



# Going Forward City of Houston: Enabling Solar



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Program Director,  
Public Works & Engineering, Code Enforcement  
Green Building Resource Center



## Texas

### STATE ENERGY PROFILES

Map & Facts

Overview

Data

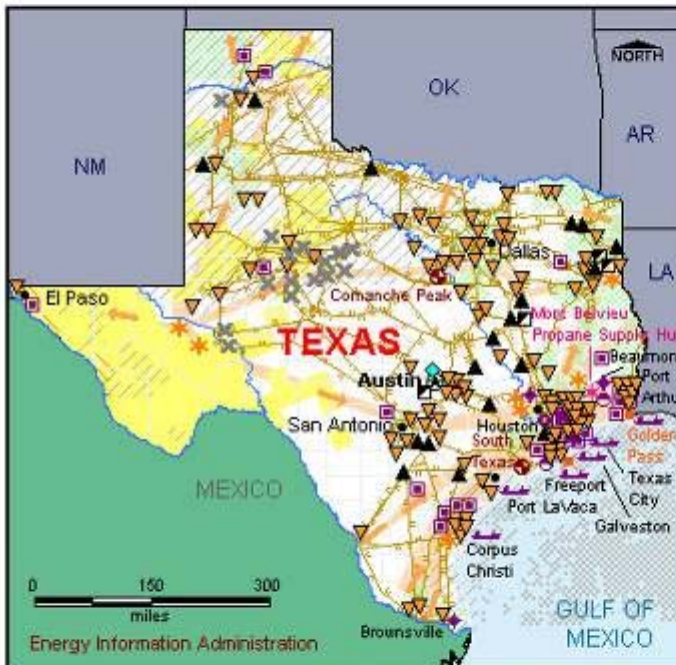
Related Reports

Data Directory

Select a State

Last Update: May 27, 2010  
Next Update: June 3, 2010

[Print Full Report](#)



### Texas Quick Facts

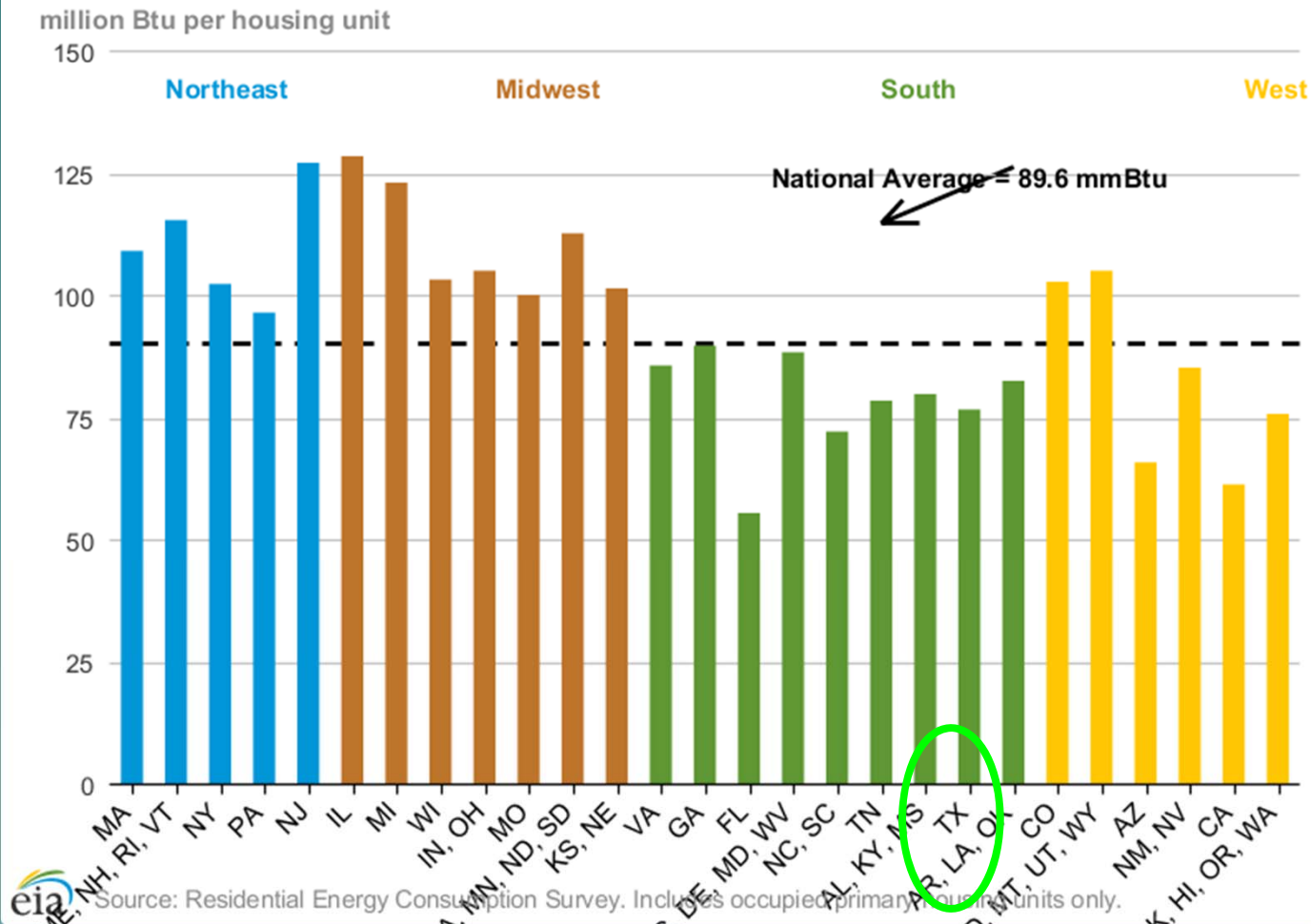
- Texas is the leading crude oil-producing State in the Nation (excluding Federal offshore areas, which produce more than any single State).
- The State's signature type of crude oil, known as West Texas Intermediate (WTI), remains the major benchmark of crude oil in the Americas.
- Texas's 27 petroleum refineries can process more than 4.7 million barrels of crude oil per day, and they account for more than one-fourth of total U.S. refining capacity.
- Approximately three-tenths of total U.S. natural gas production occurs in Texas, making it the Nation's leading natural gas producer.
- Texas also leads the Nation in wind-powered generation capacity; there are over 2,000 wind turbines in West Texas alone.
- Texas produces and consumes more electricity than any other State, and per capita residential use is significantly higher than the national average.

Mouse over symbols for more details.		Major Electric Power Plants (>=100 MW)	Renewable Energy Potential
	Coal Mine, Surface		
	Coal Mine, Underground		Biomass (>= 50 tons/sq km/yr)
	Natural Gas Hub		
	Petroleum Refinery		Geothermal (>= 80 milliwatts/m2)
	Oil Import Site		Solar (>= 6.0 kWh/m2/day)
	Oil Seaport		
	Electricity Transmission Line (>= 345 kV)		Wind (>= 3 Power Class)
	Natural Gas Flow (1 mile band width = 100 million cubic feet/day)		
	Oil and Gas Active Leases		
		Other Renewable	

# Texas Energy



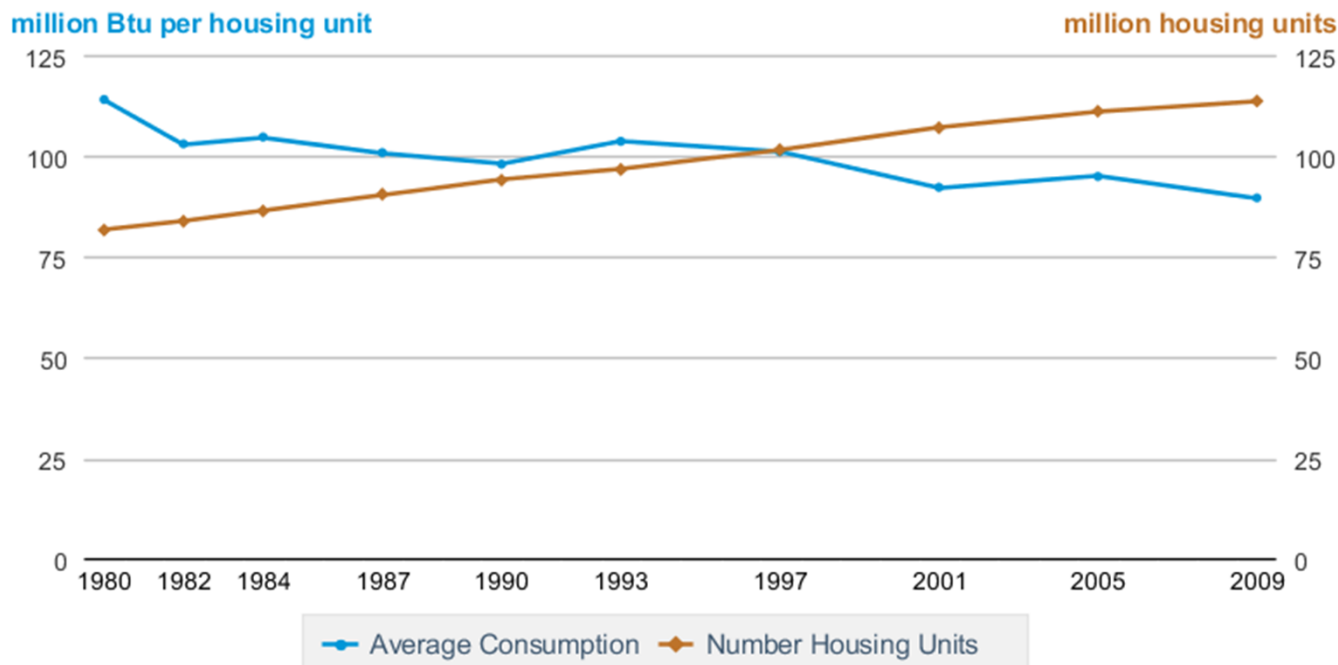
Figure 4. Average home energy consumption for selected states, 2009



# Texas Energy



**Figure 1. Average energy consumption per home and number of housing units, 1980-2009**



# Texas Energy



Source: Residential Energy Consumption Survey. Includes occupied primary housing units only.



# Wasted Energy

About 56 percent of all energy in the U.S. economy is wasted. Some energy is always lost when fuels are burned and heat escapes. Inefficient technology and design are also culprits.

Efficiency's role in cutting emissions is a matter of debate. Most scientists agree that both cleaner fuels and greater efficiency are needed. Here is how much energy goes unused, by sector.



**ELECTRICITY** Most is generated from coal and natural gas; the heat from burning those fuels is largely lost. Then transmission lines leach out electricity, as much as 10 percent of what is generated.

Circles sized according to the amount of energy each sector consumes.

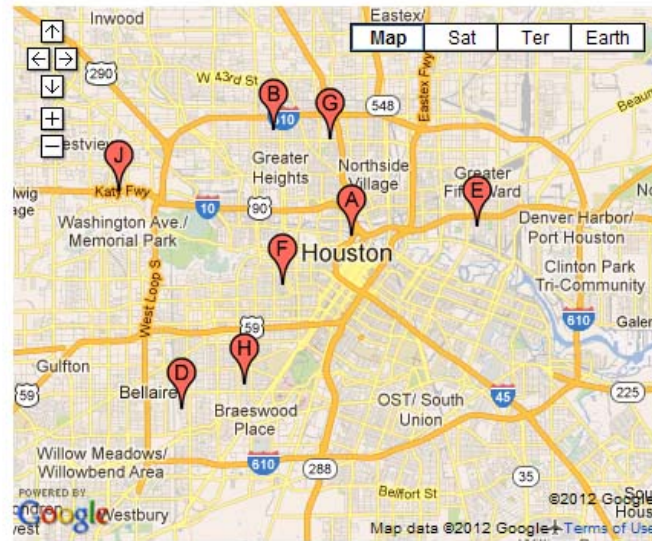




# Houston: Solar City

## Project Sites

### 2012 TOUR SITES



View 2012 Houston Solar Tour in a larger map



## Join Us!

2012 9th Annual Self-Guided  
**HOUSTON SOLAR TOUR**

# OCT 20, Saturday

FREE / Open to the Public

Self-Guided Tour 9 am - 1pm

Green Energy Fair 11 am - 5 pm

*Real Solutions for Real People*

+  
more info



# Houston: Solar City



**2008:** \$8.00 per watt installed

**Today:** \$4.00 per watt installed

50% Price Drop in 4 years.

**Tomorrow?**





# Green Building Resource Center



Original





# Green Building Resource Center



Renewed





# Green Building Resource Center



Renewed



# Green Building Resource Center



- ◆ 50 displays of green building components
- ◆ Complimentary green building consultation
- ◆ Complimentary education seminars



# Houston Permitting Center



LEED Certified Gold



# Roof Top Renewable Energy

City of Houston Permitting Center



## Solar Panels



308 SunPower 327 watt T5 panels (approx. \$1107 per panel)

28 panels (in "strings" of 7) per each SMA 8000 inverter (11 total @ \$5825 each)

*Estimated annual production in Houston of 116,259 kilowatt-hours*

26 Solar World 235 Watt panels (\$821 per panel) for one SMA 6000 inverter (\$5825)

*Estimated annual production in Houston of 9814 kilowatt-hours*

Installation of all the new panels: \$68,246.00

40 relocated BP 165 Watt panels (approx. \$825 per panel donated in 2008) for one SMA

6000 inverter, installed in 2008 at 3300 Main for approximately \$40,000.00

*Estimated annual production in Houston of 7804 kilowatt-hours*

## Urban Wind Turbines

4 Windtronics 1500 watt turbines (approx. \$16,185 each including 2

Aurora Pvi inverters)

Installation of the four turbines: \$8693.00

*Estimated annual production in Houston of 2592 kilowatt-hours*



## Totals

*Estimated annual production: 136,469 kWh equal to 3.6% of  
HPC 12 month consumption: 3,736,311 kWh (as of August 2012)*



**Green BUILDING RESOURCE CENTER**

Home About Us News Links Resource Reports FAQs Tax Incentives

### Green Building Resource Center - Welcome

The City of Houston Department of Public Works and Engineering Green Building Resource Center was officially launched on Earth Day 2009. The center, under the Planning and Development Services Division, is now located in the Houston Permitting Center, 1002 Washington Ave, Houston TX 77002 and if "Going Green" is your goal this center offers economical Green solutions for the community.

Former Houston Mayor Bill White called the center a break-through in offering citizens a chance to get a first hand real look at Green building materials and applications they can easily use. The center offers friendly interactive features and displays for building, remodeling and renovations solutions.

Features include a showroom and classroom with samples of recycled or refurbished materials. Over 50 displays, many interactive, and a library of information provide additional strategies for Going Green are also available. There are also free samples of green material you can share with friends and neighbors.

The entire Houston Permitting Center which includes the Code Enforcement Green Building Resource Center, from top to bottom was constructed to green building standards to reach LEED for New Construction to the Gold level. From the raised floor system that provides future flexibility, water efficient plumbing fixtures, energy efficient light fixtures and AC equipment, recycled content acoustical insulation, to recycled artwork, the building embodies innovative ideas for energy conservation. One of the big attractions is a demonstration vegetated roof easily viewed from the second floor that is watered with harvested rainwater and condensate from the AC system.

The Code Enforcement Green Building Resource Center Program Director will offer plan reviews for cost effective Green options. This could lead to energy and water savings that create a healthier living environment and reduce wasted material and save money.

Links to the 5 Components of Green Building

- Sustainable Sites
- Water Efficiency
- Energy and Atmosphere
- Materials and Resources
- Indoor Environmental Quality

Search: CEGBRC  
Go

**GBRC Calendar**

September 2012

Mon	Tue	Wed	Thu	Fri	Sat	Sun
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

**RecycleInfo**  
www.RecycleInfo.org

**Green Office Challenge Houston**

**VIP**

**Green Houston**

**ASES National Houston Solar Tour**

**REUSE**

**twitter**

## Tax Incentives



# Incentives



**Green BUILDING RESOURCE CENTER**

Home About Us News Links Resource Reports FAQs **Tax Incentives** Media Green Books Calendar

### Tax Incentive/Rebates

The American Recovery and Reinvestment Act of 2009 signed by President Obama provided \$16.8 billion for the money for the Office of Energy Efficiency and Renewable Energy's incentives and programs. The ARRA extended the many consumer tax incentives originally introduced in the Energy Policy Act of 2005, allowing for Americans to easily afford energy efficient products and fixtures.

There are many energy incentives available to you today. We know that the thought of Green Building can be somewhat discouraging when you take into consideration the amount of product cost and installation. For this very reason we have provided a list of tax incentives, rebates and abatements for your green building project to be as ecological and economically friendly as possible.

#### Federal Energy Incentives

The Federal Government has many tax credits available to consumers that decide to implement energy efficient practices and appliances in their home or business. A tax credit is typically more valuable than an equivalent tax deduction, for the simple fact that it reduces dollar for-dollar and not percentage. Listed below are some of the tax credit areas that are provided by the Federal government.

- Home Energy Efficiency Improvement
- Residential Renewable Energy Tax Credits
- Residential / Home Rebates
- Commercial / Business Rebates

[Visit Tax Incentives Assistance Program \(TIAP\) for more information](#)

[Visit U.S. Department of Energy's Tax Credits for Energy Efficiency for more information](#)

[Visit ALLIANCE to Save Energy to see 2013 Energy Efficiency Tax Credits available](#)

#### State Energy Incentives

The state of Texas has tax exemptions available in most instances on an individual basis. Most property tax exemptions involves solar, wind power, and eco-friendly construction systems.

[Visit the State Energy Conservation Office for more information](#)

#### City of Houston Energy Incentives

City of Houston, Texas, Ordinance No. 2011-1167: Leadership in Energy and Environmental Design Tax Abatement provides new commercial facilities a partial tax deduction for seeking LEED Certification. The agreement shall be effective up to 10 years, at a percentage based upon the level certification actually obtained after.

[CLICK HERE](#) City of Houston Energy Incentives

#### City of Houston Water Incentives

The City of Houston enacted Ordinance 2010-305, which raised water/wastewater rates for multifamily properties to cover the cost of service provided, and it also allowed for a water conservation incentive program to be established for these same properties. Since owners of multifamily properties have the difficult task of encouraging tenants and/or other owners to conserve water, the ordinance assists property owners who reduce their water consumption.

[CLICK HERE](#) City of Houston Multifamily Conservation Incentive Program

Search our site...  
Search CEGBRC  
Go

**GBRC Calendar**  
April 2013

Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

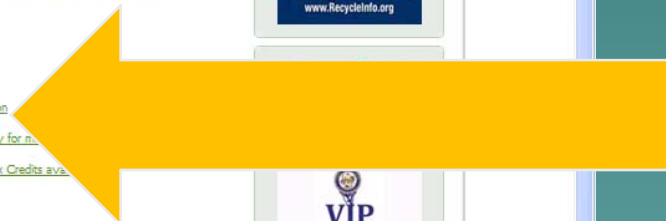
**RecycleInfo**  
[www.RecycleInfo.org](http://www.RecycleInfo.org)

**VIP**

**Green Houston**

**Think 2040**  
TAKE THE SURVEY

**REUse**  
www.ohmex.com



## TIAP Website



# Incentives

**The Tax Incentives Assistance Project (TIAP)** [www.energytaxincentives.org](http://www.energytaxincentives.org)

The Tax Incentives Assistance Project (TIAP), sponsored by a coalition of public interest nonprofit groups, government agencies, and other organizations in the energy efficiency field, is designed to give consumers and businesses information they need to make use of the federal income tax incentives for energy efficient products and technologies passed by Congress as part of the Energy Policy Act of 2005 and subsequently amended several times.

**Update as of 1/2/13:**

Several tax incentives were extended and changed through the American Taxpayer Relief Act of 2012, also known as the "fiscal cliff bill," which passed Tuesday, Jan. 1, 2013. The residential tax incentives for existing homes, including purchases made in 2012, were extended through 2013. These incentives include the following measures:

- Windows, insulation, air sealing homes and duct sealing;
- Air conditioners, heat pumps, furnaces and water heaters.

There were also two incentives that were both extended and changed. The new homes credit provides an incentive to builders for new homes that reduce energy use relative to the IECC-2006 building code by at least 50%. This is a change from prior law that used the IECC-2003 as a base. The appliance credit provides an incentive to manufacturers for increased production of very-efficient refrigerators, clothes washers and dishwashers. These credits had several efficiency tiers in 2011; for 2012-2013, the higher tiers remain but the lowest (least efficient) tiers for clothes washers and dishwashers ended.

These other five incentives remain in place and unchanged from the prior law:

- New and retrofitted commercial buildings that use half the energy of a building built to model codes, scheduled to extend until 12/31/13
- Plug-in electric drive vehicles scheduled to extend until 12/31/16
- Combined heat and power systems scheduled to extend until 12/31/16
- On-site renewable energy systems including ground-source heat pumps, scheduled to extend until 12/31/16
- Fuel cells and microturbines scheduled to extend until 12/31/16

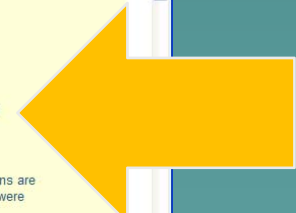
Also, Congress has begun to consider what to do with these tax credits as part of tax reform. No decisions are likely until the end of the year, but at a recent Senate Finance Committee hearing a variety of proposals were discussed.

We wanted to make this update to the homepage now and will continue to update individual topic pages in the upcoming week.

**IRS Forms**

- Residential Energy Efficient Property: **Form 5695**
- New Homes: **Form 8908**
- Vehicle Incentives: **Form 8910**

# On-site renewable energy systems





# Incentives



The Tax Incentives Assistance Project (TIAP) [www.energytaxincentives.org](http://www.energytaxincentives.org)

Home

Consumers *(en español)*

Businesses

Commercial Buildings

Commercial Vehicles

Combined Heat and Power

On-Site Renewables

Fuel Cells & Microturbines

Builders/Manufacturers

General Information

About TIAP

Contact Us

## On-Site Renewables Tax Incentives

(en Español)

Solar Energy Systems - Small Wind Systems - Geothermal Heat Pumps

### Solar Energy Systems

#### What are the tax incentives for solar systems?

Businesses are eligible for tax credits for qualified solar water heating and photovoltaic systems, and for certain solar lighting systems. Qualifying equipment will either use solar energy to generate electricity, to heat/cool or provide hot water to a structure, or will use solar energy to illuminate the inside of a building by means of fiber-optic distributed sunlight (tube systems and passive solar are not eligible). The credits are available for systems "placed in service" between January 1, 2006 and December 31, 2016.

Homeowners are eligible for tax credits for qualified solar water heating and photovoltaic systems. Solar water heating systems produce hot water, photovoltaic systems produce electricity (including solar fans). The credits are available for systems "placed in service" at any dwelling unit, not necessarily the primary residence, between January 1, 2006 and December 31, 2016.

Note: This is a basic guide to the credit. For more detailed information, go to [www.seia.org](http://www.seia.org) and download the Guide to Federal Tax Incentives for Solar Energy, or SEIA's FAQs regarding the new legislation.

#### Who is eligible for the tax incentives?

The tax credits go to businesses that install solar equipment for their use, and to individuals who install qualifying systems on homes they use as a residence (unlike other consumer incentives, the dwelling does not have to be the taxpayer's primary residence - second homes are eligible, although rental properties are not).

In the case of cooperative apartment buildings owned by a corporation, SEIA states that "if the corporation spends money on installing qualified solar property, each shareholder is allowed to claim residential solar tax credits on his or her share of the spending."

In the case of condominiums, SEIA reports that when the condominium management association "spends money on installing qualified solar property, each member of the association can claim the residential solar tax credits on his or her share of that spending," so long as the management association qualifies as a homeowners' association under the law, and the majority of the units in the condominium are used as dwelling units.

Manufacturers of solar equipment may qualify for a separate investment tax credit.

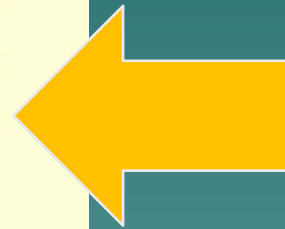
#### How do the incentives work?

The tax credits are for 30% of the cost of the system. For systems installed before January 1st, 2009, the maximum credit for individuals is \$2000 for photovoltaic systems and \$2000 for solar water heating systems. Systems installed after December 31, 2008 are not subject to a cap. To qualify, residential systems must meet certain criteria as follows:

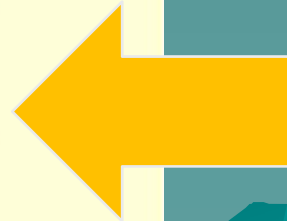
- **Solar water heating:**
  - System must be certified for performance by the Solar Rating Certification Corporation (SRCC) or a comparable entity endorsed by the state government in which the system is located. SRCC is an organization set up by the solar industry to test and certify equipment so purchasers have an independent assessment of system performance.
  - At least half of the energy used by the system to heat the water must be solar energy. The credit is not available for expenses for swimming pools or hot tubs.
- **Photovoltaic systems:**
  - System must provide electricity for the residence, and must meet applicable fire and electrical code requirements.
  - This includes solar fans (the credit will cover the solar panel portion of the fan system).

#### Alternative Minimum Tax and the Residential Solar Tax Credit

According to SEIA, the new legislation passed in October of 2008 "allows individual taxpayers to use the credit to offset AMT liability, and to carry unused credits forward to the next succeeding taxable year."



# Extended until 2016



# Photovoltaic systems



## Building Code Enforcement Permits

# Regulations



## Code Enforcement Main Page

A screenshot of a web browser displaying the Houston Permitting Center website. The browser's address bar shows "http://www.houstonpermittingcenter.org/code-enforcement.html". The website header includes the City of Houston logo and navigation tabs for Home, I Want To, Government, Residents, Business, Departments, and Visitors. A large yellow arrow points from the "Code Enforcement Main Page" link in the navigation menu to the main content area. Another yellow arrow points from the "Forms &amp; Publications" link in the "QUICK LINKS" section to the same link. The main content area features a welcome message from Thomas J. Hosey, C.B.O., CASp, Senior Assistant Director of Public Works, and a list of services including Permits and Code Development, Plan Review, Inspections, Sign Administration, Green Building Resource Center, and Utility Analysis. Below this is a "QUICK LINKS" section with buttons for "Forms &amp; Publications" and "News &amp; Events". The "OFFICE LOCATIONS" section lists the Main Office (Houston Permitting Center) and two Satellite Offices: Kingwood Office and Dacona Office, each with an address, phone number, and a "MAP" link. The "NEWS AND EVENTS" section contains three news items: "NEW Increased Energy Provisions for Residential Structures - Effective 02/01/2013", "Fee Increase - Effective 01/01/2013", and "Plan Review Prerequisite for Alcohol Related Businesses - Effective 06/01/2012". The left sidebar contains a "Main Menu", "Annual Report", a "Did you receive a permit..." notification, a "Take Our Survey" button, a Facebook link, a "CITY OF HOUSTON 311 HELP &amp; INFO" button, and a "Digital Signs Survey" link.

## Forms & Publications



# Regulations



http://www.houstonpermittingcenter.org/code-enforcement/publications.i

houston solar panel guide

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Publications - Houston Permitting Center

The City of Houston  
Official Site for Houston, Texas

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- Visiting the HPC
- FAQs
- Public Works Homepage

You are here: Home > Code Enforcement Main Page > Publications

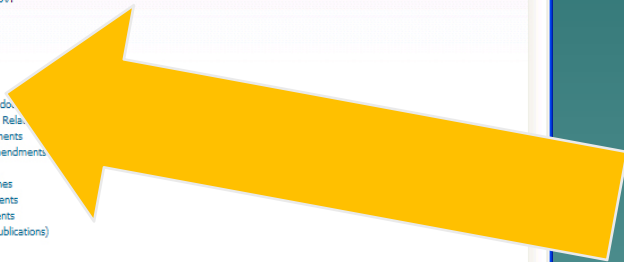
Thomas Hosey, C.B.O., CASp, Senior Assistant Director - Building Official

This page is managed by CACD for questions about the publications on this page, please email [mcacd@houston.tx.gov](mailto:mcacd@houston.tx.gov).

- Permit Applications
- Guidelines & Handouts
- Plan Review Guidelines & Handouts
- Houston Amendments & Code Related
- Energy Code Related Amendments
- Previous Printings of Code Amendments
- Drawings
- Inspection Handouts & Guidelines
- Miscellaneous Forms & Documents
- Special Notices & Announcements
- Solicitudes y Guías (Spanish Publications)

PERMIT APPLICATIONS

	Form No.
Sample of Residential Building Permit Application	
Sample of Commercial Building Permit Application	
Fillable Residential Building Permit Deed Restriction Affidavit <b>(Individual Owner)</b> - This affidavit is to be completed when the residence is owned by an individual.	
Fillable Residential Building Permit Deed Restriction Affidavit <b>(Corporate, Agent or Entity)</b> - This affidavit is to be completed when the residence is owned by a corporation.	
Sign Permit Application	
Electrical Wiring Permit Application	1057
Boiler Permit Application	1016
Mechanical HVAC Permit Application	1017
Plumbing Permit Application	1020
Sidewalk Permit Application	1023
Earth Hauling Application	1026
Roofing Contractors Registration & Update Form	1195
Low Voltage Wiring Application (Fire Alarm)	1046



## Guidelines & Handouts



# Regulations



http://www.houstonpermittingcenter.org/code-enforcement/publications.i

houston solar panel guide

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Publications - Houston Permitting Center

### GUIDELINES AND HANDOUTS

Building Demolition Guideline(Commercial & Residential)	1075
Fee Schedule (Commercial & Residential)	
Top 10 Things To Know About Permitting	
Advance Pay Account (APA) Guideline	1051
Authorization Form For Advance Pay Accounts (APA)	1052
Residential Standby Generators	1060
Residential Solar Panel Permit and Inspection Guide	1198
Name/Address Change Request Guideline	1211
Name/Address Change Request Form	1212

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### Plan Review Forms & Guidelines

#### PLAN REVIEW FORMS

FORM NO.	DOCUMENT NAME
<b>Residential</b>	
1059	Residential Repair Spec List
1207	Calculation of Impervious Percentage - A tool to assist in determining the amount of impervious area as a percentage on lots 15,000 square feet or less.
1246	2009 Residential Energy Conservation Form
1259	10% Prescriptive Option Package Form - Supplemental Page to the 2009 Residential Energy Code Form
<b>Commercial</b>	
1112	Commercial Repair Check list
	Deferred Submittal Request Form
	HFD Owner's Statement of Intended Use - Required for High-Pile Storage and Hazardous Materials
<b>Both</b>	
1094	Grading Permits Worksheet (Commercial and Residential)
1202	Airport Land Use - Sound Attenuation Form

#### FIRE PROTECTION REVIEW FORMS

FORM NO.	DOCUMENT NAME
1047	Fire Protection & Signaling System Plan Review Application - This form is to be completed when submitting plans for fire alarms, fire sprinklers, and underground fire lines.
1046	Low Voltage Wiring Application (Fire Alarm)

#### PLAN REVIEW GUIDELINES

FORM NO.	DOCUMENT NAME
<b>Residential</b>	
1050	Residential One Stop Guidelines - Plan review requirements
1058	Residential Repair Guideline
1132	Residential Checklist - For New Single Family Residences
	Residential Permitting 101 (Presentation August 28, 20
1060	Residential Standby Generators
1198	Residential Solar Panel Permit and Inspection Guide

# Residential Solar Panel Permit & Inspection Guide



# Regulations



http://documents.publicworks.houstontx.gov/document-center/doc\_details/243... houston solar panel guide

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Document Details | 1198 Residential Solar Panel Permi...

The City of Houston  
Official Site for Houston, Texas

Home | I Want To | Government | Residents | Business | Departments | Visitors | En Espanol

You are here: Home > Document Center > 1198 Residential Solar Panel Permit and Inspection Guide

### Details for 1198 Residential Solar Panel Permit and Inspection Guide

Property	Value
<b>Name:</b>	1198 Residential Solar Panel Permit and Inspection Guide
<b>Description:</b>	Residential Solar Panel Permit and Inspection Guide. Last update: 08/24/2011. This document is maintained by the <a href="#">Code Enforcement Section</a> .
<b>Filename:</b>	Link to 1198_residential_solarpanel_pemits_and_inspection_guide.pdf
<b>Filetype:</b>	pdf (Mime Type: link)
<b>Created On:</b>	05/21/2009 11:41
<b>Viewers:</b>	Everybody
<b>Hits:</b>	2472 Hits
<b>Last updated on:</b>	08/24/2011 12:04

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# Regulations



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Department of Public Works & Engineering  
Planning & Development Services Division

**RESIDENTIAL SOLAR PANEL  
PERMIT & INSPECTION GUIDE**

**PURPOSE**  
This is a guide to assist in the plan review, permit, and inspection process for the installation of a residential solar panel system. Listed below are the required components to be included in drawings to obtain permits, and the items that the city inspectors will be verifying in the field during the inspection process.

**PERMIT REQUIREMENTS**  
A [Building](#) permit and a single trade [Electrical](#) permit are required for the installation. A licensed electrician will be required to pull the Electrical permit. As part of the permit application process, the owner will be required to sign a [Deed Restriction Affidavit](#) and have it notarized. Properties located in the Flood Plain will be subject to additional requirements. Prior to application verify your [deed restrictions](#) with your civic association or county real property records regarding the placement of solar panels on your property.  
NOTE: In addition to City of Houston requirements, an application for interconnection to Center Point Energy for approval and subsequent inspection approval must be accomplished. For further information visit <http://www.centerpointenergy.com/services/electricity/business/generation/>.

**DRAWING PACKAGE CONTENTS**  
When equipment is installed on an existing structure, include a letter from a structural engineer indicating that the existing structure is sufficient to support the new loads associated with the additional weight and wind resistance (minimum 110 mph wind speed design).  
Structural plans designed and sealed by a Texas Professional Engineer for securing the panels to the existing structure, or to a new foundation or structure shall be submitted.  
Electrical solar panel work shall comply with NEC Article 690, and the panels shall comply with UL Standard 1703.  
At minimum, the following shall be indicated on the plans (including a site or roof plan) to be confirmed during inspection:

<input type="checkbox"/> Panel Layout	<input type="checkbox"/> Conductor Size & Type	<input type="checkbox"/> Disconnect Size & Type
<input type="checkbox"/> Mounting Structure & Anchors	<input type="checkbox"/> Conductor Insulation Type	<input type="checkbox"/> Inverter Size & Type
<input type="checkbox"/> Roof Penetrations	<input type="checkbox"/> Over Current Protection	<input type="checkbox"/> Battery(ies) Size & Type
<input type="checkbox"/> Grounding Points	<input type="checkbox"/> Charge Controllers	<input type="checkbox"/> One-Line Diagram

**INSPECTION PACKAGE CONTENTS**  
The manufacturer's installation manual and the permit drawings must remain on the jobsite at all times during the inspection process. The structural engineer must provide a [special inspection letter](#) certifying that the installation conforms to his/her design. This may be submitted to the Structural Inspection Office at 1002 Washington Avenue 4<sup>th</sup> Floor, Houston, TX 77002 in lieu of calling for a structural inspection to accept the letter (minimizing the inspections to electrical only). The inspection requirements for residential solar panels will be based on the approved plans, the manufacturer's installation manual, and the Houston Construction Code, **whichever is more restrictive**. Applicant shall provide access for inspectors to review the installation at all locations of the work.

**CONTACT INFORMATION**  
Structural Inspections – (832) 394-8840  
Electrical Inspections – (832) 394-8860  
For Plan Review Questions, please call (832) 394-8810

Form No: CE-1198 08/27/11 (832) 394-9000 Public Works & Engineering Page 1 of 1



# Regulations



Department of Public Works & Engineering  
Planning & Development Services Division



## RESIDENTIAL SOLAR PANEL PERMIT & INSPECTION GUIDE

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### PERMIT REQUIREMENTS

A [Building](#) permit and a single trade [Electrical](#) permit are required for the installation. A licensed electrician will be required to pull the Electrical permit. As part of the permit application process, the owner will be required to sign a [Deed Restriction Affidavit](#) and have it notarized. Properties located in the Flood Plain will be subject to additional requirements. **Prior to application** verify your [deed restrictions](#) with your civic association or county real property records regarding the placement of solar panels on your property.

NOTE: In addition to City of Houston requirements, an application for interconnection to Center Point Energy for approval and subsequent inspection approval must be accomplished. For further information visit <http://www.centerpointenergy.com/services/electricity/business/generation/>.

# Regulations



## DRAWING PACKAGE CONTENTS

When equipment is installed on an existing structure, include a letter from a structural engineer indicating that the existing structure is sufficient to support the new loads associated with the additional weight and wind resistance (minimum 110 mph wind speed design).

Structural plans designed and sealed by a Texas Professional Engineer for securing the panels to the existing structure, or to a new foundation or structure shall be submitted.

Electrical solar panel work shall comply with NEC Article 690, and the panels shall comply with UL Standard 1703.

At minimum, the following shall be indicated on the plans (including a site or roof plan) to be confirmed during inspection:

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> Panel Layout                 | <input type="checkbox"/> Conductor Size & Type     | <input type="checkbox"/> Disconnect Size & Type   |
| <input type="checkbox"/> Mounting Structure & Anchors | <input type="checkbox"/> Conductor Insulation Type | <input type="checkbox"/> Inverter Size & Type     |
| <input type="checkbox"/> Roof Penetrations            | <input type="checkbox"/> Over Current Protection   | <input type="checkbox"/> Battery(ies) Size & Type |
| <input type="checkbox"/> Grounding Points             | <input type="checkbox"/> Charge Controllers        | <input type="checkbox"/> One-Line Diagram         |

# Regulations



## INSPECTION PACKAGE CONTENTS

The manufacturer's installation manual and the permit drawings must remain on the jobsite at all times during the inspection process. The structural engineer must provide a special inspection letter certifying that the installation conforms to his/her design. This may be submitted to the Structural Inspection Office at 1002 Washington Avenue 4<sup>th</sup> Floor, Houston, TX 77002 in lieu of calling for a structural inspection to accept the letter (minimizing the inspections to electrical only). The inspection requirements for residential solar panels will be based on the approved plans, the manufacturer's installation manual, and the Houston Construction Code, **whichever is more restrictive**. Applicant shall provide access for inspectors to review the installation at all locations of the work.

## CONTACT INFORMATION

Structural Inspections – (832) 394-8840

Electrical Inspections – (832) 394-8860

For Plan Review Questions, please call (832) 394-8810



# Regulations



## INSPECTION PACKAGE CONTENTS

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## CONTACT INFORMATION

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Electrical Inspections – (832) 394-8860

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# Regulations



A screenshot of the Houston Permitting Center website. The browser address bar shows "http://www.houstonpermittingcenter.org/code-enforcement.html". The page title is "Code Enforcement: Main Page - Houston Permitting Ce...". The main content area features a navigation menu with "Home", "I Want To", "Government", "Residents", "Business", "Departments", and "Vie...". Below the menu is a "Main Menu" with links to "Home", "About Us", "Visiting the HPC", "FAQs", and "Public Works Homepage". A large yellow arrow points from the "Code Enforcement Main Page" text on the right to the "Code Enforcement Main Page" link in the navigation menu. Another yellow arrow points from the "Permit Fee Schedule" text on the right to the "Permit Fee Schedule" link in the "QUICK LINKS" section. The "QUICK LINKS" section contains a table with links to "Forms &amp; Publications", "Online Permits", "Permit Fee Schedule", "News &amp; Events", and "Contact Us". Below this is the "OFFICE LOCATIONS" section, which includes the "Main Office" at 1002 Washington Ave. and "Satellite Offices" in Kingwood and Dacona. The "NEWS AND EVENTS" section contains several news items, including "NEW Increased Energy Provisions for Residential Structures - Effective 02/01/2013" and "Fee Increase - Effective 01/01/2013".

Code  
Enforcement  
Main Page

Permit Fee  
Schedule

# Regulations



The screenshot shows the City of Houston website interface. At the top, there is a navigation bar with links for Home, I Want To, Government, Residents, Business, Departments, Visitors, and En Espanol. Below this is a 'Main Menu' section with links to Home, About Us, Visiting the HPC, FAQs, and Public Works Homepage. The main content area displays the breadcrumb trail: 'You are here: Home > Code Enforcement Main Page > Permit Fee Schedule'. Below the breadcrumb, there is a header for Thomas Hosey, C.B.O., CASp, Senior Assistant Director - Building Official. The main text section is titled 'New Fees - Starting January 1, 2013 building inspection, plan review, licenses and...' and includes a sub-section for 'Permit applications that were submitted in complete for...' with a 'click here' link. A yellow arrow points to a link titled 'Code Enforcement's Permit Fee Schedule' in the list of links. Other links include 'Code Enforcement's Licenses, Annual, & Miscellaneous Pen...'. At the bottom of the page, there are sections for 'CitizensNet' (Would you like to receive periodic e-mails from the City of Houston on topics of interest to you and your neighborhood?) and 'Take Our Survey' (Rate Our Performance!).

## Permit Fee Schedule



# Regulations

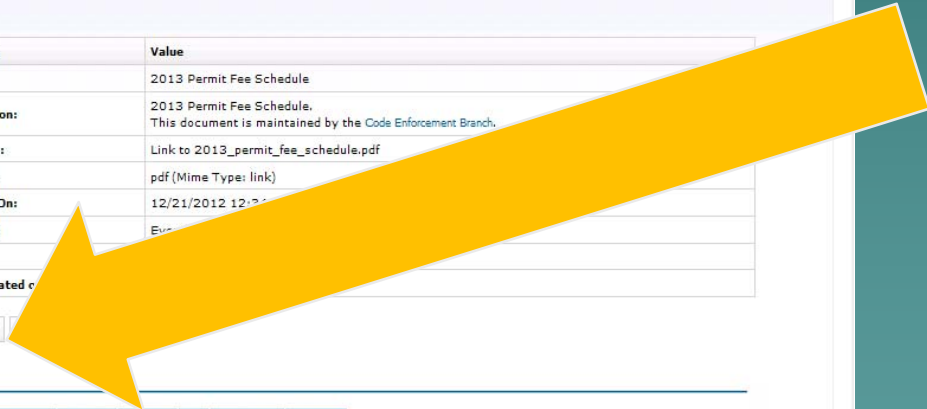


The screenshot shows the City of Houston website's document center. The breadcrumb trail indicates the path: Home > Document Center > 2013 Permit Fee Schedule. The main heading is "Details for 2013 Permit Fee Schedule". Below this is a table with the following data:

Property	Value
Name:	2013 Permit Fee Schedule
Description:	2013 Permit Fee Schedule. This document is maintained by the Code Enforcement Branch.
Filename:	Link to 2013_permit_fee_schedule.pdf
Filetype:	pdf (Mime Type: link)
Created On:	12/21/2012 12:21:00 PM
Viewers:	Everyone
Hits:	0
Last updated on:	12/21/2012 12:21:00 PM

Below the table is a "Download" button. At the bottom of the page, there is a footer with navigation links: Home | 311 Help & Info | En Espanol | Contact Us | FAQs | Privacy Policy | CitizensNet, and a copyright notice: © 2013 copyright, City of Houston. All Rights Reserved.

## Permit Fee Schedule



# Regulations



## 2013 CODE ENFORCEMENT'S PERMIT FEE SCHEDULE



NOTE: All permit fees are subject to the minimum and administrative fees.

VALUATION TABLE	
*Use this table to determine fees when noted in the fee schedule*	
Valuation (rounded to the nearest dollar)	Permit Fee (NOTE: The minimum permit fee is \$71.69)
\$0.01 - \$7,000	\$37.00
\$7,001 - \$150,000	\$37.00 for the first \$7,000 plus \$4.21 for every additional \$1000 in valuation or fraction thereof
\$150,001 - \$200,000	\$641.77 for the first \$150,000 plus \$3.96 for every additional \$1000 in valuation or fraction thereof
\$200,001 - \$300,000	\$840.01 for the first \$200,000 plus \$3.69 for every additional \$1000 in valuation or fraction thereof
\$300,001 - \$500,000	\$1,210.06 for the first \$300,000 plus \$3.43 for every additional \$1000 in valuation or fraction thereof
\$500,001 - \$1,000,000	\$1,897.31 for the first \$500,000 plus \$3.16 for every additional \$1000 in valuation or fraction thereof
\$1,000,001 - \$5,000,000	\$3,483.25 for the first \$1,000,000 plus \$2.89 for every additional \$1000 in valuation or fraction thereof
\$5,000,001 to \$50,000,000	\$15,113.51 for the first \$5,000,000 Plus \$1.57 for every additional \$1,000 in valuation or fraction thereof
\$50,000,001 and up	\$86,481 for the first \$50,000,000 Plus \$1.05 for every additional \$1,000 in valuation or fraction thereof

ADMINISTRATIVE & GENERAL PERMIT FEE SCHEDULE	
Description	Fee
Administrative fee	26.42
Minimum permit fee	71.69
Certificate of Occupancy	74.00
Temporary Certificate of Occupancy	74.00
Reinspection fee	74.00
Special requested inspections	253.74
Emergency inspections	158.58 - Min. 4 hours 37.00 - Ea. hour or portion thereof exceeding 4 hours
Inspections outside of jurisdiction	253.74 + the current standard mileage rate as published by the IRS.
Overtime inspections/plan reviews	253.74 - Min. 4 hours 66.07 - Ea. hour or portion thereof exceeding four hours
Name change	74.00
Address change	74.00
Duplicate job card	74.00
Investigation Fee (Unpermitted Construction - per occurrence)	262.52 Min. This fee is in addition to the permit fee.
Request for special approval, alternate method, interpretation or modification due to practical difficulty.	Standard Request - 42.28 Moderate Request - 105.72 Extensive Requests - 526.64, plus 132.15 each hour or fraction thereof exceeding 4 hours.

The building permit fee for remodels, alterations, and new structures is determined by valuation. Valuation is the total cost of construction to the owner, excluding the land cost.

Any building or part is located within a historic district designated by the jurisdiction, or for which designation as a landmark or part of a historic district is pending, shall receive a 50 percent discount on permit fees provided that a certificate of appropriateness issued pursuant to Chapter 33 of the City Code is submitted with the construction documents.

PLAN REVIEW FEES	
Description	Fee
Prefabricated buildings or modular buildings	See Valuation Table
Residential Master Plans	74.00
Deferred submittals, revisions	74.00 or 15% of the permit fee, whichever is greater
Manufactured Home Parks	74.00 - 15 spaces or less; Each additional space 2.10
Paving plan review for paving at a single family residential project with another project	74.00

Sidewalks	8.98 -Each additional 100 lineal ft
Driveways	37.00
Culvert pipes (not in driveways)	37.00 -First 100 lineal ft 8.98 -Each additional 100 lineal ft
Curb and Gutter	37.00 -First 100 lineal ft 8.98-Each additional 100 lineal ft

FENCES	
Description	Fee
First 100 lineal feet or part thereof	58.14
Each additional 100 lineal feet or part thereof	8.98

5 kW at  
\$4/W  
\$20K

\$71.69  
+26.42  
\$97.11

# Regulations

# Min. Fee



5 kW  
Between  
1-10 KVA

\$71.69  
+26.42  
\$97.11

PLUMBING FEES (continues)	
Description	Fee
Ground in plumbing for shell buildings 3,000 sq. ft. or less floor area	37.00
Each additional 1,000 sq. ft. or part thereof	16.90
Disconnect and plug main sewer connection	74.00
Tanks (not septic tanks) 0-1,000 gallons	74.00
1,001-6,000 gallons	89.86
6,001-15,000 gallons	111.01
15,001-30,000 gallons	158.58
Over 30,000 gallons	179.73
Medical gas	6.33 for each outlet, with a minimum fee of 71.69

SIGN FEES	
Description	Fee
Site inspection	76.56
Electrical inspection (install and final)	76.56
Reinspection fee (site, hole, and electrical)	76.56
Construction or reconstruction permit, the first 32 sq. ft. of one sign face or fraction thereof	76.56
Each sq. ft. of sign face or fraction thereof exceeding 32 sq. ft.	.44
Operating permit—on premise signs, the first 32 square feet of one sign face or fraction thereof	54.69
Each sq. ft. of sign face or fraction thereof exceeding 32 sq. ft.	.44
Operating permit - off premise signs that advertise the sale or rental of real property	109.38
Operating permit - off premise signs other than above	54.69
New registration and annual renewal of changeable message/high technology sign (per face)	76.56
Replacement of lost or damaged operating tag	76.56
Plan examination fee	76.56
Plan reexamination fee due to alteration of approved plan	76.56
New construction of a ground sign exceeding 14'	2.19 per foot over 14'
Impounding of signs	71.69
Storage fee of impound	10.24 per day

FIRE PROTECTION/ALARM FEES	
Description	Fee
Alarms, detectors, central station security testing:	
0-10 devices	71.69
11-25 devices	102.42
26-200 devices	153.63
Each additional device after the first 200	2.56
Electric Locks:	
First 2 floors	51.21
Each additional floor after the first 2 floors	15.36
Fire sprinkler system (any head or group of heads up to 25 that is regulated with a valve for any portion of a building)	76.81
Each additional head	3.58
Fire sprinkler system plan review, per head	1.79

ELECTRICAL FEES	
Description	Fee
Minimum Fee	71.69
Meter Loop and Service Up to and including 50kW	74.00
MLS 51kW - 250kW	79.29
MLS Over 250kW	84.57
Panels with eight or more circuits, each	7.39
Outlets, each	1.05
Fixtures, each	1.05
Range receptacle	3.69
Clothes dryer	3.69
Stove top	3.69
Oven	3.69
Garbage disposal	3.69
Dishwasher	3.69
Window air conditioner receptacle	3.69
Motors Up to and including 1 HP	74.00
Motors 1 HP through 10 HP	74.00
Motors over 10 HP	74.00
Over 10 HP (each additional HP over 10 HP)	74.00
Heaters/Generators Up to and including 10 kW	74.00
Heater/ Generators 1 - 10 kW	74.00
Heaters/Generators over 10 kW	74.00
Total kW over 10 kW (each additional kW)	1.42
Transformers Up to and including 1KV	3.16
Transformers 1 through 10 KVA	8.98
Transformers over 10 KVA	6.33
Total KVA over 10 KVA (each additional KVA over 10 KVA)	1.42
Shop inspection of incandescent electrical signs and gas or vacuum tube signs, 0-5 kVA	37.00
Each additional kVA or fraction thereof exceeding 5 kVA	8.44
Installation inspection of incandescent electrical signs and gas or vacuum tube signs, 0-5 kVA	37.00
Each additional kVA or fraction thereof exceeding 5 kVA	8.44
Streamers and festoon lighting per circuit, each	8.98
Ball park and parking lot light poles	74.00, 37.00 ea. additional pole
Temporary saw poles	74.00
Temporary cut-in made permanent	74.00
Temp. Installations (Saws, spray machines, etc)	26.95
Temp. Sound equipment	31.70
Temp. Lighting installations	26.95
Reconnection fee	74.00
Electrical Vehicle Charging Outlet, Level 1	74.00
Electrical Vehicle Charging Outlet, Level 2	79.29
Electrical Vehicle Charging Outlet, Level 3	84.57
NOTE: Plans required for Level 3	



# Regulations



## ONE-STOP'S PERMIT INFORMATION PACKAGE FOR RESIDENTIAL PROJECTS



*This package was prepared by the*  
Meet & Greet Office  
1002 Washington Avenue - 1<sup>st</sup> Floor  
Houston, TX 77002  
Phone: 832-394-9000

# Residential One-Stop



Department of Public Works & Engineering  
Planning & Development Services Division



## RESIDENTIAL ONE-STOP GUIDELINE

Follow the corresponding steps below to obtain a building permit for your specific residential project.

TYPE OF PROJECT	STEPS
<p>Additions, New Garages, New Carports, Garage Conversions, Detached Storage Buildings (Over 120 sq. ft.)</p> <p><b>Note:</b> Detached Storage buildings 120 sq. ft. or less do not require a building permit)</p>	<ol style="list-style-type: none"> <li>1. Complete the Residential Building Permit Application and the appropriate Deed Restriction Affidavit.</li> <li>2. Obtain a project number and have the affidavit notarized by the <i>Permits Section</i>.</li> <li>3. Proceed to the <i>Development Services (Planning) Section</i> for their review.</li> <li>4. Proceed to the <i>Flood Management Office</i> if the property is located in the floodplain.</li> <li>5. Proceed to the <i>Taps &amp; Meters Section</i> for their review if plumbing work is involved.</li> <li>6. Proceed to the <i>One-Stop Section</i> for plan review, if the project does not require detention, <b>OR</b> Submit the plans at the <i>Permits Section</i> for storm review, if the project requires detention,</li> </ol>
Remodels	<ol style="list-style-type: none"> <li>1. Complete the Residential Building Permit Application and the appropriate Deed Restriction Affidavit.</li> <li>2. Obtain a project number and have the affidavit notarized by the <i>Permits Section</i>.</li> <li>3. Proceed to the <i>Taps &amp; Meters Section</i> for their review (if there is plumbing work involved).</li> <li>4. Proceed to the <i>One-Stop Section</i> for plan review.</li> </ol>
Repairs	<ol style="list-style-type: none"> <li>1. Complete the Residential Building Permit Application and the Residential Repair Spec List (Form CE-1059)</li> <li>2. Obtain a project number from the <i>Permits Section</i>.</li> <li>3. Proceed to the <i>One-Stop Section</i> for review.</li> </ol>
<p><b>Fences</b> OVER 8 FT. IN HEIGHT Wood, metal and fences with over two feet (24") high masonry, brick or concrete require an Engineer's design for 110mph wind speed 8 FT. OR LESS Other than masonry or concrete do not need a building permit</p>	<ol style="list-style-type: none"> <li>1. Complete the Residential Building Permit Application and the appropriate Deed Restriction Affidavit.</li> <li>2. Obtain a project number and have the affidavit notarized by the <i>Permits Section</i>.</li> <li>3. Proceed to the <i>Development Services (Planning)</i> for their review. (If the fence will be located in front of property).</li> <li>4. Proceed to the <i>One-Stop Section</i> for plan review.</li> </ol>
Driveways/Sidewalks/Culverts	<ol style="list-style-type: none"> <li>1. Complete the Sidewalk-Driveway Curb &amp; Gutter Culvert Parking Lot Permit Application (Form CE-1023)</li> <li>2. Obtain a project number from the <i>Permits Section</i>.</li> <li>3. Proceed to the <i>Traffic &amp; Transportation Section</i> for review.</li> <li>4. Proceed to the <i>One-Stop Section</i> for plan review.</li> </ol>

# Centerpoint Energy



Required Steps - Windows Internet Explorer

http://www.centerpointelectric.com/cehe/res/windandsolar/requiredsteps centerpoint solar incentives

File Edit View Favorites Tools Help

Required Steps

**CenterPoint Energy** Electric Transmission & Distribution

Home | About Us | Residential | Business | Competitive Retailers | Smart Meters & Technology | Safety | Builder & Customer Support

Your Electric Usage  
Save Energy & Money  
Efficiency Programs  
Energy Star Homes  
Connect Solar & Wind  
▸ Required Steps  
▸ Application Guidelines  
▸ Application Package  
▸ Requirements  
▸ Incentives  
▸ Contact Us

### Required Steps

- 1. Customer submits application for interconnection**  
The application package should be sent to the address shown in the application. Information should include a [One Line Diagram](#) showing the relationship of the distributed generation (DG) unit tied into the electrical panel and the CenterPoint Energy meter location.
- 2. Review of application by CenterPoint Energy Distribution System Protection**  
Received applications and generation specifications will be reviewed by CenterPoint Energy's Distribution System Protection group (DSP). If additional information is required, DSP will contact the customer.
- 3. Approval for construction**  
After the application has been accepted and is deemed in compliance, the customer will be notified of the approval of the connection design for construction.
- 4. Field inspection for final tagging and approval**  
A field inspection will be required to ensure that the installation is built as planned prior to actual synchronization with the CenterPoint Energy grid. An interconnection agreement will be prepared, which must be signed by the customer prior to energization.

BIGGEST ENERGY SAVER CONTEST  
CenterPointEfficiency.com

Millionth smart meter press event  
Watch the video ▶



- Your Electric Usage
- Save Energy & Money
- Efficiency Programs
- Energy Star Homes
- Connect Solar & Wind
  - ▶ Required Steps
  - ▶ Application Guidelines
  - ▶ Application Package
  - ▶ Requirements
  - ▶ Incentives
  - ▶ Contact Us

### Application Guidelines

#### AVAILABILITY

CenterPoint Energy shall interconnect distributed generation (DG) as described in the (Public Utility Commission, or "Commission") [PUC Substantive Rules 25.211 and 25.212](#) pursuant to the terms of the standard form distributed generation interconnection agreement, which is Sheet No. 6.26 of the tariff.

#### APPLICATION

A person seeking interconnection and parallel operation of distributed generation with CenterPoint Energy must complete and submit the Application for Interconnection and Parallel Operation. Delivery Service is not provided for under this rate schedule but is available through the appropriate [Delivery Service Tariff](#).

#### TERMS AND CONDITIONS OF SERVICE

The terms and conditions under which interconnection of distributed generation is to be provided are contained in Commission Substantive Rules 25.211 and 25.212, which are incorporated herein by reference, and in the standard form Agreement for Interconnection and Parallel Operation of Distributed Generation, Sheet No. 6.26. The rules are subject to change from time to time as determined by the Commission, and such changes shall be automatically applicable hereto based upon the effective date of any Commission order or rule amendment.

#### STUDIES AND SERVICES

Pre-interconnection studies may be required and conducted by CenterPoint Energy. Other services may be provided as required by the Distributed Generation customer and provided pursuant to negotiations and agreement by the customer and CenterPoint Energy and may be subject to approval by the Commission.

#### PRE-INTERCONNECTION STUDY FEE SCHEDULE

Pre-certified distributed generation units that are up to 500 kW that export not more than 15 percent of the total load on a single radial feeder and also contribute not more than 25 percent of the maximum potential short circuit current on a radial feeder are exempt from any pre-interconnection study fees. For all other DG applications, the study fees in the following table will apply.

Non-exporting	0 to 10 kW	10+ to 500 kW	500+ to 2000 kW	200+ to 10,000 kW
1. Pre-certified, not on network	\$0	\$0	\$650	\$845
2. Non pre-certified, not on network	\$312	\$503	\$1,210	\$1,405
3. Pre-certified, on network	\$272	\$640	\$1,680	\$1,875
4. Not pre-certified, on network	\$525	\$1,150	\$2,240	\$2,435

Exporting	0 to 10 kW	10+ to 500 kW	500+ to 2000 kW	200+ to 10,000 kW
1. Pre-certified, not on network	\$75	\$220	\$870	\$1,065
2. Non pre-certified, not on network	\$312	\$769	\$1,430	\$1,625
3. Pre-certified, on network	\$272	\$880	\$1,900	\$2,095
4. Not pre-certified, on network	\$495	\$1,370	\$2,460	\$2,655



# Energy Audits – Great Display



140 degree attic  
70 degree inside

R-38 (12") insulation  
Eave vent  
Ridge vent

# Energy Audits – Great Display



When you go up into your attic, can you see your 6" ceiling joists? Then you don't have enough insulation.....



# Next Green Building Tour



AN INVITATION FROM THE MAYOR'S OFFICE  
To the 2013 series

## GREEN BUILDING TOURS

Free and Open to the Public, in celebration of Earth Day

Friday, April 19, 2013 11:00 a.m. to 2:00 p.m.

Engineer led tour for Engineers: 11:30 a.m. and noon

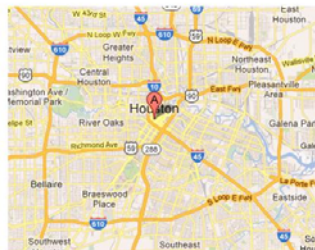
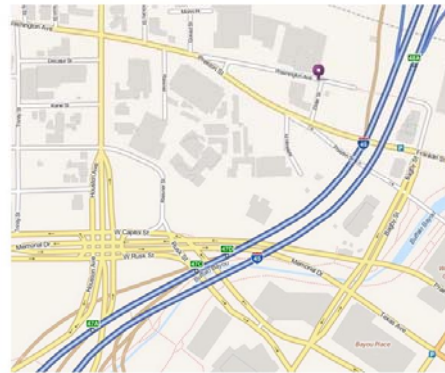
### The Houston Permitting Center

1002 Washington Avenue, Houston, Texas 77002

Certified by the US Green Building Council in 2012

LEED for New Construction – Gold level

Questions: [steve.stelzer@houstontx.gov](mailto:steve.stelzer@houstontx.gov) or (832) 394-9050



#### Directions to 1002 Washington Avenue

From Galleria travelling north on Loop 610, take I-10 Katy Freeway towards downtown. After 6.2 mi, merge toward Downtown via Exit 11. Take Exit 769A Downtown Destinations/Smith St. Turn slight right onto Franklin Street, drive 0.5 mi. under I-45 and turn right on Elder Street. Enter directly into HPC free parking lot or turn right on Washington then left into free parking.

## Houston Permitting Center

## Friday, April 19, 2013

## 11:00 am to 2:00 pm Free

# Green Event



## AIA Houston | GULF COAST GREEN

COMMITTEE ON THE ENVIRONMENT

### SPEAKERS



#### Annie Leonard

The co-director of The Story of Stuff Project, Leonard's cheeky videos give coherent explanations of the impacts of material production, consumption and disposal. The videos have been viewed 10+ million times, and even caught the attention of The Colbert Report. Her Gulf Coast Green presentation will be Preservation and Environmentally-friendly Consumerism.



#### Barbara Campagna, FAIA, LEED AP BD+C

The founder of BAC Architecture + Planning and will speak on the energy performance and sustainability of historic homes. She is a preservation architect and previously served as Chief Architect for The National Trust. She literally wrote the book - a Best Practices Manual for the Trust's National Historic Landmark sites - that has been adopted by organizations nationally.



#### Ellen Dunham-Jones, AIA

A Professor at Georgia Institute of Technology School of Architecture. She co-authored the book Retrofitting Suburbia; Urban Design Solutions for Redesigning Suburbs, which was noted in the Time Magazine 2009 cover story, "10 ideas changing the world right now." She also gave a popular TEDx talk on the subject and will revive it for the 2013 Gulf Coast Green conference.

### SPONSORS

#### PLATINUM

**Kirksey**  
ARCHITECTURE

#### GOLD

**Balfour Beatty**  
Construction

**Gensler**

#### SILVER

Asakura Robinson

Eco-Analyst Group

Mitsubishi Electric  
Cooling & Heating

Walter P Moore

### DETAILS

#### DATE

Thursday, May 2, 2013

#### REGISTRATION

7:30am

#### EVENT

8am-5pm

#### LOCATION

Julia Ideson Building  
550 McKinney  
Houston, TX 77002

#### PRICING

Early Bird:

\$180 AIA Member

\$220 General Admission

Full Price:

\$210 AIA Member

\$250 General Admission

At the Door:

\$225 AIA Member

\$275 General Admission

#### WEBSITE

[www.aiahouston.org/gcg](http://www.aiahouston.org/gcg)

# Julia Ideson Library

# Thursday, May 2, 2013

# News You Choose



## CitizensNet



Would you like to receive periodic emails from the City of Houston on topics of interest to you and your neighborhood? If so, please register with CitizensNet today.

[Register Now!](#)

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Stay in touch  
With your community

[www.houstontx.gov/  
citizensnet](http://www.houstontx.gov/citizensnet)