ Upgrades, Renovations and Retrofits
- ◆ Private or Public Commercial Properties
- ◆ Commercial Residential (4+ stories)
- ◆ **Certain LEED Certified Buildings**
- ◆ Green / Energy-Efficient Buildings
- ◆ Examples : Schools, Government, Office, Retail, Hospitality, Industrial, Manufacturing, Healthcare, Parking Garages



# QUALIFYING WHOLE BUILDING

- ◆ New construction or renovations can qualify
- ◆ Up to \$1.80 per square foot available
- ◆ Deduction is allowed year property placed in service
- ◆ Total annual energy use must be at least 50% less than the guidelines of the 2001 ASHRAE 90.1 standard
- ◆ Measured by comparison of the new design and new improvement to a reference building which meets the minimum requirements of Standard 90.12001



# QUALIFYING PARTIAL BUILDING

- ◆ Lighting – Interior and Parking Garages
- ◆ HVAC - Heating, Cooling, Ventilation and Hot Water
- ◆ Building Envelope – Windows, Doors, Roofs and Insulation
- ◆ Partial deduction of \$.30 - \$.60/sf available for upgrades to any one of the three major systems.



# SPECIAL RULE FOR GOVERNMENT OWNED BUILDINGS

Property owned by Federal, State or local government or a political subdivision thereof qualify for 179D deduction

- ◆ Owner of the property may allocate 179D deduction to the designer
- ◆ May allocate to one or several designers
- ◆ Designer is a person who creates the technical specification for installation of the energy efficient commercial building property
- ◆ Architect, engineer, contractor, environmental consultant or energy services provider are qualified designers within this code
- ◆ Allocation must be in writing



# The Certification Process

- ◆ Collect final plans and specifications from property owner or its engineer or the architect
- ◆ Engineer models and analyzes the property using IRS-approved software to determine benefits
- ◆ Required site inspection of property by the IRS to be conducted by third party independent licensed engineer.
- ◆ Issue report which supports the tax deduction
- ◆ In case of architects, 179 D allocation letter also needed.





# The Opportunity

- ◆ Less than 3% of eligible taxpayers have filed for their energy tax benefits with the IRS.
- ◆ Millions of taxpayers are due significant refunds as of January 2006 – three year look back.
- ◆ 71 Billion square feet of commercial space nationwide.
- ◆ Any building with lighting and HVAC systems 10+ years old is using outdated technology.
- ◆ New energy-efficient lighting and HVAC can save 50% and 20% respectively on electric bills.
  - Lighting accounts for almost 40% of commercial electrical consumption.
- ◆ Building Envelopes – Black Roofs, Old Windows
- ◆ Attract tenants and buyers with lower operating expenses.
- ◆ Ongoing Energy Savings
- ◆ Increase property values with the help of the government.





# “Qualified” Individuals can prepare a 179D and must meet these three

## 1) points:

- 1) Requires certification by a licensed, independent engineer not related to taxpayer claiming the deduction under § 179D.
  - 2) Must be properly licensed in the jurisdiction in which the building is located.
  - 3) Has represented in writing to the taxpayer that he or she has the qualifications to provide the certification or to perform the inspection and testing.
- The CPA verifies that BOTH the inspecting and signing individuals “qualified”, as defined by the IRS.



# Why does all this matter?

## Circular 230

- ◆ The Tax Preparer has an obligation to make sure the 179D preparation is done correctly.
- ◆ IRC Code Section 6694 penalties can be substantial and if a position taken on a tax return was not based upon the substantial authority standard and therefore considered unreasonable. These penalties are in an amount:
  - equal to the greater of \$1,000 or
  - 50 percent of the income derived (or to be derived) by the tax return preparer with respect to the return or claim.

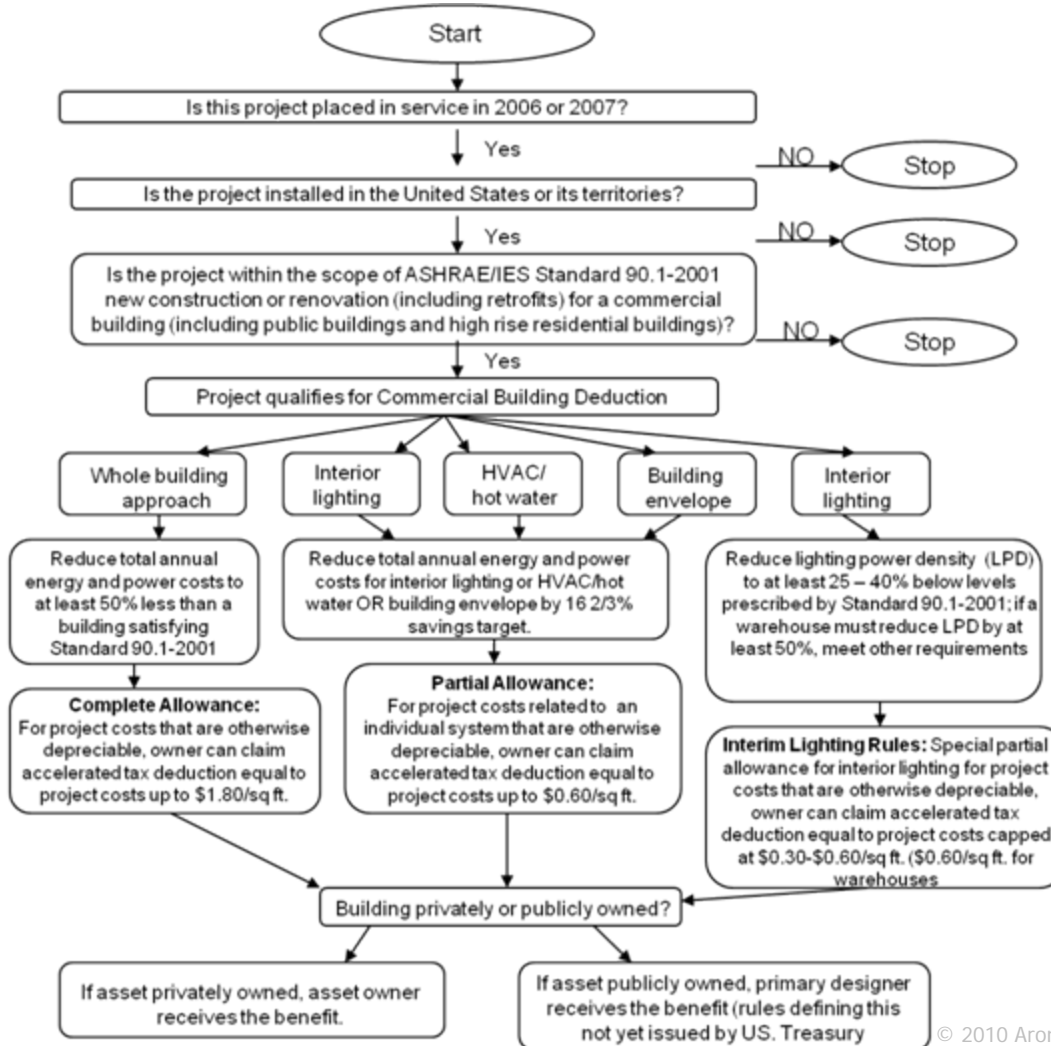


# Understand the Rules, Plan and Prioritize

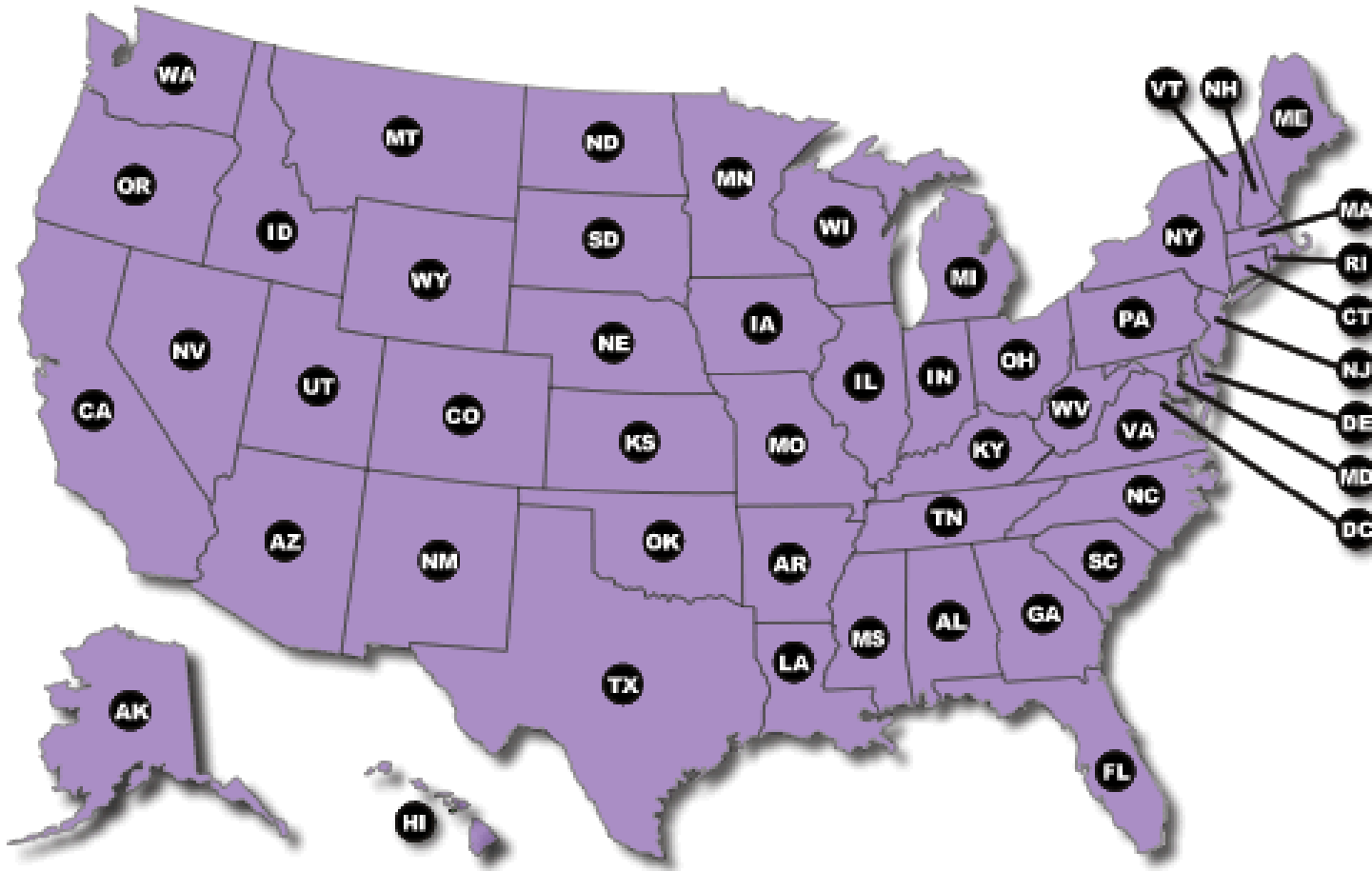
- ◆ New Construction – Consider tax and utility incentives in planning phase
- ◆ Existing Buildings – Energy Audits Make Sense.
  - Assess and prioritize repairs, maintenance, retrofits and/or renovations.
  - Examine costs of maintaining versus upgrading systems.
  - Reduce operating costs and identify savings in the range of 25 to 35% of annual energy spent.
  - Understand applicable tax and utility incentives.



# DECISION CHART FOR CONSIDERING AN ENERGY DEDUCTION



# Local and State Benefits



Visit [www.dsireusa.org](http://www.dsireusa.org) for a clickable map and a listing of all federal and state incentives for energy retrofits



# How Do You Qualify?



- ◆ Manufacturer certifies eligibility
- ◆ Online resources show product availability:
  - [www.energytaxincentives.org](http://www.energytaxincentives.org)
  - [www.cee1.org/resid/rs-ac-main.php3](http://www.cee1.org/resid/rs-ac-main.php3)
  - [www.gamanet.org/gama/inforesources.nsf/vContentEntries/Product+Directories?OpenDocument](http://www.gamanet.org/gama/inforesources.nsf/vContentEntries/Product+Directories?OpenDocument)
  - [www.energystar.gov/index.cfm?c=products.prtaxcredits#1](http://www.energystar.gov/index.cfm?c=products.prtaxcredits#1)
- ◆ Limited to taxpayer's principal residence

# What's Coming?

- ◆ AIA and ETS urging Congress to expand the current \$1.80 per square foot to \$3.00 per square foot (S. 1637/H.R. 4226).
- ◆ Extend to 12/31/2015
- ◆ Make expressly for NFP
- ◆ Pass-through entity guidance
- ◆ Allocation letter clarification



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