TARC e-Learning: Leveraging COG Programs and Funding to Support Energy Management for Your Members

North Central Texas Council of Governments
January 22, 2020

Tamara Cook, AICP, Senior Program Manager – Environment & Development
Bailey Muller, Senior Air Quality Planner - Transportation
Dorothy Gilliam, Air Quality Planner - Transportation
We all have something in common...

Common Programs for Texas COGs

- Community and Economic Development
  Engaging in local partnerships to keep Texas communities vibrant.
- Criminal Justice
  Helping local communities and first responders coordinate resources and training.
- Emergency Communications
  Strengthening regional 9-1-1 systems to keep Texans safe.
- Emergency Preparedness
  Assisting regions and their communities with all-hazards planning, mitigation, response and recovery efforts.
- Financial Transparency and Reports
- Health and Human Services
  Ensuring local access to community support and services for older adults, people with disabilities and caregivers.
- Municipal Solid Waste
  Utilizing regional goals and waste diversion resources to coordinate projects that benefit health and safety.

And many more for some COG’s...
Image Credit: NASA

https://www.nasa.gov/image-feature/brilliance-at-night-the-americas-in-darkness
Texas Energy Consumption in 2014: ~ 12797 Trillion BTU

Source: LLNL August, 2014. Data is based on DOE/EIA EGIDS (2014). If this information or a reproduction of it is used, credit must be given to the Lawrence Livermore National Laboratory and the Department of Energy, under whose auspices the work was performed. Distributed electricity represents only retail electricity sales and does not include self-generation. EIA reports consumption of renewable resources (i.e., hydro, wind, geothermal and solar) for electricity in BTU-equivalent values by assuming a typical fossil fuel plant heat rate. The efficiency of electricity production is calculated as the total retail electricity delivered divided by the primary energy input into electricity generation. End use efficiency is estimated as 66% for the residential sector, 46% for the commercial sector, 46% for the industrial sector, and 21% for the transportation sector. Totals may not equal sum of components due to independent rounding. LLNL-MA-110527
Texas produces more electricity than any other state

Texas leads the nation in wind-powered generation and produced one-fourth of all the U.S. wind powered electricity in 2017

Texas is the largest energy-producing state and the largest energy-consuming state in the nation

Source: Energy Information Administration, State Energy Data System

Last Updated: February 21, 2019
Importance of Energy Management
Why is NCTCOG focused on Energy Management?

• Improve Air Quality
• Increase Local Energy Reliability
• Facilitate Local Government Efforts
• Provide Consistency Among Region
• Reduce Costs (for everyone)
• You Can’t Manage What you Don’t Measure
• Energy Management is Important to Our Members

Electricity demand hit an all-time high of 74,531 megawatts as people blasted their air conditioners on Monday afternoon and totaled 74,310 megawatts at 4:34 p.m. local time Tuesday, according to ERCOT.

Temperatures peaked at 103 degrees.

“Extreme heat across the ERCOT region will continue to result in high loads,” ERCOT said in a statement. “We may set another new record today.”
Threats – Cyber Attacks

SECURITY

Experts assess damage after first cyberattack on U.S. grid

Blake Sobczak, E&E News reporter

Energywire: Monday, May 6, 2019

Reports of an unprecedented grid “cyber event” caused a stir last week in power sector and cybersecurity circles.

Ian Mullet/Flickr

Last week, the U.S. power sector marked a sober milestone: an anonymous Western utility became the first to report a malicious “cyber event” that disrupted grid operations.

The hack itself occurred two months ago, on March 5, when a “denial-of-service” attack disabled Cisco Adaptive Security Appliance devices ringing power grid control systems in Utah, Wyoming

Hackers taking down the U.S. electricity grid may sound like a plot ripped from a Bruce Willis action movie, but the Department of Homeland Security has recently disclosed new details about the extent to which Russia has infiltrated “critical infrastructure” like American power plants, water facilities and gas pipelines.

This hacking is similar to the 2015 and 2016 attacks on Ukraine’s grid. While DHS has raised the number of the Russian utility-hacking

Benefits of Reducing Energy Consumption

Financial

• Energy Star certified office buildings cost $0.50 less per square foot to operate than their peers**
• For every $1 invested in energy efficiency, avoids $2 spent on the energy supply
• Resulting energy savings can increase available capital

Environmental

• Reduce emissions and improve indoor and outdoor air quality
• Smooth out energy demand by reducing peak load demand and facilitating renewable sources onto the grid
• 1 CFL bulb in every American house = emissions reductions equivalent to taking 800,000 cars off the road*

Health

• Reducing energy consumption decreases the need to burn fossil fuels to generate electricity, resulting in huge health benefits. This is because pollutants from fossil fuel combustion contribute to four of the leading causes of death in the U.S. (cancer, chronic lower respiratory diseases, heart disease and stroke)

Supporting Reduction of Energy Consumption in Your Region
What services can COG/RPC offer?

- Encourage Adoption of Latest Building Codes
- Encourage Members to Consider Energy in Emergency Preparedness and Recovery Activities
- Consider Underutilized Land in City/County/Region
- Encourage Cities to Complete SECO Local Government Energy Report
- Encourage Cities to Adopt Texas - Property Assessed Clean Energy (PACE) Program
- Utilize NCTCOG Resources and Partner Organizations to Improve Energy Conservation
Encourage Adoption of Latest Building Codes
Why Energy Codes Matter

In the U.S. **buildings** use...

- **40%** of total energy
- **70%** of total electricity

**Building Energy Codes Matter** because they...

✓ Reduce need for power plants, transmission lines, and pipelines = slows rate increases
✓ Reduce Pollution and Increase Reliability
✓ Make a Cost-Effective Investment
✓ Improve Long-term Sustainability
✓ Provide Quality, Comfort, and Health
✓ Save on Insurance Premiums

And account for **40%** of emissions

Source: http://bcapcodes.org/getting-started/why-energy-codes-matter/eepartnership.org/brocodes/
Existing State-Wide Energy Codes

Texas law currently requires the following state energy codes for new buildings or significant upgrades to existing buildings.

- **Residential (Single Family Residences and Duplexes)** – the 2015 IRC, Chapter 11.
- **Commercial and Residential (Excluding Single-Family Residences)** – the 2015 IECC
- **State-Funded Residential Buildings** – the 2015 IECC
- **State-Funded Commercial Buildings** – the ASHRAE 90.1 – 2013

Energy and Building Code Resources

NCTCOG’s Recommended Codes and Regional Amendments

SPEER Texas Energy Code Adoption Toolkit

https://www.nctcog.org/envir/regional-building-codes/amendments

https://eepartnership.org/btocodes/ and
https://eepartnership.org/program-areas/bto/
Encourage Members to Consider Energy in Emergency Preparedness and Recovery Activities
Threats - Heat

Urban Heat Island Effect

“The ramifications of urban heat adversely affect public health, longevity of infrastructure, public opinion, and our economy. With rising temperatures come higher costs for energy and a threat to our energy supply.”

- Dallas Urban Heat Island Mitigation Study Website

Planning a Resilient Power Sector

- The power system is at risk from an array of natural, technological, and man-made threats that can cause everything from power interruption to chronic undersupply.
  - **Natural**: long-term climatic changes, such as variations in precipitation patterns and changes in air and water temperatures, as well as severe weather events, such as storms, flooding, and storm surges
  - **Technological**: unpredicted equipment and infrastructure failures
  - **Human-caused**: Accidents and malicious events

- Impacts from these threats include, but are not limited to:
  - Potential fuel supply shortages for transportation and energy generation,
  - Physical infrastructure damage (dam failure, faulty system equipment, etc.)
  - Shifts in energy demand
  - Disruption of electricity supply to the end user
  - System operations and targeting power control systems, generators, or critical data infrastructure

- It is critical for policymakers, planners, and system operators to safeguard their systems and plan for and invest in the improved resilience of the power sector
- Planning for power sector resilience can happen at different geographic scales (local, national, or regional) and should be incorporated into existing power sector planning and policies to ensure effectiveness

Source: https://www.nrel.gov/docs/fy19osti/73618.pdf
Energy Efficiency’s Role in Increasing Resilience

Energy efficiency can be a core strategy to reduce risks and enhance the resilience of the communities that energy systems serve.

### Table ES1. Resilience benefits of energy efficiency

<table>
<thead>
<tr>
<th>Benefit type</th>
<th>Energy efficiency outcome</th>
<th>Resilience benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency response and recovery</td>
<td>Reduced electric demand</td>
<td>Increased reliability during times of stress on electric system and increased ability to respond to system emergencies</td>
</tr>
<tr>
<td></td>
<td>Backup power supply from combined heat and power (CHP) and microgrids</td>
<td>Ability to maintain energy supply during emergency or disruption</td>
</tr>
<tr>
<td></td>
<td>Efficient buildings that maintain temperatures</td>
<td>Residents can shelter in place as long as buildings' structural integrity is maintained.</td>
</tr>
<tr>
<td></td>
<td>Multiple modes of transportation and efficient vehicles</td>
<td>Several travel options that can be used during evacuations and disruptions</td>
</tr>
<tr>
<td>Social and economic</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Local economic resources may stay in the community</td>
<td>Stronger local economy that is less susceptible to hazards and disruptions</td>
</tr>
<tr>
<td></td>
<td>Reduced exposure to energy price volatility</td>
<td>Economy is better positioned to manage energy price increases, and households and businesses are better able to plan for future.</td>
</tr>
<tr>
<td></td>
<td>Reduced spending on energy</td>
<td>Ability to spend income on other needs, increasing disposable income (especially important for low-income families)</td>
</tr>
<tr>
<td></td>
<td>Improved indoor air quality and emission of fewer local pollutants</td>
<td>Fewer public health stressors</td>
</tr>
<tr>
<td>Climate mitigation and adaptation</td>
<td>Reduced greenhouse gas emissions from power sector</td>
<td>Mitigation of climate change</td>
</tr>
<tr>
<td></td>
<td>Cost-effective efficiency investments</td>
<td>More leeway to maximize investment in resilient redundancy measures, including adaptation measures</td>
</tr>
</tbody>
</table>

### Table ES2. Energy efficiency measures that reduce vulnerability and increase capacity to cope

<table>
<thead>
<tr>
<th>Energy efficiency measure</th>
<th>Resilience implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHP</td>
<td>Provides backup power, allows facilities receiving backup power to double as shelter for displaced residents, reduces overall net emissions, and potentially increases cost savings</td>
</tr>
<tr>
<td>Microgrids</td>
<td>May disconnect from grid during power outage, maintaining power supply; allows facilities receiving backup power to double as shelter for displaced residents; reduces overall net emissions; and potentially increases cost savings</td>
</tr>
<tr>
<td>Transportation alternatives</td>
<td>Multiple transportation modes that can be used during evacuations and everyday disruptions</td>
</tr>
<tr>
<td>District energy systems</td>
<td>Provides heating, cooling, and electricity using local energy sources and reduces peak power demand through thermal energy storage</td>
</tr>
<tr>
<td>Utility energy efficiency programs</td>
<td>Increases reliability and reduces utility costs</td>
</tr>
<tr>
<td>Energy-efficient buildings</td>
<td>Allows residents/tenants to shelter in place longer, reduces annual energy spending, and reduces overall net emissions. Can help vulnerable populations avoid dangerous and occasionally life-threatening situations in which weather and economics present a dual threat</td>
</tr>
<tr>
<td>Green infrastructure</td>
<td>Reduces localized flooding due to storms, reduces energy demand, and reduces urban heat island (UHI) effect in cities and electricity demand</td>
</tr>
<tr>
<td>Cool roofs and surfaces</td>
<td>Reduces UHI effect and electricity demand and reduces overall net emissions</td>
</tr>
<tr>
<td>Transit-oriented development</td>
<td>Increases economic development opportunities; provides transportation cost savings and reduces impacts of price volatility; and may improve air quality</td>
</tr>
</tbody>
</table>

Source: [https://www.aceee.org/sites/default/files/publications/researchreports/u1508.pdf](https://www.aceee.org/sites/default/files/publications/researchreports/u1508.pdf)
Resiliency through Fuel Diversity

Benefits of **Fuel Diversity** in Emergency Operations

- Provides multiple options during a petroleum shortage event or any interruption in supply, enabling continuous vehicle use

- Decreases harmful exhaust emissions from traditional fuels

Pacific Gas & Electric’s (PG&E’s) Electric Vehicles: Value of Exporting Power

Electric vehicles offer a benefit no other alternative fuel can, the ability to export power and interact with the grid and or buildings. PG&E worked with vehicle manufacturers to develop plug-in hybrid trucks capable of exporting power.


PG&E truck powering a site at a Red Cross event in California.
Emergency Preparedness Planning Resources

https://www.nrel.gov/energy-solutions/resilient-systems.html

Part 1 Mitigating Natural Hazard Risks in the Energy Sector: Innovative Projects that Help Build Resilient Communities

https://aceee.org/blog/2018/04/how-energy-efficiency-can-boost

https://www.fema.gov/media-library/assets/videos/185075
Emergency Preparedness Planning Resources

https://www.solsmart.org/resources/issue-brief-solar-storage-a-guide-for-local-governments/

https://www.energy.gov/national-security-safety

https://www.harc.edu/work/CHP_TAP

https://www.energy.gov/eere/office-energy-efficiency-renewable-energy
Emergency Preparedness Planning Resources

Emergency Preparedness and the Energy Supply

Audience: This workshop is appropriate for energy managers, facility managers, personnel that manage electric contracts, and/or collect or report energy and water usage data.

Description: Disasters in power occur for a variety of reasons in North Central Texas. Natural and man-made hazards can lead to disruptions in electric services to local government facilities, residential, commercial, and industrial sectors. This workshop will explore ways local governments can better prepare for future disruptions by reducing their electric demand. By reducing demand on the grid through improvements in energy efficiency and implementation of technologies such as distribution generation and microgrids, local governments can improve their resilience to grid outages. Integrating energy efficiency into resilience planning will also be explored and resources for local governments to evaluate energy efficiency as a tool for resiliency will be provided. Additionally, integrating alternative fuel vehicle technology and infrastructure in emergency preparedness applications will also be discussed.

Speakers/Trainers: Gavin Dillingham - Houston Advanced Research Council
Jerry Looper - Denton Municipal Electric
Tom Carpenter - North Central Texas Council of Governments
Dorothy Gilliam - North Central Texas Council of Governments

Workshop Presentations:
- Agenda
- NCTCOG Workshop Introduction
- Practical Approaches to Keeping the Lights On with CHP Microgrids
- Emergency Response Plan Coordination
- Resources

Workshop Flyers & Handouts:
- SECO SB888 (82R) Reporting Form
- Energy Efficiency Reporting Requirements in Texas Matrix
- Free Technical Assistance Flyer
- Why Energy Use Matters
- The Energy-Resilient City Infographic
- Resilient Power Infrastructure and Technology Solutions
- Planning a Resilient Power Sector
- DOE Energy Efficiency and Distributed Generation for Resilience - Case Studies

http://conservenorthtexas.org/workshops-and-training-opportunities

http://gosolartexas.org/cost-benefit-analysis
Consider Underutilized Land in City/Region

<table>
<thead>
<tr>
<th>Topic</th>
<th>Description</th>
<th>Read more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community and Economic Development</td>
<td>Engaging in local partnerships to keep Texas communities vibrant.</td>
<td>Read more</td>
</tr>
<tr>
<td>Emergency Communications</td>
<td>Strengthening regional 9-1-1 systems to keep Texans safe.</td>
<td>Read more</td>
</tr>
<tr>
<td>Financial Transparency and Reports</td>
<td></td>
<td>Read more</td>
</tr>
<tr>
<td>Emergency Preparedness</td>
<td>Assisting regions and their communities with all-hazards planning, mitigation, response and recovery efforts.</td>
<td>Read more</td>
</tr>
<tr>
<td>Health and Human Services</td>
<td>Ensuring local access to community support and services for older adults, people with disabilities and caregivers.</td>
<td>Read more</td>
</tr>
<tr>
<td>Municipal Solid Waste</td>
<td>Utilizing regional goals and waste diversion resources to coordinate projects that benefit health and safety.</td>
<td>Read more</td>
</tr>
</tbody>
</table>
Using Underutilized Land for Energy Projects

3-in-1 RFP published by the Connecticut Materials Innovation and Recycling Authority (MIRA)

Waterbury Landfill
- 3 acre urban infill site
- Landfill closed in 2009
- Utility corridor adjacent to property

Shelton Landfill
- 60 acre urban infill site
- Landfill closed in 2001
- Showcase installation at Seaside Park

Ellington Landfill
- 38 acre rural site
- Landfill closed in 1998
- Surround by productive farmland

Underutilized Land Resources

EPA RE-Powering Mapping and Screening Tools

- EPA encourages renewable energy on already developed or degraded land instead of green space. The tool addresses the following types of sites:
  - Potentially Contaminated Sites (Superfund, Brownfield, RCRA, mine site)
  - Landfill (Municipal Solid Waste, Construction and Demolition or similar unit)
  - Underutilized (Abandoned parcels, parking lots, buffer zones)
  - Rooftop (Solar PV only; Commercial / Industrial roofs)

Source: https://www.epa.gov/re-powering/re-powering-mapping-and-screening-tools
Renewable Natural Gas (RNG)
- Renewable natural gas (RNG) is a term used to describe biogas that has been upgraded for use in place of fossil natural gas.
- Sources include municipal solid waste landfills, digesters at water resource recovery facilities (wastewater treatment plants), livestock farms, food production facilities and organic waste management operations.

As a substitute for natural gas, RNG has many end uses:
- in thermal applications,
- to generate electricity,
- for vehicle fuel or
- as a bio-product feedstock.

Source: https://www.epa.gov/lmop/renewable-natural-gas#rngmap

Landfill Methane Outreach Program (LMOP)
Underutilized Land Resources

Upcoming Webinar: Developing Solar on Brownfields
SolSmart; National Renewable Energy Laboratory; Electric Power Research Institute; Metropolitan Council; Stantec

https://www.solsmart.org/resources/upcoming-webinar-developing-solar-on-brownfields/

Putting Underutilized Land to Work for Solar
July 27, 2016
11:30 am - 12:30 pm
Sponsored by:
- North Central Texas Council of Governments
- CPS Energy
- SECO Energy Commission

www.GoSolarTexas.org

http://gosolartexas.org/2016/putting-underutilized-land-work-solar

Solar on Landfills or Other Underutilized Sites

Solor and energy storage applications can provide energy, capacity, shade, stability, recycling, and other benefits to local communities. The North Central Texas Council of Governments (NCTCOG), with support from the Texas State Energy Conservation Office (SECO), identified need for efficient approaches to evaluating solar and energy storage costs and benefits. This fact sheet, developed by Frontier Associate, presents information and analysis about one of these models and can help understand the potential for solar and energy storage applications in addressing these needs.

http://gosolartexas.org/cost-benefit-analysis
Encourage Cities to Complete SECO Local Government Energy Reporting
Section 388.005 (c) Texas Health and Safety Code

**Purpose:** Lower Local Government Energy Consumption

**Requirements:** Requires all political subdivisions, institutes of higher education, and state agencies in the 42 Ozone Nonattainment and Near Nonattainment Counties to establish a **goal of reducing electric consumption by at least 5% each state fiscal year for 7 years** beginning September 1, 2019 and to submit an annual report to the State Energy Conservation Office (SECO)

**Issues:** Lack of Awareness, Non-Compliance with Annual Reporting Requirement
SECO Local Government Energy Reporting

Who Reports?
The following entities in 42 Nonattainment or Near Nonattainment counties:
- Cities and Counties
- State Agencies
- Institutes of Higher Education

What’s Due:
Annual report to SECO recording the entity’s annual electric consumption (kWh) and the entity’s progress to meet the 5% energy reduction goal

EXTENDED DEADLINE: February 1, 2020
NCTCOG Regional Cities & Counties Who’ve Submitted Fiscal Year ‘19 Local Government Energy Reports to the State Energy Conservation Office (SECO)
Local Government Energy Reporting Resources to Increase Awareness

As part of a year-long project with funding from the State Energy Conservation Office (SECO), NCTCOG staff developed a series of deliverables to increase awareness and compliance to the state mandated energy reporting requirements of Section 388.005 (c) Texas Health and Safety Code.

The deliverables have been pulled together to create a “Local Government Energy Reporting: Toolkit” that Council of Governments (COGs) across Texas can utilize with the applicable entities.

Toolkit Items Include:

✓ “How-To” Document on Uploading Template Data to ENERGYSTAR Building Portfolio Manager
✓ Letter to Applicable Entities Regarding the Local Government Energy Reporting Requirements
✓ Template handout for COG’s willing to provide technical assistance to entities over the energy reporting requirements
✓ Informational handout highlighting SECO’s Preliminary Energy Assessment (PEA) Program
✓ Blank FY19 Energy Report Form Template

Toolkit can be found on our website: http://conservenorthtexas.org/item/local-government-energy-reporting-toolkit
Ozone Nonattainment or Near Nonattainment Counties in Texas Council of Governments (COGs)

Subject to the Local Government Energy Reporting Requirements

Bastrop  Hardin  Rockwall
Bexar     Harris  Rusk
Brazoria  Harrison San Patricio
Caldwell  Hays    Smith
Chambers  Henderson Tarrant
Collin    Hood    Travis
Comal     Hunt    Upshur
Dallas    Jefferson Waller
Denton    Johnson Williamson
El Paso   Kaufman Wilson
Ellis     Liberty
Fort Bend Montgomery
Galveston Nueces
Gregg     Orange
Guadalupe Parker

Legend
- Ozone NA or Near NA Counties
- Texas Council of Government Boundaries
Encourage Cities & Counties to Adopt the TX-PACE Program
Texas Property Assessed Clean Energy (TX PACE) Program

TX-PACE facilitates the use of private capital to finance water conservation, energy efficiency, resiliency, and distributed generation projects to eligible properties.

How It Works

A Building Owner:
- finds a contractor
- selects a project
- identifies a capital provider
- applies to PACE program

If the owner, building, and project all meet PACE requirements:
- the owner signs a contract with the PACE program, which places a senior lien on the property
- capital provider signs a contract with the county in exchange for the assessment payments
- the capital provider supplies funding
- contractors complete the project
- the PACE program bills assessments to the owner and forwards the payments to the capital provider

www.TexasPACEAuthority.org

Designated Texas PACE Districts

Counties
- Aransas
- Bastrop
- Bell
- Brazos
- Cameron
- Comal
- El Paso
- Fisher
- Fort Bend
- Galveston
- Hays
- Hidalgo
- Jefferson
- Medina
- McLennan
- Navarro
- Nueces
- Tarrant
- Tom Green
- Travis
- Willacy
- Williamson

Cities
- Amarillo
- Borger
- Cameron
- Corinth
- Dallas
- Farmers Branch
- Hondo
- Houston
- Jacinto City
- Johnson City
- Panhandle
- Princeton
- Prosper
- Rockdale

Source: Texas Pace Authority - https://www.texaspaceauthority.org/service-areas/
PACE Adoption Resources

NCTCOG Resources

- http://gosolartexas.org/2016/pace-financing

Programs

SECO

PROPERTY ASSESSED CLEAN ENERGY

The Property Assessed Clean Energy (PACE) program provides low-cost, long-term financing for water and energy efficiency and conservation improvements to commercial and industrial properties. In 2013, the Legislature passed Senate Bill 385 (83R) allowing municipalities and counties to work with commercial lenders and property owners to pursue improvements using property assessments as a secure repayment mechanism.

Under a PACE arrangement, private property owners evaluate measures that achieve energy savings and obtain financing, repaid as an assessment on the building. The assessment mechanism allows access to low-cost, long-term capital to finance improvements to the property. By eliminating upfront costs, extending financing and simplifying the transfer of repayment obligations to new owners upon sale, PACE overcomes challenges that have hindered building energy efficiency and related projects.

Tools for Establishing a PACE Program

The Houston Advanced Research Center (HARC) with the support of SECO and the Texas PACE Authority has produced several videos to help local governments establish a PACE program in their area:

- How to Establish a TX-PACE Program
- TX-PACE: An overview for Local Government Officials
- Picking up the TX-PACE: Texas Property Assessed Clean Energy Financing

https://comptroller.texas.gov/programs/seco/funding/pace.php
Use NCTCOG and Partner Resources to Connect and Train Local Governments

<table>
<thead>
<tr>
<th>Topic</th>
<th>Description</th>
<th>Read more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community and Economic Development</td>
<td>Engaging in local partnerships to keep Texas communities vibrant.</td>
<td>Read more</td>
</tr>
<tr>
<td>Criminal Justice</td>
<td>Helping local communities and first responders coordinate resources and training.</td>
<td></td>
</tr>
<tr>
<td>Emergency Communications</td>
<td>Strengthening regional 9-1-1 systems to keep Texans safe.</td>
<td>Read more</td>
</tr>
<tr>
<td>Emergency Preparedness</td>
<td>Assisting regions and their communities with all-hazards planning, mitigation, response and recovery efforts.</td>
<td>Read more</td>
</tr>
<tr>
<td>Financial Transparency and Reports</td>
<td></td>
<td>Read more</td>
</tr>
<tr>
<td>Health and Human Services</td>
<td>Ensuring local access to community support and services for older adults, people with disabilities and caregivers.</td>
<td>Read more</td>
</tr>
<tr>
<td>Municipal Solid Waste</td>
<td>Utilizing regional goals and waste diversion resources to coordinate projects that benefit health and safety.</td>
<td>Read more</td>
</tr>
</tbody>
</table>
Energy Related Newsletters

Access North Texas
Information about transit planning and coordination

Air North Texas Clean Air Mail
Air Pollution Action Day alerts and air quality tips, news and resources

Air Quality Funding Update
Current and upcoming air quality funding opportunities

Bicycle/Pedestrian Update
Information about bicycle and pedestrian planning, safety, projects, funding opportunities, and events

Clean Cities Newsflash
A monthly newsletter that provides information on alternative fuels and clean technology vehicle options

Clean School Bus Update
Information related to reducing emissions from the school bus fleet, including upcoming grant funding

Electric Vehicles North Texas (EVNT)
Updates on the EVNT program and announcements on news related to electric vehicles

Energy Management and Energy Efficiency
Emails related to energy, energy efficiency, and solar energy

Engine Off North Texas
Updates on regional developments related to vehicle idling including policies and campaigns, funding opportunities, success stories, and new regulations

News and Updates:
- 2019 Texas Energy Summit Outstanding Government Organization Award to NCTCOG
- Local Government Energy Reporting – Reminder and Update to Reporting
- Dallas Fort Worth Clean Cities Fleet Recognition Awards and Annual Survey
- North Texas Electric Vehicle (EV) Registration
- No-Cost Technical Assistance to Cities Interested in Achieving SolSmart Designation
- Notice of Loan Fund Availability for the LoanSTAR Program
- Texas GLO Mitigation Action Plan Released for Public Comment – Opportunity for Infrastructure and Planning Funding
- TXU Energy Urban Tree Farm and Education Center
- Estimating the Health Benefits per-Kilowatt Hour of Energy Efficiency and Renewable Energy

Texas-Specific Information about Solar

Key Resource Types

➢ Best Management Practices
➢ Cost Benefit Analysis
➢ Trainings
➢ Case Studies
➢ Meeting-in-a-Box

www.gosolartexas.org
Conserve North Texas

Clearinghouse of Energy Efficiency, Water Conservation, and Transportation Resources

Resource Types:
- Programs
- Tools
- Calculators
- Case Studies

www.conservenorthtexas.org
SolSmart Resources

What is SolSmart?
• Designation program for cities, counties and regional organizations across the country to be recognized for fostering the development of local solar markets

Resources Include:
☐ Webinars
☐ Toolkits
☐ Planning tools
☐ Permitting tools
☐ Construction codes
And much more!

www.solsmart.org

Source: https://www.solsmart.org/
Texas Metropolitan Planning Organizations (MPOs)

Source: https://www.texasmpos.org/texas-mpos/
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)

Dallas Fort Worth Clean Cities Coalition

- Created by the Department of Energy to Address the Requirements of the Energy Policy Act of 1992
- Part of a national network of nearly 100 coalitions
- To advance the nation’s economic, environmental, and energy security by working locally to advance affordable, domestic transportation fuels and technologies
- Partners with public and private fleets
- Alternative fuel neutral with primary focus on reducing ozone

www.dfwcleancities.org

One of four TX Coalitions!

- Austin
- Dallas-Fort Worth
- Houston-Galveston
- San Antonio
Federal Highways Administration: Alternative Fuel Corridors

- Network of alternative fueling and charging infrastructure along national highways system corridors
- Includes electric, hydrogen, compressed natural gas (CNG), liquefied natural gas (LNG), and propane

Source: https://www.fhwa.dot.gov/environment/alternative_fuel_corridors/

Data Downloaded from FHWA Website and AFDC Station Locator
Volkswagen Funding & Alternative Fuel Corridor Development

To prepare for light-duty zero emission vehicle (ZEV)* deployment across Texas, the Volkswagen Environmental Mitigation Trust Agreement includes a goal to fund ZEV infrastructure statewide.

The TCEQ will consider funding for charging infrastructure along major transportation corridors of Texas.

Filling EV Charging Gaps Can Support Economic Development!

Reach Out to Your Nearest Clean Cities Coalition!
Other Resources
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.

Funding & Incentives
- SECO Funding Opportunities
- LoanSTAR Revolving Loan Program
- Other Funding Resources

Programs
- Alternative Fuels Program
- Clean Energy Incubators
- Industrial Energy Efficiency
- Innovative Energy Demonstration Program
- Local Governments Program
- Schools Program
- State Agency and Higher Ed. Program
- Pantex Program
- Watt Watchers

Energy Codes
- Training & Code Compliance
- Energy Code Adoption Process
- Code Contacts
- Commercial & Multi-Family Construction
- Single-Family Construction
- State-Funded Buildings
- Local Ordinances
- Texas Water Conservation Standards

https://comptroller.texas.gov/programs/seco
The **State Energy Conservation Office (SECO)** provides **preliminary energy assessments (PEAs)** at no charge to municipal and county governments, ISDs, county hospitals, port authorities, major airports, public water authorities and municipally-owned utilities.

PEAs recommend **cost-effective resource efficiency measures** that could be implemented to reduce utility consumption or utility costs.

Encourage entities in your region to perform a PEA!

- **Cities**
  - City of Denton (2018)
  - City of Fort Worth (2015)
  - City of Rockwall (2010)
  - City of Richland (2007)

- **Water Districts**
  - Tarrant Regional Water District (2015)
  - Trinity River Authority (2016)
  - City of Fort Worth Water Production (2016)

- Ellis County (2004)
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, 2020**
- Maximum $8 Million Loan Per Application
- Maximum 3 Loans per Entity
**Other Funding & Incentives**

**Database of State Incentives for Renewable Energy:**
Local, Utility, State, Federal
[www.dsireusa.org](http://www.dsireusa.org)

**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](http://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](http://www.twdb.texas.gov/financial/programs)
FOR MORE INFORMATION

Tamara Cook
Senior Program Manager
Environment and Development Department
(817) 695-9221
tcook@nctcog.org

Bailey Muller
Senior Air Quality Planner
Transportation Department
(817) 695-9299

Dorothy Gilliam
Air Quality Planner
Transportation Department
(817) 704-5675

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