

ENERGY TAX CREDITS AND HOW IT CAN BENEFIT YOU...

ALTERNATIVE ENERGY & BUILDING EFFICIENCY '09



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The Learning Objectives

- How to identify valuable tax savings in the Energy Policy Act to take advantage of energy efficient design, construction, upgrade and renovation of buildings placed in service between Jan. 1, 2006 and Dec. 31, 2013;
- How owners of buildings can benefit and why their management companies, architects and builders should be aware of this policy;
- How architects, engineers and contractors can benefit as the designer of constructed or renovated public buildings and turn their knowledge and application of the Energy Policy Act into a competitive advantage in the marketplace;
- What accountants and property management companies need to know to help their clients take advantage of the energy tax benefits;
- How to find additional savings through energy-efficient public utility rebates;
- Insurance savings resulting from an energy tax certification; and
- How to find additional tax savings through building cost segregation.

About Engineered Tax Services

- **ETS is Nationally Licensed Engineering Firm** with 16 offices across the United States
- **ETS averages \$24 million** in monthly refunds and tax benefits for real estate clients
- **ETS averages \$2.5 million** in monthly refunds and tax benefits for architects, contractors and other engineering firms involved in Public Building projects
- **Clients** include Google, Hilton, Marriott, Disney, Boeing, Ford, BMW, Outback



- **Partners** with Energy Star, Green Building Council, DOE, ASHRAE





Energy Policy Act of 2005

- Congress passed legislation in August of 2005 to encourage property owners to build energy efficient real estate properties to promote reduction in energy consumption. Service dates were from 1/1/06 through 12/31/08.
- 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.
- The ruling allows up to a \$1.80 per sq. ft. tax deduction for commercial property owners. Incentives were also allowed for contractors, site home builders and residential home owners.
 - In sum, you can go back **3 years** and carry forward the energy tax benefit for **15 years**.
 - Important: Refunds may be due to you!

Attention: Architects, Engineers & Builders

For energy-efficient commercial building property expenditures made by a ***Public Entity***, such as public schools, government buildings, churches and other non-profits, the Secretary of the Treasury allows the deduction to be allocated to the “***person primarily***” responsible for designing the property and systems in lieu of the public entity.

- Did you read your AIA Journals?
- Did your accountant tell you about this?

Who Qualifies as the Designer?

- Person that creates the technical specifications for installation of energy efficient property
- May include architect, engineer, contractor, environmental consultant or energy services provider
- Deduction can be allocated among multiple designers
- Government entity must provide designer with written declaration of the allocation of the deduction

Tax Credits for Home Builders

- Home builders are eligible for a **\$2,000 tax credit** for a new energy efficient home that achieves **50%** energy savings for heating and cooling over the 2004 International Energy Conservation Code (IECC) and supplements. At least 1/5 of the energy savings must come from building envelope improvements. This credit also applies to contractors of manufactured homes conforming to Federal Manufactured Home Construction and Safety Standards.
- **\$1,000 tax credit** to the producer of a new manufactured home achieving 30% energy savings for heating and cooling over the 2004 IECC and supplements (at least 1/3 of the savings must come from building envelope improvements), or a manufactured home meeting the requirements established by EPA under the ENERGY STAR program.
- Please note that, with the exception of the tax credit for an ENERGY STAR qualified manufactured home, these tax credits are not directly linked to ENERGY STAR. Therefore, a builder of an ENERGY STAR qualified home may be eligible for a tax credit but it is not guaranteed.
- New homes located in the United States whose construction is substantially completed after August 8, 2005 and that are acquired from the eligible contractor for use as a residence from January 1, 2006 through December 31, 2009.

Goal: Reduce Energy Use

In the US alone, Buildings Account for:

- 72% of electricity consumption
- 39% of energy use
- 38% of all carbon dioxide (CO₂) emissions
- 40% of raw materials
- 30% of waste output (136 million tons annually)
- 14% of potable water consumption

Who Benefits?

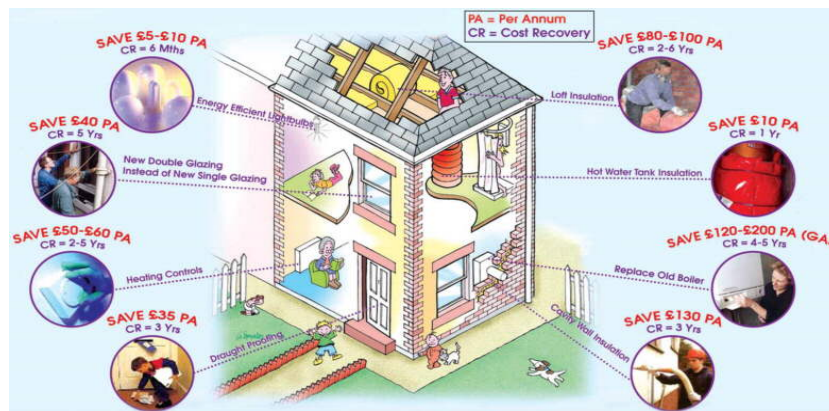
- Owners or tenants who pay for new or improved energy-efficient commercial buildings since 2006.
- Designers of energy-efficient properties installed in publicly-owned buildings.
- Homeowners
- Building and Real Estate Communities all indirectly benefit.

Why Is the Energy Tax Benefit Not Used?

- Less than 1% of eligible taxpayers have filed for their energy tax benefits with the IRS.
- Millions of taxpayers are due significant refunds since 2006.
- Why are taxpayers missing significant energy tax benefits and incentives?
 - Low Awareness – No one was interested in the “good” times.
 - Requires Qualified Engineer with Qualified Software
 - Requires Paperwork – 179 D Deduction

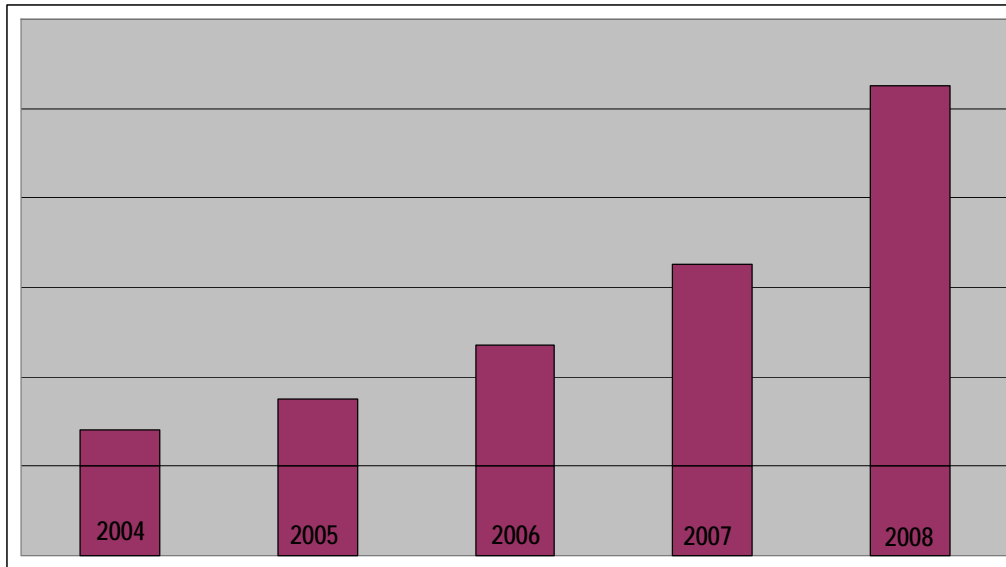
Ideal Candidates

- **New Construction** – Schools, Office, Retail, Hospitality, Industrial, Multi-Family, Single-Family
- **Retrofits** – Energy Performance Contracting, CRA Redevelopment
- **Green Buildings**
- **LEED CERTIFIED BUILDINGS**



LEED Buildings Are the Easiest Targets, Although, Most Energy-Efficient Construction Is Eligible.

- 7,400 *projected* LEED projects for 2008
- 8,532 *actual* LEED projects in 2008
- 17,450 total registered LEED projects as of December 2008



"US Green Building Council", Copyright 2008



\$103,000 Energy Tax Benefit Example

Citizenship and Immigration Services - Miami, FL



- Use: Office/ Assembly
- Project Area: 57,222 sf
- Certification: Registered Leed® Silver

■ Citizen and Immigration Services of Miami is a 2 story field office for the USCIS to provide service to the public in processing application for citizenship and also containing the Miami district offices. This building includes a spacious 4 level parking garage.



\$117,666 Tax Benefit Is Waiting to Be Claimed by the Owner

- Republic Services
- 65,370 square feet
- LEED Silver
- Completed Fall 2008



Completed Project Sweetwater Creek Visitor Center

Completed: Summer 2006

Cost: \$1,534,393 or \$175/ft

Architect: Gerding Collaborative, LLC

Distinctions: LEED-NC Platinum;
One of only 20 LEED-NC Platinum
buildings in the world at the time of
certification and the first in the
southeastern U.S.



Architectural Models of Visitor's Center

PAYBACK ANALYSIS

Year of Study	1	2	3	4	5
Cost of Upgrades	\$ 130,000.00		\$ 3,900.00	\$ 3,900.00	\$ 3,900.00
P/SF	\$ 3.25				
% of total	1.30%				
Cost savings w/ ES*	\$ 20,300.00				
Cost savings w/ CSS	\$ 185,000.00	\$ 216,608.00	\$ 132,210.00	\$ 86,068.00	\$ 80,931.00
Utility Savings (40%)	\$ 24,000.00	\$ 24,720.00	\$ 25,461.60	\$ 26,225.45	\$ 27,012.21
Less Study cost	\$ 15,000.00				
Totals Savings	\$ (84,300)	\$ (241,328.00)	\$ (153,771.60)	\$(108,393)	\$ (104,043)
ROI %	158%		4042%	2897%	2767%
Payback Time	0.6	0.0	0.0	0.0	0.0

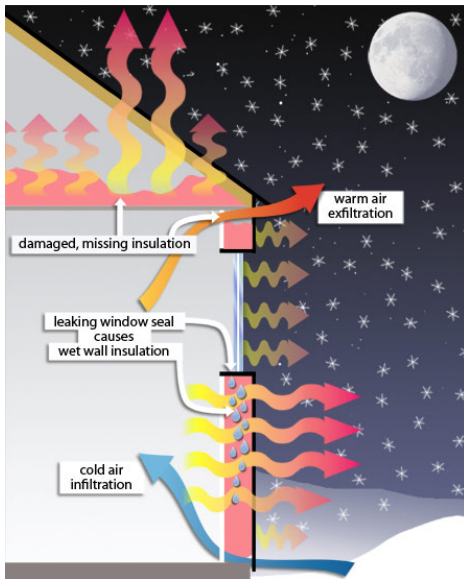
Note: * Energy Saving of \$58,000 @ 35% federal tax rate

Qualifying the Whole Building

- Applies to improvements or new construction
- Up to **\$1.80** per square foot - If you meet?
- Building must reduce total annual combined energy use by at least 50% (compared to similar building based on 2001 energy guidelines vs. energy actually designed into building).
- Deduction is eligible to anyone who funds the investment.



Qualifying Partial Building Systems



1. Interior Lighting Systems
2. Heating, Cooling, Ventilation & Hot Water
3. Building Envelope
4. New or Existing Building partial deduction of \$.40 to \$.60/sq ft for upgrades to any one of the three major systems.

Summary of Tax Deductions

Table 1 Summary of Tax Deductions

	Fully Qualifying Property	Partially Qualifying Property			
		Envelope 10%	HVAC and SHW 20%	Lighting 20%	Interim Lighting Rule
Savings Requirements*	50% energy and power cost savings	16 $\frac{2}{3}$ % energy and power cost savings	16 $\frac{2}{3}$ % energy and power cost savings	16 $\frac{2}{3}$ % energy and power cost savings	25% lower LPD (50% for warehouses)
Tax Deduction	Cost of qualifying property up to \$1.80/ft ²	Cost of qualifying property up to \$0.60/ft ²	Cost of qualifying property up to \$0.60/ft ²	Cost of qualifying property up to \$0.60/ft ²	Cost of qualifying property up to \$0.60/ft ² times applicable percentage**

* Savings refer to the reduction in the energy and power costs of the combined energy for the interior lighting, HVAC, and SHW systems as compared to a reference building that meets the minimum requirements of Standard 90.1-2001.

** The tax deduction is prorated depending on the reduction in LPD. See IRS Notice 2006-52 for the definition of “applicable percentage.”

The Lighting Opportunity

- Lighting accounts for almost 40% of commercial electrical consumption
- 71 Billion square feet of commercial space nationwide. Nearly all requires lighting.
- Less than 3% of eligible facilities have claimed EPACT credit
- New energy-efficient lighting can save building owners as much as 50% on their electric bills and payback in two years or less
- Any building with a lighting system 10 years or older is using old technology
- In addition to reduction in operating expense, new lighting can also improve lighting quality and increase the asset value of the building

Case Study

Industry: Packaging Manufacturer

Building Size: 115,000 sq. Ft.

Actions: Replace (148) 400W MH and (44) 190W T12 with (180) 220W T5 HO Fixtures

Project Cost: \$35,000

Energy Savings: \$11,000/year

Rebates and Incentive: \$20,000

Environmental Savings: Prevents emission of 147 tons of greenhouse gases



HVAC

The Department of Energy recommends minimum energy efficiency ratios (EERs) and coefficients of performance (COPs) for certain commercial unitary air conditioners and heat pumps, both split and package systems, respectively, as follows:

Air-Cooled Products

>65,000 - <135,000 Btu/h

>135,000 - <240,000 Btu/h

Efficiency Standards

11.2/11.0 EER for Air Conditioners

11.0/10.8 EER for Heat Pumps

3.3 COP @ 47°F for Heat Pumps

11.0/10.8 EER for Air Conditioners

10.6/10.4 EER for Heat Pumps

3.2 COP @ 47°F for Heat Pumps

BUILDING ENVELOPE

- Walls & Roofs, Insulation
- Climate Considerations
- Doors, Windows & Openings
- Thermal Efficiency
- Reflectivity
- Moisture Buildup



QUALIFYING PROCESS

Submission of Plans and Energy Certificate Form

- **Energy Certificate Form** is required by each state which indicates the energy assets installed in a building. Form required to get building permit (also known as Form J)
- **Step 1:** Compare Lighting Schedule to 2001 ASHRAE Standards. Are there efficiencies?
- **Step 2:** If yes in Step 1, compare Mechanical Schedule with detail of HVAC & Water Boiler System? Are there efficiencies?
- **Step 3:** If yes in Step 2, model simulation for whole building approach

FEASIBILITY ANALYSIS

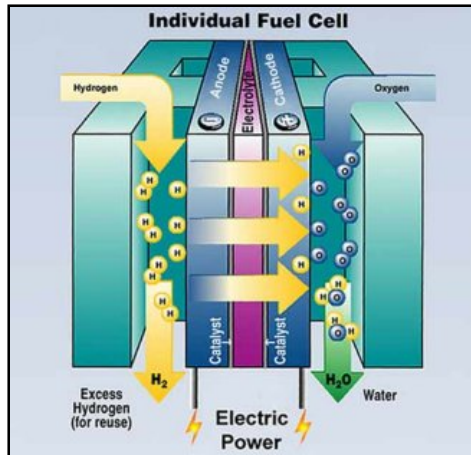
- Once review of plans is complete – Prepare benefit analysis for building for owner/client to review
- If project does not qualify, make suggestions to owner/CPA as to what asset upgrades would be necessary to have the building have qualifications
- Review benefit which would include the following calculations:
 - Additional costs of upgrade assets
 - Monthly savings from reduction in energy
 - Tax deduction benefit
 - Fee for Certification and/or Energy Audit
 - Derive overall ROI

IRS GUIDELINES

CERTIFICATION MUST INCLUDE:

- Statement regarding the energy efficiency of the building (interior lighting, HVAC and/or hot water system)
- Statement that the reduction has been determined under the Rules of Notice 2006-52
- Address of the building
- Statement that field inspections have been performed verifying the energy-saving assets
- Statement that approved software has used for calculations
- A list of qualifying assets and projected annual energy costs
- Qualified individual
 - Not related to individual
 - Properly licensed engineer
 - Written statement of qualification to taxpayer
 - The qualified individual's name, address and phone number

Additional Federal Incentives

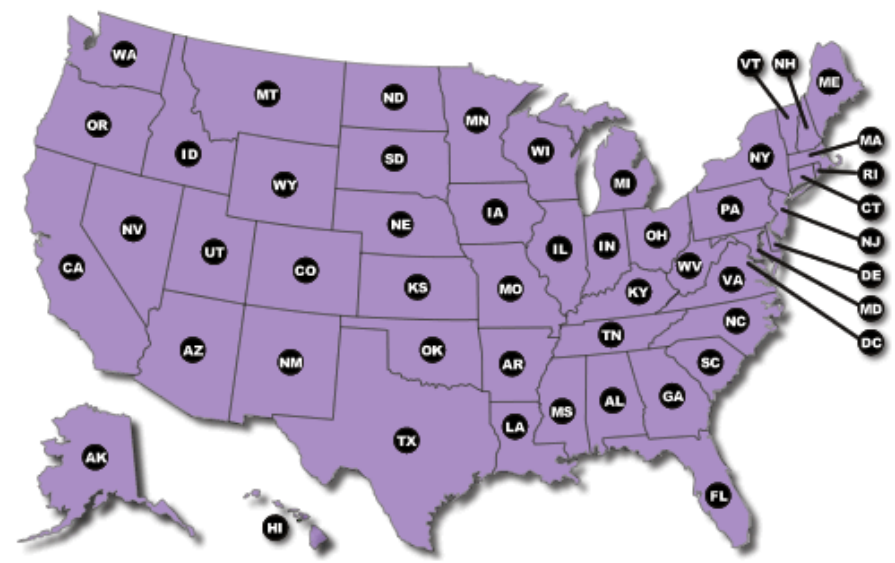


- Fuel Cells = 30% credit
- Stationary Micro Turbine
- Power Plants = 10% credit
- Solar Equipment = 30% credit



Additional Incentives and Programs

- Public Utility Rebates
- Insurance Savings
- State and Local Rebates



Visit www.dsireusa.org for a clickable map and a listing of all federal and state incentives for energy retrofits

State Incentives Can Be Equal or Greater Than Federal Incentives

Federal Benefits Not Exclusive

- Important to know that energy incentives are coming online everyday.
- In addition to federal incentives, many states have tax and credit benefits, as well.
- Also, utility companies have incentives related to energy assets.
- Important to look at all incentives: Federal, State, Local Government and Utility Companies

How Has the New Stimulus Bill Affected the Tax Credits for Energy Efficient Home Improvements?

- On February 17, 2009, President Obama signed a stimulus bill (The American Recovery and Reinvestment Act of 2009) that made some significant changes to the energy efficiency tax credits. The highlights are:
- The tax credits have been extended to 2010 as well.
- The tax credit has been raised from 10% to 30%.
- The maximum credit has been raised from \$500 to \$1,500 for the two years (2009–2010). However, some improvements such as geothermal heat pumps, solar water heaters, and solar panels are not subject to the \$1,500 maximum.
- The \$200 cap on windows has been removed.

Regulatory Imperative?

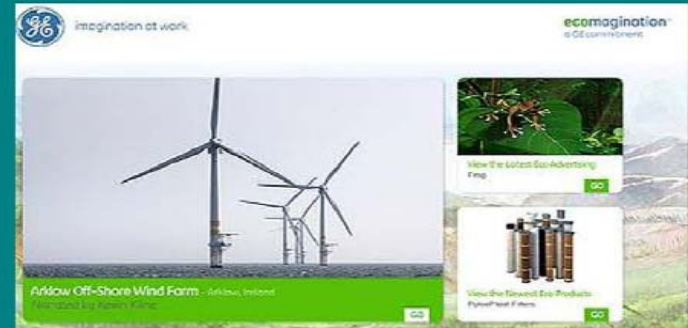


- 37 states representing 70% of US population are developing climate action plans.
- 13 states have set carbon reduction targets.
- 800 US Mayors, representing 85 million people have adopted the Kyoto Protocol.
- Sources: Newsweek, April 23, 2007; US Conference of Mayors,

Market Imperative?

- AIG
- Alcoa
- BP America
- Caterpillar
- ConocoPhillips
- Dow Chemical
- Duke Energy
- DuPont
- General Motors
- General Electric
- Johnson & Johnson
- Lehman Brothers
- Pepsi Co
- Pacific Gas & Electric

- All these companies and others have urged the federal government to cut green house gases by 60 to 80%.



“Over the past several years, we have actually made concerted efforts to maximize these and other tax benefits, and have focused on precisely the opportunities you outlined below. I agree that these credits are very valuable and thankfully our CFO and the whole Toyota organization has been very supportive of our efforts”. **Toyota Motor Sales, USA, Inc.**

The vision:

Zero net energy for buildings

"A building has a long life cycle, so its effect on the environment is a long and continuing issue to consider."

NGO, China²



There are three main approaches to energy neutrality:

- **Cut buildings' energy demand**
by, for example, using insulation and equipment that is more energy efficient
- **Produce energy locally**
from renewable and otherwise wasted energy resources
- **Share energy**
create buildings that can generate surplus energy and feed it into an intelligent grid infrastructure

Efficiency gains in buildings are likely to provide the greatest energy reductions and in many cases will be the most economical option. A study by McKinsey³ estimated that demand reduction measures with no net cost could almost halve expected growth in global electricity demand.

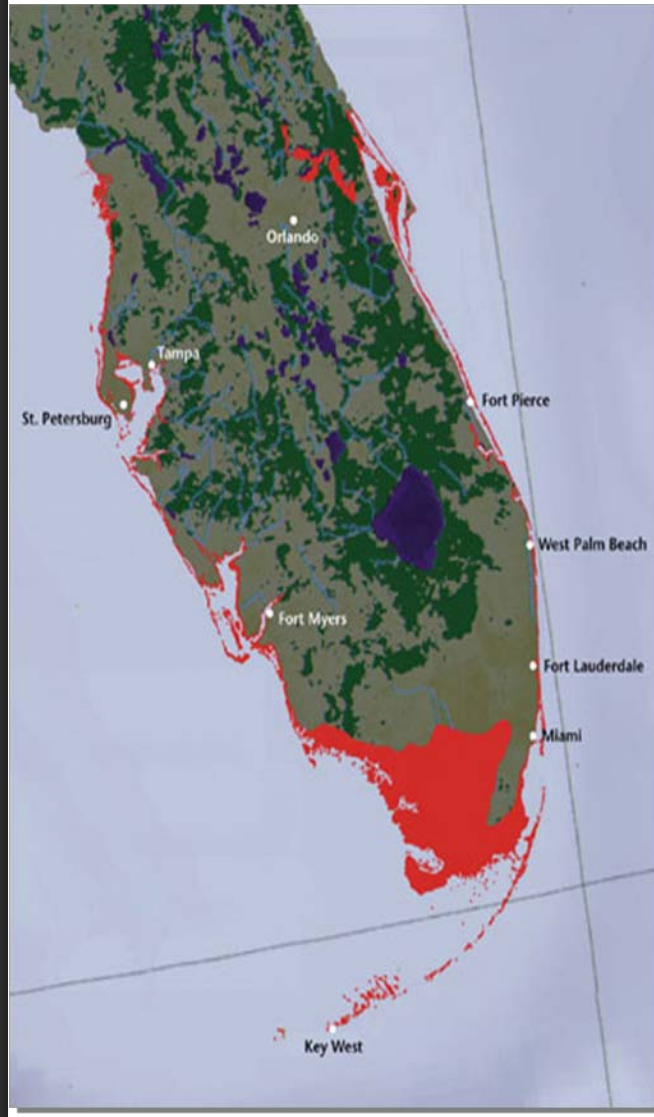
The Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report estimates that by 2020 CO₂ emissions from building energy use can be reduced by 29% at no net cost.

Next Steps: Lower Your Energy Costs and Have the Government Pay for It!

- Forensic Energy Audit
- Critical Path to Energy Efficiency
- Maximize Your Return on Energy with:
 - Federal, State and Local Energy Tax Benefits
 - Public Utility Rebates
 - Energy Savings Analysis
 - Measurement & Verification
 - Cost Segregation
 - Financing
 - Carbon Credits



What are the stakes?



About Engineered Tax Services

ETS marries the science of engineering with the principles of tax and accounting to arrive at financial solutions that result in increased cash flow, minimized tax payments and increased ROI. These IRS sanctioned services include Cost Segregation Studies, Energy Tax Credits, Deductions and Development Credits.

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