

NCTCOG and SECO Resources for Energy Management

NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS

JUNE 28, 2019



**North Central Texas
Council of Governments**

SECO Resources

About SECO

Mission Statement: To Increase the Efficient Use of Energy and Water While Protecting the Environment

Focus on Public Sector Facilities – Indirectly Benefitting Taxpayers

Support for Energy and Water Efficiency Project Implementation

- Education and Training
- Technical Assistance
- Project Financing

U.S. Department of Energy State-Level Program Conduit

- State Energy Program (SEP)
- Pantex/Waste Isolation Pilot Plant (WIPP)



SECO Support

Training/Education

- Energy Codes (Workshops & [Adoption Toolkit](#))
- WattWatchers

Technical Assistance

- Preliminary Energy Audits (K-12 & Local Governments)
- Virtual Energy Audits

Financing

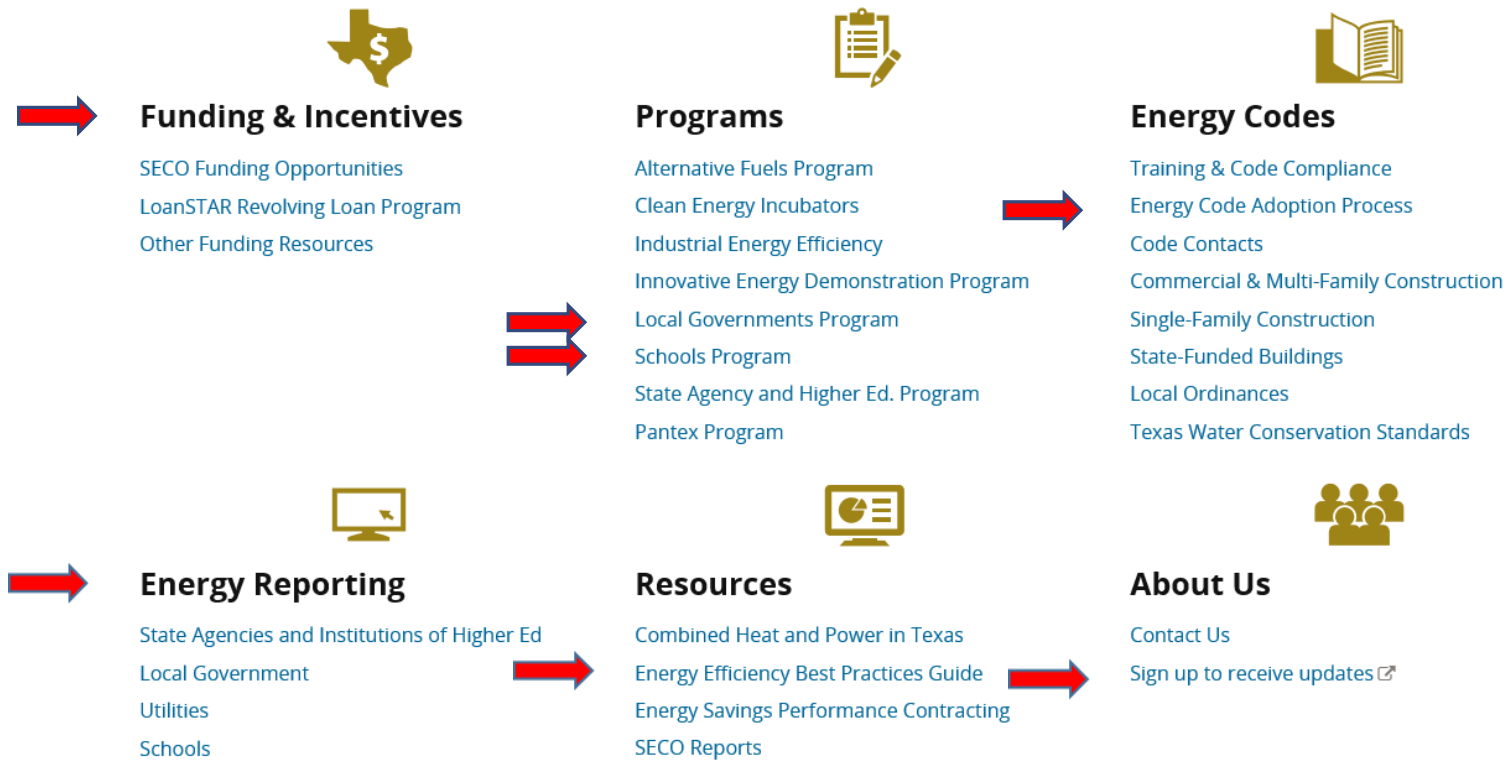
- LoanSTAR Revolving Loan Program
- Energy Savings Performance Contract Guidelines & Education

Programs



STATE ENERGY CONSERVATION OFFICE

SECO partners with Texas local governments, county governments, public K-12 schools, public institutions of higher education and state agencies, to reduce utility costs and maximize efficiency. SECO also adopts energy codes for single- family residential, commercial, and state-funded buildings.



LoanSTAR Revolving Loan

Finances Projects that Reduce Energy/Water/Utility Costs

- Simple Payback Period of 15 Years or Less
- 2% Loan Interest Rate; 1% if Choose ARRA Funds with More Reporting

Open Enrollment Through **August 30, 2019**

- Maximum \$8 Million Loan Per Application
- Maximum 3 Loans per Entity

Program Overview

https://www.youtube.com/watch?v=4IFuj_5ZeGI

Other Funding & Incentives

Database of State Incentives for Renewable Energy:

Local, Utility, State, Federal

www.dsireusa.org

DSIRE®



TEXAS DEPARTMENT OF AGRICULTURE
COMMISSIONER SID MILLER

Texas Department of Agriculture:

City Population < 50,000; County Population <200,000

Water / Wastewater infrastructure; Street / Drainage; Housing

Awards Range from \$75,000 - \$800,000

www.texasagriculture.gov/GrantsServices

Texas Water Development Board:

Financial Assistance Programs

Loans, Grants, Deferred Interest, Combination Grant/Loan

Political Subdivisions, non-Profit and Community Water Supply

Corporations, Private

www.twdb.texas.gov/financial/programs







NCTCOG Resources

2018 Recommended Codes and Regional Amendments

- The Regional Codes Coordinating Committee (RCCC) reviews International Codes and recommends regional amendments.
- Goal is to standardize model codes and recommend regional amendments for use throughout North Central Texas.
- Reduces municipalities cost of training code personnel; makes it easier for contractors, builders, and developers to work from city to city; and reduces overall construction costs.
- The 2018 Recommended Codes and Regional Amendments can be found at:
<https://www.nctcog.org/envir/regional-building-codes/amendments>

2018 Recommended Codes and Regional Amendments	Download Format
2018 International Building Code - Regional Amendments	[PDF] [Word]
• 2018 Approved Agency Documentation	[PDF] [Word]
• 2018 Final Report	[PDF] [Word]
• 2018 Statement of Required Special Inspections	[PDF] [Word]
• 2018 Special Inspections Program	[PDF] [Word]
2018 International Existing Building Code - Regional Amendments	[PDF] [Word]
2018 International Residential Code - Regional Amendments	[PDF] [Word]
2018 International Swimming Pool and Spa Code - Regional Amendments	[PDF] [Word]
2018 International Plumbing Code - Regional Amendments	[PDF] [Word]
2018 International Mechanical Code - Regional Amendments	[PDF] [Word]
2018 International Fuel Gas Code - Regional Amendments	[PDF] [Word]
2018 International Energy Conservation Code - Regional Amendments	[PDF] [Word]
2018 International Fire Code - Regional Amendments	[PDF] [Word]
2018 International Wildland Urban Interface Code Opinion Statement	[PDF] [Word]

Story Map of 2018 Regional Model Construction Codes Survey

2018 Regional Model Construction Code Survey A Story Map    

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Welcome to the web map of the 2018 Regional Model Construction Code Survey. Click through the maps at the top to see which versions of the International Codes have been adopted across the North Central Texas region as well as responses to other survey questions. Click on any city to see a summary of its responses.

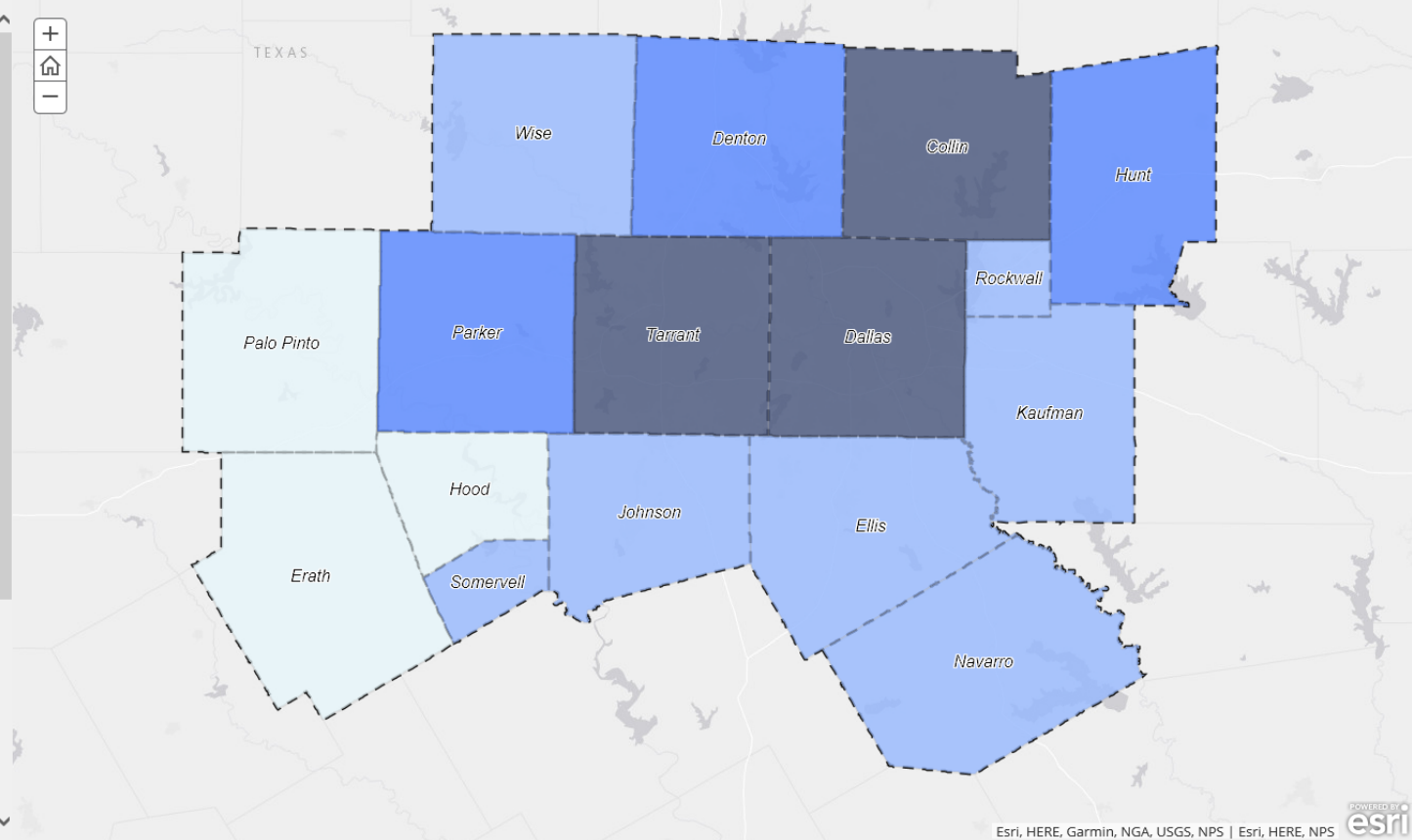
The data on these maps were collected by the [North Central Texas Council of Government's Environment & Development](#) department through an online survey. NCTCOG hosts the [Regional Codes Coordinating Committee \(RCCC\)](#), a committee composed of public and private sector code professionals with five code advisory boards that encourage the adoption of NCTCOG recommended model codes and regional amendments. The goal of the RCCC is to standardize the model codes used throughout North Central Texas.


A list of helpful abbreviations and references can be found below.

IBC: International Building Code
IFC: International Fire Code
IMC: International Mechanical Code
IPC: International Plumbing Code
IRC: International Residential Code
IECC: International Energy Conservation Code (The state-mandated code is the 2015 IECC.)
IFGC: International Fuel Gas Code
IEBC: International Existing Building Code
NEC: National Electrical Code (The state electrical code is the 2014 NEC.)
IGCC: International Green Construction Code

Survey Questions

- What is your city's code adoption schedule?
- When does your city anticipate adopting the 2018 International Codes?
- Is your city an Option A or Option B city according to the NCTCOG Amendments to the International Building Code and International Fire Code?
- When your city adopts codes, does your city typically utilize amendments as published by NCTCOG?
- Would your city like assistance with evaluating opportunities to adopt more current codes?



Esri, HERE, Garmin, NGA, USGS, NPS | Esri, HERE, NPS 

Regional Adoption of International Energy Conservation Code (IECC)

2018 Regional Model Construction Code Survey

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

International Energy Conservation Code (IECC)

According to the [State Energy Conservation Office \(SECO\)](#), "effective Nov. 1, 2016, SECO adopted the 2015 International Energy Conservation Code (IECC) for commercial, industrial and residential buildings taller than three stories. The code applies to R2, R3 and R4 residential buildings and excludes single and two-family residences of three stories or fewer above grade." For more information, click [here](#).

According to the South-central Partnership for Energy Efficiency as a Resource, "Texas is a 'home rule' state which allows for local jurisdictions to make local amendments to the energy code, so long as the change does not result in a less stringent code. To amend the state code in [non-attainment and affected counties](#), Energy Systems Laboratory (ESL) of Texas A&M University must first determine whether the amended code is as stringent as the existing state code." For more information, click [here](#).

In 2012, the US Environmental Protection Agency (EPA) designated ten counties (Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant and Wise Counties) in North Central Texas as nonattainment for the pollutant ozone in accordance with the 2008 8-hour ozone National Ambient Air Quality Standards (NAAQS). Nonattainment counties are defined as those that "do not meet (or that contribute to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for a NAAQS" ([US Environmental Protection Agency](#)).

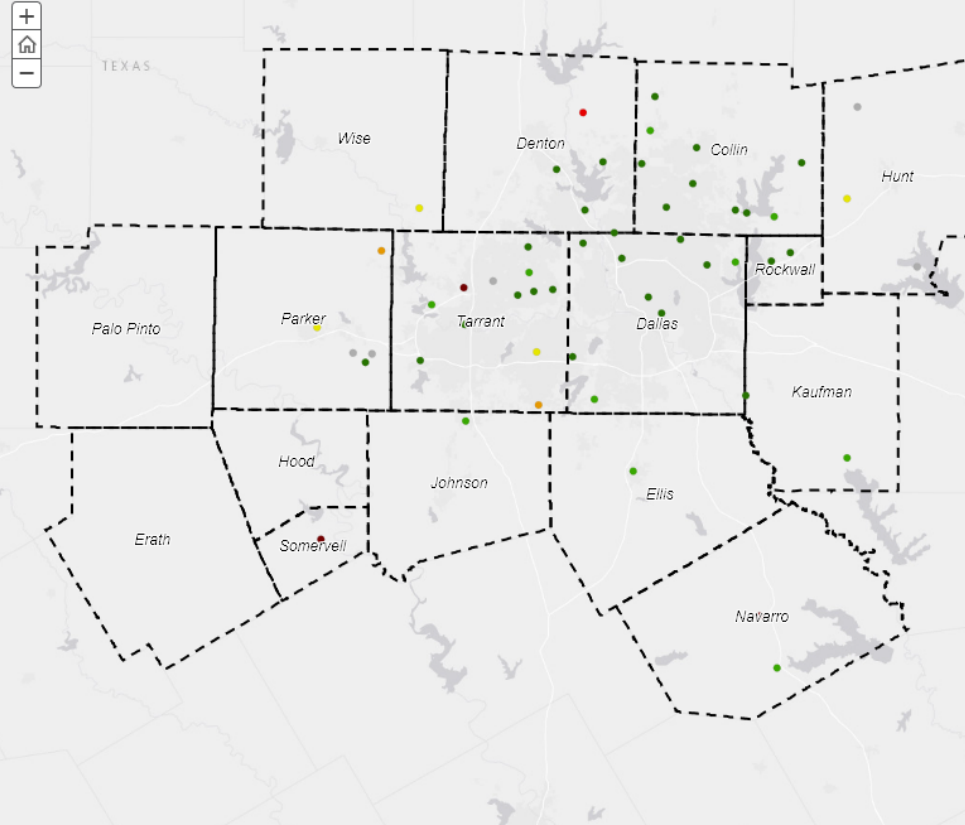
Affected counties are those designated as an "affected county" under the [Texas Health and Safety Code Chapter 396 - Texas Emissions Reduction Plan](#). In the North Central Texas region, the affected counties are Ellis, Hood, Hunt, Johnson, Kaufman, Parker, and Rockwall Counties.

Relevant Committee: NCTCOG hosts the Energy and Green Advisory Board (EGAB), which provides support and technical advice to NCTCOG's [Regional Codes Coordinating Committee \(RCCC\)](#) on a wide range of energy and green issues. Click [here](#) for more information on the EGAB.

International Energy Conservation Code (IECC)

- 2015
- 2012
- 2009
- 2006
- 2000
- Not Adopted
- No Response

NCTCOG Counties



Code History

Effective Dates	Codes
Prior to 1999	No mandatory statewide energy code.
Sept. 1, 2001 – March 31, 2011	2000 IECC (with 2001 supplement)
April 1, 2011 – Oct. 31, 2016	2009 IECC
Nov. 1, 2016	2015 IECC

Conserve North Texas

Clearinghouse of Energy Efficiency, Water Conservation, and Transportation Resources



Resource Types


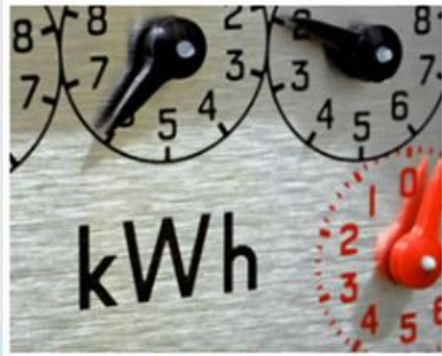

Programs

Tools

Calculators

Case Studies

www.conservenorthtexas.org

Topic		
		
Water	Energy	Fuel
Find resources to reduce water use and increase water conservation within the public and private sector.	Search resources that help reduce energy consumption and increase energy efficiency across all sectors.	Explore resources to reduce energy and fuel intensity within the transportation sector.

Conserve North Texas Resource: Preliminary Energy Assessments (PEAs)



★ **Preliminary Energy Assessments (PEAs)** are provided by the State Energy Conservation Office (SECO) and offer cost effective resource efficiency measures entities can implement to decrease energy consumption at **no cost to you!**

- Help guide the development of an energy management policy
- Provides facility benchmarking using ENERGY STAR Portfolio Manager
- Recommended maintenance procedures
- Develop efficiency level guidelines for equipment purchases

List of Preliminary Energy Assessments (PEAs) from Entities in the North Central Texas Region:

Cities:

- City of Richland – PEA 2007
- City of Rockwall – PEA 2010
- City of Fort Worth – PEA 2015
- City of Denton – PEA 2018

Water Districts:

- Tarrant Regional Water District – PEA 2010, PEA 2015
- Trinity River Authority – PEA 2015, PEA 2016
- City of Fort Worth Water Production – PEA 2016

Counties:

- Ellis County – PEA 2004

ISD's:

- Cedar Hill ISD – PEA 2009, PEA 2011
- Crowley ISD – PEA 2009
- Duncanville ISD – PEA 2009, PEA 2011
- Rains ISD – PEA 2009
- Allen ISD – PEA 2010

Find the full list of PEAs from entities in our region on Conserve North Texas [here!](#)

The image shows a 'Preliminary Energy Assessment Service Request Form' from the State Energy Conservation Office (SECO). The form is titled 'Form # SEP-032' and includes fields for 'Public Entity Name', 'Contact Person', 'Email Address', 'Street Address', 'City', 'State', and 'ZIP Code'. It also has a section for 'Principles of Agreement' with a bulleted list of terms, and 'Additional Questions' with three yes/no questions. At the bottom, there is a signature line and contact information for SECO: 'Submit completed forms to SECO at Stephen.Ross@cpa.texas.gov or by mail to: State Energy Conservation Office, Attn: Stephen Ross, 111 E. 17th Street, Austin, TX 78711-1440'. The SECO logo is in the top right corner.

Go Solar Texas

Texas-Specific Information about Solar

Key Resource Types

Best Management Practices

Cost Benefit Analysis

Trainings

Case Studies

Meeting-in-a-Box

www.gosolartexas.org



Go Solar Texas



Solar power is an emerging clean energy option that can positively impact North Texas' environment and save consumers money on their electric bills. Dallas-Fort Worth is a prime location for solar technology and its growth due to the region's climate and geography. Solar power can provide much of the needed electricity when electricity demand is highest - when it's hot and the sun is shining.

With proper implementation, solar energy will help to improve air quality.



Solar 101

Learn the basics about solar energy, terminology, and equipment.



Steps for Going Solar

Considering installing a solar energy system? Now what? Steps for Going Solar provides details on solar energy systems, costs, tools for determining if solar is right for your property, and more.



Solar-Ready Guidelines and Ordinances



2015 International Residential Code

Second Printing: Jan 2016

- ▶ APPENDIX N VENTING METHODS
- ▶ APPENDIX O AUTOMATIC VEHICULAR GATES
- ▶ APPENDIX P SIZING OF WATER PIPING SYSTEM
- ▶ APPENDIX Q RESERVED
- ▶ APPENDIX R LIGHT STRAW-CLAY CONSTRUCTION
- ▶ APPENDIX S STRAWBALE CONSTRUCTION
- ▶ APPENDIX T RECOMMENDED PROCEDURE FOR WORST-CASE TESTING OF ATMOSPHERIC VENTING SYSTEMS UNDER N1102.4 OR N1105 CONDITIONS \leq 5ACH 50
- ▶ **APPENDIX U SOLAR-READY PROVISIONS—DETACHED ONE- AND TWO-FAMILY DWELLINGS, MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES)**
- INDEX
- ▶ EDITORIAL CHANGES - SECOND PRINTING



FREE VIEW

BUY

2015 International Residential Code

(Second Printing: Jan 2016)

This title has multiple versions

Go Solar Texas Resources

Best Management Practices for Solar Installation Policy

Planning Improvements

Step 1, P, 3-A Building Code Improvements

Develop a solar-ready building checklist for new construction

A solar-ready building checklist is a document that provides guidance to building code officials and building officials on how to ensure that new construction is solar-ready. The checklist is a document that provides guidance to building code officials and building officials on how to ensure that new construction is solar-ready. The checklist is a document that provides guidance to building code officials and building officials on how to ensure that new construction is solar-ready.



Best Management Practices for Solar Installation Policy

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Develop a Solar-Ready Buildings Checklist for New Construction

This document is a white paper created by Solar Ready II to provide best management practices for developing a solar-ready buildings checklist for new construction and includes relevant examples.

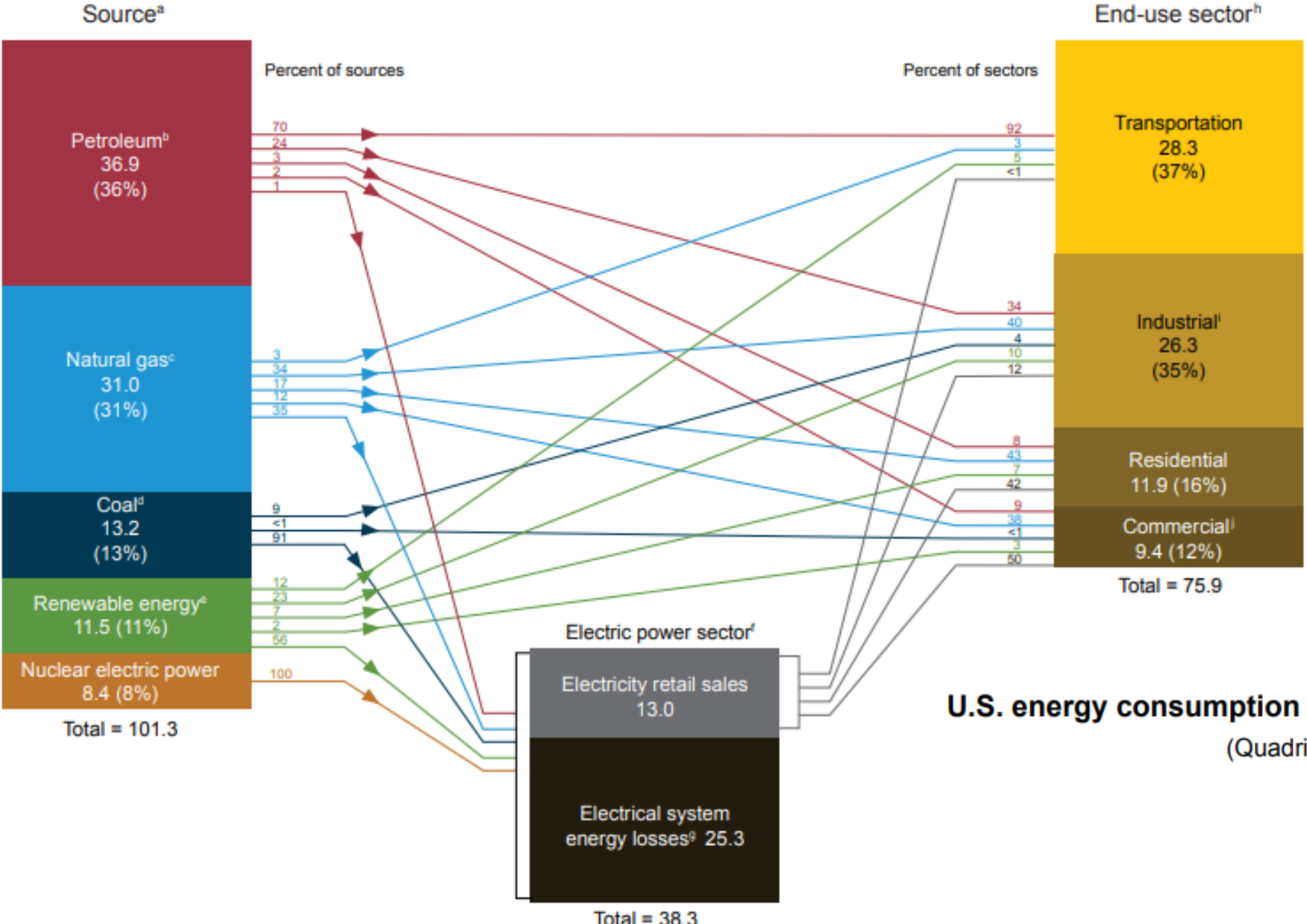
Model Ordinance Guidelines for Municipalities

The Model Ordinance Guidelines for Municipalities provide guidance for cities on best practices for the development of a solar ordinance. These guidelines are based on a series of roundtable discussions held by NCTCOG with planners, sustainability managers, building inspectors, and solar industry professionals from North Texas. See **page 31** for language specific to solar-ready construction.

Adopt a Solar-Ready Ordinance

This document is a white paper created by Solar Ready II to provide best management practices for adopting solar-ready ordinances or building codes to promote solar-ready construction and includes relevant examples.

Transportation as Part of the Energy Economy



Transportation Energy is 37% of Total Energy Consumption

U.S. energy consumption by source and sector, 2018
(Quadrillion Btu)

Source: https://www.eia.gov/totalenergy/data/monthly/pdf/flow/css_2018_energy.pdf

DFW Clean Cities – Transportation Efficiency

www.dfwcleancities.org

Fuel Switching
(Alternative Fuels)

Fuel Conservation
(e.g. Idle Reduction)



Energy Efficient
Mobility Systems

Fuel Economy

Electric Vehicle Infrastructure Projection Tool (EVI-Pro) Lite

U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy EERE Home | Programs & Offices | Consumer Information

Alternative Fuels Data Center

Search the AFDC SEARCH

FUELS & VEHICLES CONSERVE FUEL LOCATE STATIONS LAWS & INCENTIVES Maps & Data Case Studies Publications **Tools** About Home

EERE > AFDC > Tools [Printable Version](#)

Electric Vehicle Infrastructure Projection Tool (EVI-Pro) Lite

This tool provides a simple way to estimate how much electric vehicle charging you might need at a city- and state-level.

How Much Electric Vehicle Charging Do I Need in My Area?



Electric Vehicle Infrastructure Projection Tool (EVI-Pro) Lite
This tool provides a simple way to estimate how much electric vehicle charging you might need at a city- and state-level.

How Much Electric Vehicle Charging Do I Need in My Area?

State City/Area Vehicles Results Start Over

Choose a major urban area in Texas

Abilene	Amarillo
Austin	Beaumont
Brownsville	College Station–Bryan
Conroe–The Woodlands	Corpus Christi
Dallas–Fort Worth–Arlington	Denton–Lewisville
El Paso	Harlingen
Houston	Killeen
Lake Jackson–Angleton	Laredo
Longview	Lubbock

Your Results

In the Dallas–Fort Worth–Arlington area, to support 10,000 plug-in electric vehicles you would need:

- 223** Workplace Level 2 Charging Plugs
There are currently 665 plugs with an average of 2.2 plugs per charging station per the Department of Energy's [Alternative Fuels Data Center Station Locator](#).
- 178** Public Level 2 Charging Plugs
There are currently 665 plugs with an average of 2.2 plugs per charging station per the Department of Energy's [Alternative Fuels Data Center Station Locator](#).
- 32** Public DC Fast Charging Plugs
There are currently 109 plugs with an average of 3.5 plugs per charging station per the Department of Energy's [Alternative Fuels Data Center Station Locator](#).

Where Do I Start?

Planners may want to prioritize installation of fast charging infrastructure above Level 2 charging.

Build DC Fast First: Establishing fast charging networks that enable long-distance travel, serve as charging safety nets, and provide charging for drivers without home charging is critical to support all-electric vehicles that have no other alternative for quickly extending their driving range.

Build Level 2 Second: EVI-Pro typically simulates the majority of Level 2 charging demand coming from plug-in hybrid electric vehicles, which have the ability to use gasoline as necessary for quickly extending driving range.

Change Assumptions

Plug-in Electric Vehicles (as of 2016): 6,500
Light Duty Vehicles (as of 2016): 4,932,000
Number of vehicles to support:

Vehicle Mix

Plug-in Hybrids	20-mile electric range	<input type="text" value="15"/>	%
Plug-in Hybrids	50-mile electric range	<input type="text" value="35"/>	%
All-Electric Vehicles	100-mile electric range	<input type="text" value="15"/>	%
All-Electric Vehicles	250-mile electric range	<input type="text" value="35"/>	%
Total			100%

How much support do you want to provide for plug-in hybrid electric vehicles (PHEVs)?

Full Support
 Most PHEV drivers wouldn't need to use gasoline on a typical day.

Partial Support
 Calculate using half of full support assumption.

Do not count PHEVs in charging demand estimates.

Percent of drivers with access to home charging: %

[Recalculate](#)
[See all assumptions.](#)

<https://afdc.energy.gov/evi-pro-lite>

FOR MORE INFORMATION

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Lori Clark

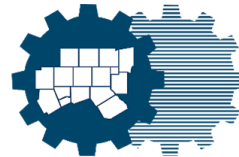
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<https://www.nctcog.org/envir/natural-resources/energy-efficiency>



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