



Grants, Incentives, Tax Credits, and State Programs Funding

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POP QUIZ

How many public k-12 schools are in the US?

Over 90,000

What percentage require major upgrades?

Over 50% require major upgrades, according to the 2021 infrastructure report card

Source: [Education Statistics: Facts About American Schools \(edweek.org\)](https://www.edweek.org) & [Schools-2021.pdf \(infrastructurereportcard.org\)](https://www.infrastructurereportcard.org)

K-12 Statistics- Learning Environment

According to the US General Accounting Office (GAO), roughly **58% of schools in the US suffer from at least one unsatisfactory environment condition**, such as:

- Inadequate Ventilation
- Inadequate Light Level
- Poor Acoustics
- Other

Equipment Challenges

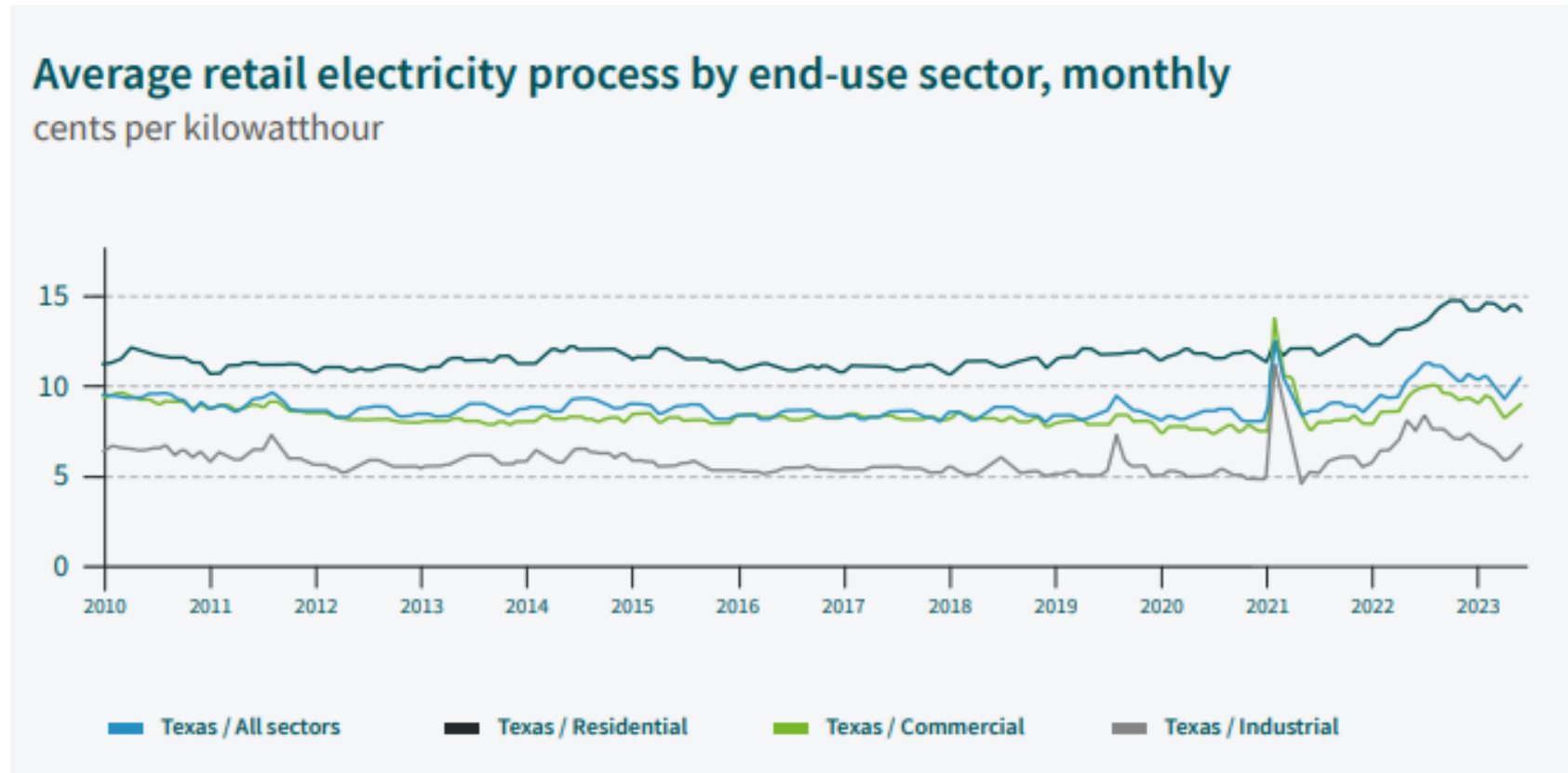
- Short-Staffed / Retention
- Deferred Maintenance
 - *Emergency Repair/Replacements Costs Can be Up to 4 Times Greater than Planned Improvements*
- Equipment Nearing End of Useful Life
- Safety / Security Concerns
- Compliance

Financing Challenges

- Insufficient Funding
- Rising Utility & Operational Costs



Energy Prices



Source: [United States - U.S. Energy Information Administration \(EIA\)](#)

K-12 Statistics- Capital Shortfall

\$85 billion annual shortfall

- Maintenance
- Capital Funding

Capital funding is **37%** lower in high-poverty districts

- Rural
- Minority Communities

Unprecedented Funding



Congress has Given DOE New Mandates and Unprecedented Funding



Source: US Department of Energy. SPEER Conference

Inflation Reduction Act (IRA)- Statistics

Power homes, businesses, and communities with cleaner energy by 2030, including:

- **950 million** solar panels
- **120,000** wind turbines
- **2,300** grid-scale battery plants

Bipartisan Infrastructure Law (BIL)

As of February 2024 , **\$30.6 billion** in Bipartisan Infrastructure Law funding has been announced and is headed to Texas with over **1020** specific projects identified

BIL- Texas

Clean Energy & Power: BIL invests in upgrading grid resilience and clean energy technologies.

Approximately \$3.2 billion has been allocated to Texas for clean energy, energy efficiency, and power. This includes:

- \$173.2 million for weatherization;
- \$33.1 million through the State Energy Program;
- **\$29 million** through the **Energy Efficiency and Conservation Block Grant Program**
- \$118.9 million to prevent outages and make the power grid more resilient.

Efficient Light Sources (LEDs)





STATE & COMMUNITY ENERGY PROGRAMS

EECBG Program

State of Texas allocation: \$4,848,610
Local government allocation: \$24,102,500
105 local governments are eligible for funds in TX

- **Objective:** Achieve 100% clean energy economy & net-zero emissions by 2050.
- **Funding:** \$550 million allocated.
- **Goals:**
 - Cut Carbon Emissions
 - Improve Energy Efficiency
 - Reduce Energy Use
- **Requirement:** Submit Energy Efficiency and Conservation Strategy to DOE.
- **Deadline for Applications:** October 31, 2024

EECBG Equipment Categories

Retrofit Technologies

- HVAC Equipment
- Water Heater Equipment
- Weatherization Materials
- Efficient Light Sources (LEDs)

- Renewable Energy Technologies
- Metering Equipment
- Micromobility Equipment
- Alternative Fuel Vehicles
- EV Charging Stations

City of Pasadena TX

Energy Efficiency and Conservation Block Grant utilized to supplement their Capital Improvement Plan.

LED Retrofit Lighting:

- Park
- Highway
- Central Library

Allocation
Amount

\$191,680

County

Harris

CITY HA



City of DeSoto TX

\$114,480 in Energy Efficiency and Conservation Block Grant (EECBG)

+

\$230,000 in Community Development Block Grant (CDBG) funds.

LED Lighting Retrofit:

- Senior Center
- Town Hall

Objective:

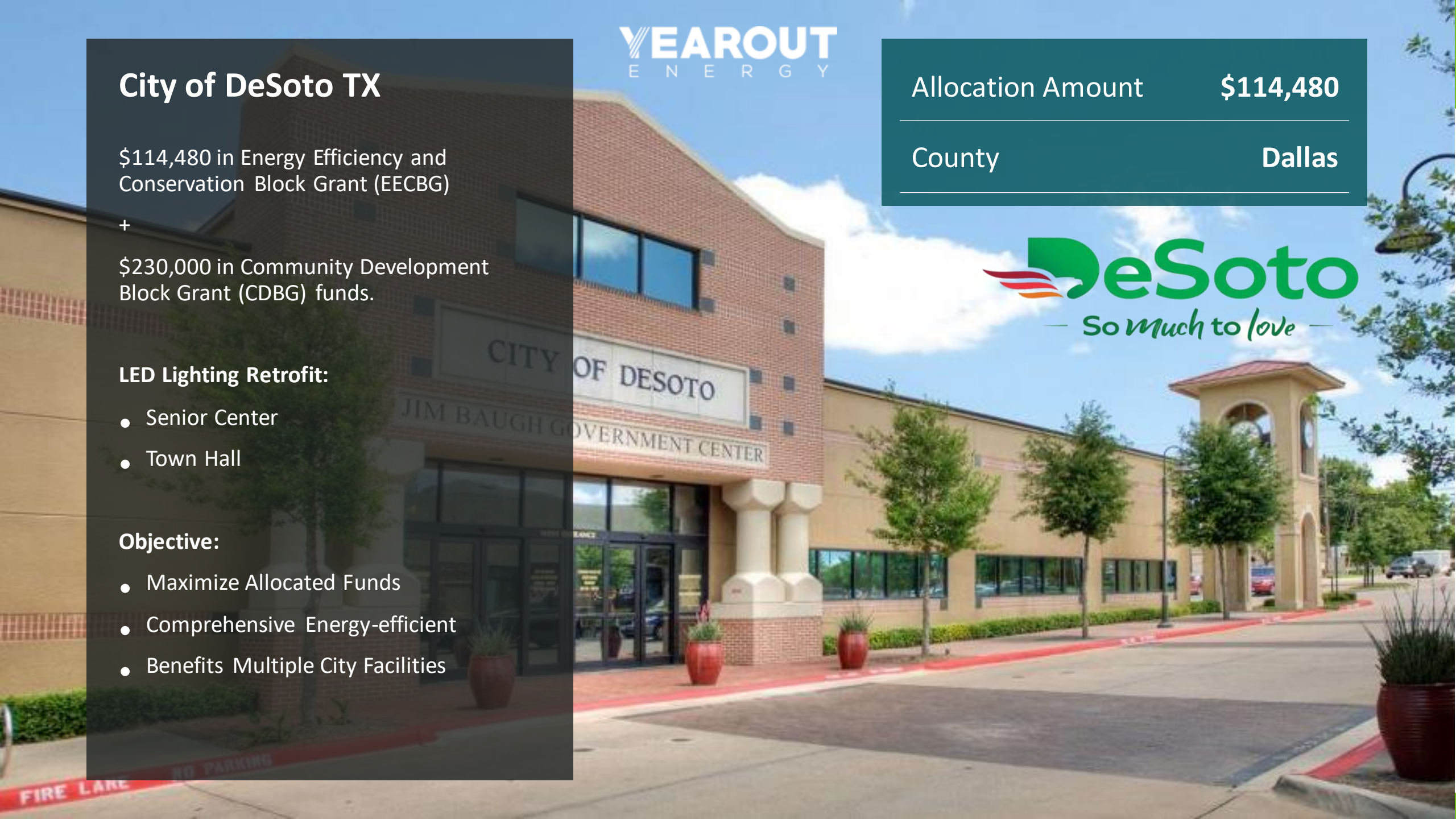
- Maximize Allocated Funds
- Comprehensive Energy-efficient
- Benefits Multiple City Facilities

Allocation Amount

\$114,480

County

Dallas





SECO – K-12 Lighting

Total Grant Funding: **\$3,000,000**

Maximum Reimbursable Grant Amount: **\$100,000**

Eligibility: Texas Public Independent School Districts

Scope: It is a reimbursable grant aimed at retrofitting interior and exterior lighting with energy-efficient LED lighting systems

Application Deadline: December 18, 2023

Rio Vista ISD, TX

SECO – K-12 Lighting Grant utilized to upgrade to LED lighting in Middle School.

LED Lighting Retrofit

- 70% More Efficient
- 148 Fixtures
- Lighting Controls

Award Amount **\$100,000**

Award Date **2/21/2024**

Facility **Middle School**



HVAC Equipment and Controls





LoanSTAR Revolving Loan Program

- Maximum loan size per application: **\$6 million**
 - For loans funded with repaid American Recovery & Reinvestment Act (ARRA) funds, the minimum loan size is \$3 million.
- Maximum number of loans for this solicitation: one per applicant
- Loan interest rate: **2.5% annually (1.5% for ARRA funds)**
- 15-year maximum loan term
- Borrower must own and occupy the facility where the proposed retrofit project will occur.
- Simple Payback Requirements – individual facility improvement measures shall be less than or equal to its useful life.
 - However, overall loan simple payback for the composite project shall be less than or equal to 15 years.
 - Borrowers have the option of contributing a different source of money to help the composite project meet eligibility.

Application Deadline – 8.30.2024

LoneSTAR Buydown Options

• **BUYDOWNS – COMPOSITE PROJECT** If the simple payback for the composite project is greater than 15 years, applicants can furnish their own funds (buydown) to the project to reduce the composite simple payback to 15 years. The maximum buydown amount that can be applied is less than 50 percent of the overall loan.

• **BUYDOWNS – INDIVIDUAL MEASURE** A buydown can be applied to a simple payback of a FIM that does not currently meet the simple payback requirements. The maximum buydown amount must be less than 50 percent of the FIM cost.

Example

Lighting Upgrade		Lighting Upgrade W/ Buydown	
Cost	\$100	Cost	\$100
Annual Energy Savings	\$5	Owner's Buydown	\$40
Estimated Useful Life	12	Annual Energy Savings	\$5
Simple Payback	20	Simple Payback	12

Bryan ISD

SECO – LoanSTAR Revolving Loan utilized for the following Facility Improvement Measures:

EMS Optimization

- Cost - \$437,772
- Yearly Savings - \$39,599

Ventilation Control

- Cost - \$1,364,970
- Yearly Savings - \$195,537

Lighting Upgrades

- Cost - \$3,467,334
- Yearly Savings - \$412,313

Power Conditioning

- Cost - \$953,140
- Yearly Savings - \$116,459

Project Cost

\$6,421,852

Total Yr. 1 Savings

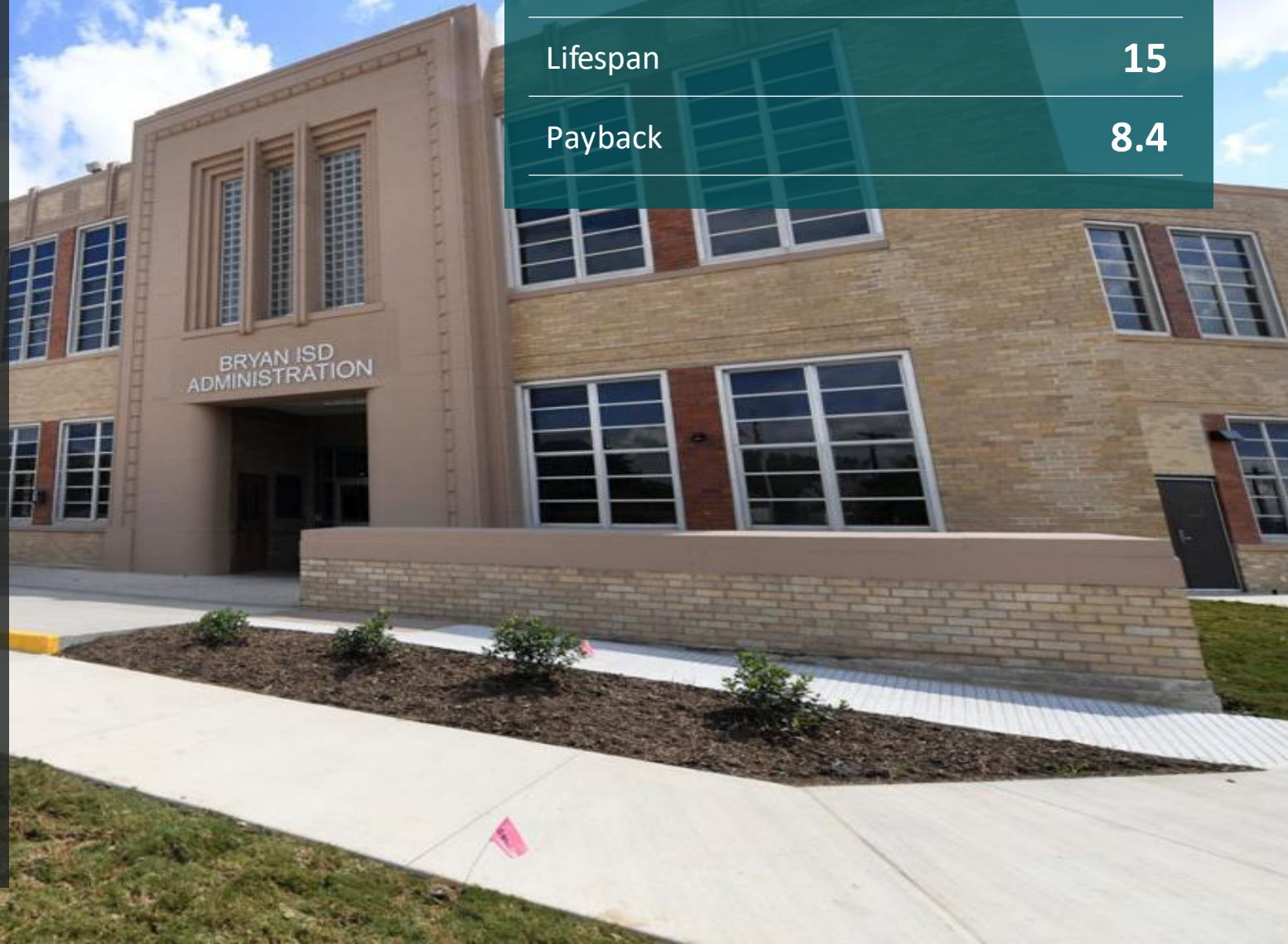
\$763,908

Lifespan

15

Payback

8.4



Demand Response Incentives

Demand Response Programs: Implemented by utilities to reduce electricity usage during peak demand. Rewards or benefits offered to users to encourage participation in energy-saving initiatives.

Program Duration	Notice Timeframe	Max Events/Year	Per kW Capacity
June 1 – Sept 30	30 Mins	25	\$73
June 1 – Sept 30	2 Hrs	25	\$70
June 1 – Sept 30	1 Hr	6	\$31
July 1 – Aug 31	2 Hrs	18	\$47



Northside ISD

CPS Energy Demand Response program

\$368,350 on November 14, 2023, for participation in the Demand response program.

Benefits:

- Reduced Energy Consumption
- Reduced Utility Cost
- Improved Grid Reliability

Incentive Amount

\$368,350

County

Bexar



Indoor Air Quality Grant

Eligible Entities – K-12 Schools

Total Estimated Funding - \$32,000,000

Total Awards – 4 to 6

Award Maximum - \$5,000,000 to \$8,000,000

Grant Activities

- IAQ and GHG Reduction Capacity
- Tribal IAQ and GHG Reduction
- IAQ and GHG Reduction Training and Education Campaign
- IAQ and GHG Reduction Research and Demonstration Project
- Deadline: **May 28, 2024**



Renewable Energy Technologies

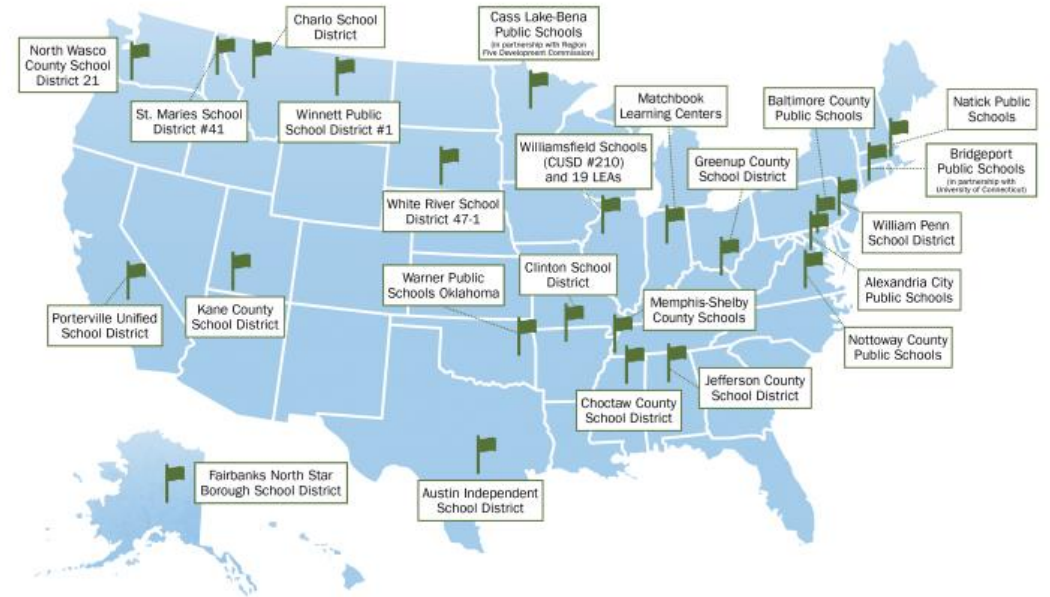
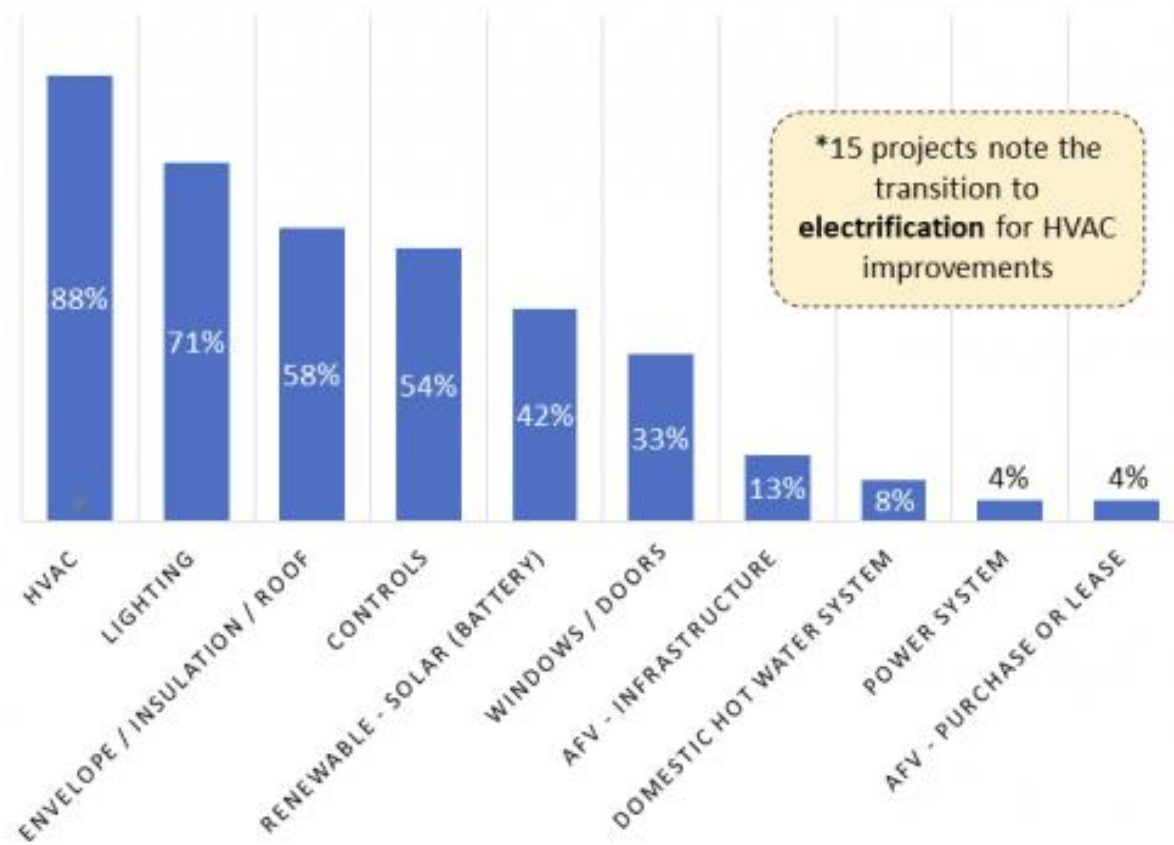


DOE Renew America's Schools Grant

- Between 2022 and 2026, the DOE will administer \$500M in grant funding made possible by the IRA and Jobs Act
- Prioritize high-need districts
- Eligible projects include energy infrastructure improvements that reduce building operating costs—like new HVAC and ventilation systems, building envelope and lighting projects, and **renewable energy** technologies. Funding is also available for alternative fueled vehicles and alternative fueled vehicle infrastructure.
- **June 13th, 2024**

DOE Renew America's Schools Grant

REQUESTED IMPROVEMENTS



Inflation Reduction Act (IRA)

Provides a 30%+ Direct Payment to tax-exempt entities for:

- **Investment Tax Credit for Energy Property** - Solar, wind, ground source heat pump, battery storage, thermal energy storage, combined heat and power
- **Qualified Commercial Vehicle Tax Credit** - Electric school buses, electric vans
- **Alternative Fuel Refueling Property Credit** - EV charging stations in low-income urban or non-urban areas

Additional incentives for:

- 10% for domestic content
- 10% for energy communities
- 10% Environmental Justice (Low Income)
- 10% Tribal

Cash Subsidy Amounts Haircuts

- **HAIRCUT** – Tax-exempt financing
- Benefits decreased by 15% for that portion of the project financed with tax-exempt financing (bonds, direct placement tax-exempt leases/loans)
 - 30% eligible project reduced to 25.5% ($30\% - 15\% = 25.5\%$)
 - 40% eligible project reduced to 34% ($40\% - 15\% = 34\%$)
 - 50% eligible project reduced to 42.5% ($50\% - 15\% = 42.5\%$)
- **POTENTIAL HAIRCUT** – Excess Proceeds
 - Cash subsidies might be limited if the owner receives certain grants and forgivable loans
 - Bottom line, no “free money” in excess of project costs

Diné College, AZ

Inflation Reduction Act was used for a 1 MW DC Solar Photovoltaic (PV) System Ground Mount.

Year-1 Guaranteed Generation :

- 1,552,510 kWh
- \$200,337

IRA 50% Incentive:

- 30% Base
- 10% Energy Community
- 10% Social Justice

YEAROUT
ENERGY

Expected Direct Payment

\$1.9M

Incentive (%)

50%

Solar Capacity

1 MW



Resiliency



EECBG Utilization

- Strategy Development
- Technical Consulting
- **Building Energy Audits**
- Energy Efficiency Retrofits
- Energy Efficiency and Conservation Programs for Buildings and Facilities
- Development and Implementation of Transportation Programs
- Building Codes and Inspections
- Energy Distribution Technology for Energy Efficiency
- Material Conservation Programs
- Reduction and Capture of Methane and Greenhouse Gases
- Traffic Signals and Street Lighting
- **Integration of Renewable Energy Technologies on Government Buildings**

Harris County

Energy Efficiency and Conservation Block Grant used on county properties in disadvantaged communities.

Facility Improvement Measures:

- Resilience at 12 Critical County Facilities
 - Solar Renewable Energy
 - Battery Storage
- Conduct Recycling Pilots at County Facilities
 - 2021 GHG: 1,145 MTCO₂
 - 2022 GHG: 1,196 MTCO₂
- Enhance Walking and Bicycling to Schools
- Solar EV Charging Station

Allocation
Amount

\$1,636,340

Climate Action Plan
Goal By 2030

40% Reduction



Alternative Fuel Vehicles & EV Charging Stations



Clean School Bus Program

\$5 billion over five years (FY 2022-2026)

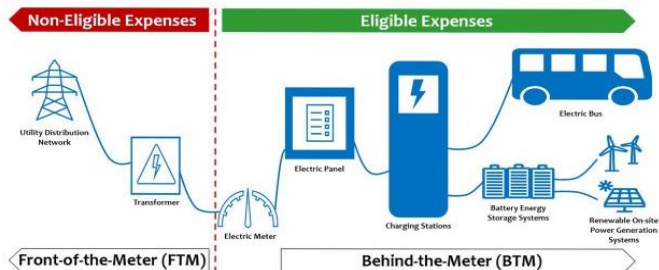


Keep an eye out for 2024 application Deadlines

Existing Bus Fuel Type	Replacement Bus Fuel Type		
	Propane	Compressed Natural Gas	Battery-Electric
2010 or Older Diesel Bus	✓	✓	✓
2011 or Newer Diesel Bus*	X	X	✓
Gasoline Powered Bus*	X	X	✓
Propane Bus*	X	X	✓
Compressed Natural Gas Bus*	X	X	✓

School District Prioritization Status	Replacement Bus Fuel Type and Size					
	ZE - Class 7+	ZE - Class 3-6	CNG - Class 7+	CNG - Class 3-6	Propane - Class 7+	Propane - Class 3-6
Buses serving school districts that meet one or more prioritization criteria	Up to \$345,000 (Bus+ Charging Infrastructure)	Up to \$265,000 (Bus+ Charging Infrastructure)	Up to \$45,000	Up to \$30,000	Up to \$35,000	Up to \$30,000
Buses serving other eligible school districts that are not prioritized	Up to \$200,000 (Bus+ Charging Infrastructure)	Up to \$145,000 (Bus+ Charging Infrastructure)	Up to \$30,000	Up to \$20,000	Up to \$25,000	Up to \$20,000

Eligible Infrastructure





Texas Clean School Bus Program (TCSB)

The program is designed to reduce school children's exposure to diesel exhaust from school buses.

Maximum Grant Amount Table No. 1

Engine Year of Old School Bus and Ignition Type of New School Bus

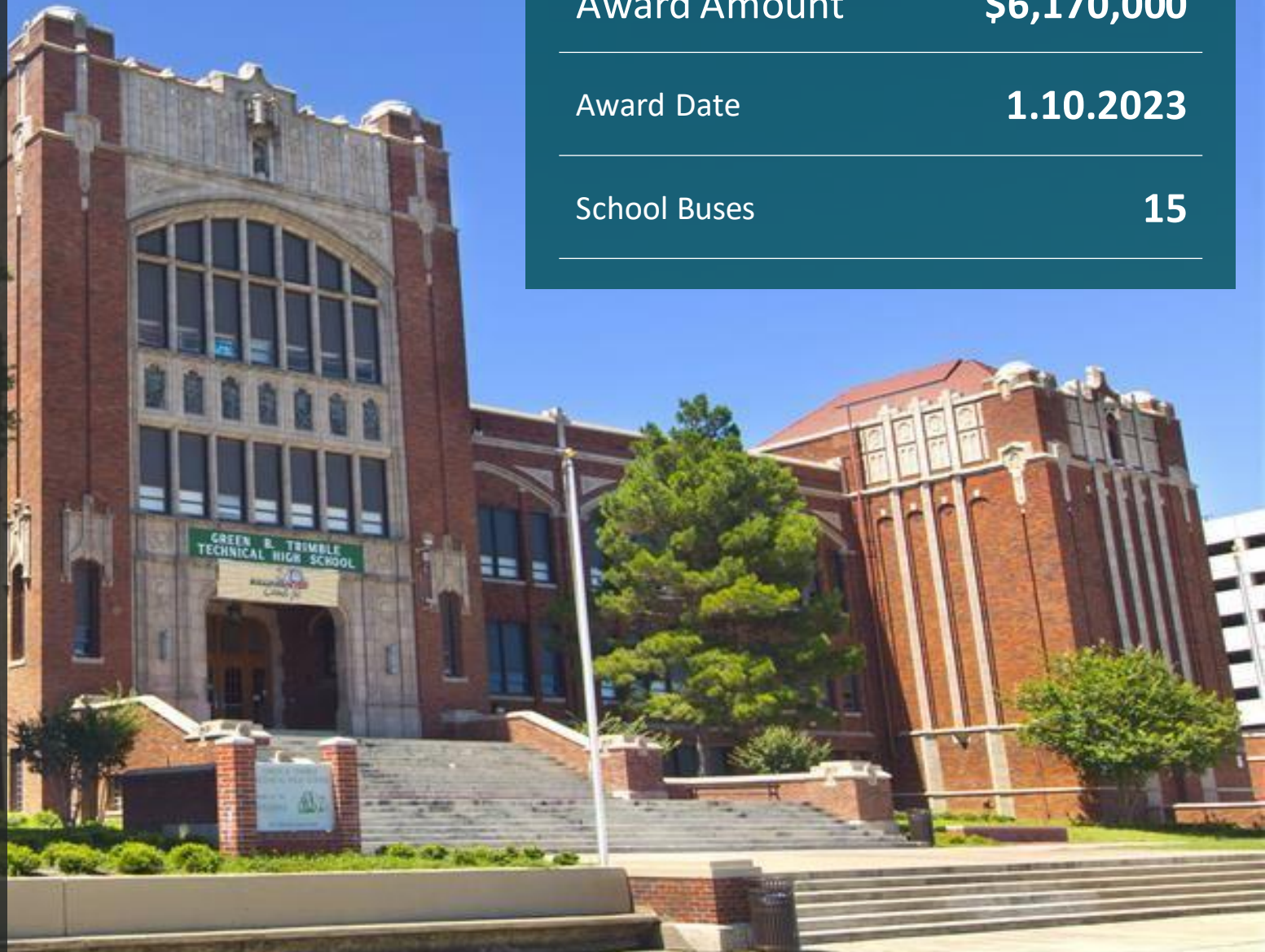
	≤2003	≤2003	≤2003	2004-2006	2004-2006	2004-2006
School Bus Type	CI	SI	Zero	CI	SI	Zero
Type A	N/A	\$104,720	\$238,000	N/A	\$65,450	\$148,750
Type B	\$100,375	\$103,768	N/A	\$62,734	\$64,855	N/A
Type C	\$87,822	\$126,616	\$333,200	\$53,699	\$79,135	\$208,250
Type D	\$112,811	\$153,510	\$380,800	\$70,508	\$95,944	\$238,000

Application Deadline: October 14, 2024

Fort Worth ISD

EPA Clean School Bus Program awarded \$6.17M to acquire 15 new school buses.

- Not chosen in first round
- 85% of Fort Worth ISD students come from low-income families
- 18 districts in Texas received grant funding for 2023:
 - Total grant allocation: \$26 million
 - Total Buses: 165



Award Amount	\$6,170,000
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Award Date	1.10.2023
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School Buses	15
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Finding Information



Database of State Incentives for Renewables & Efficiency (DSIRE)

Programs: 145 programs in Texas

Categories:

- Biomass
- Fuel-cells
- Geothermal
- Hydroelectric
- Emerging-Technologies
- Solar
- Wind
- Energy-Efficiency

Link: <https://programs.dsireusa.org/system/program/tx>

Federal Grants

Departments

- Department of Energy [DOE] (48)
- Environmental Protection Agency [EPA] (19)
- Department of Agriculture [USDA] (81)

Link: <https://www.grants.gov/search-grants>

- Federal Insurance and Mitigation Administration [FEMA] (7)

Link: <https://www.fema.gov/grants>

Numerous Utility Rebate Programs

- 18 Utilities Offer Rebates
- 104 Residential Rebate Programs
- 78 Commercial Rebate Programs

Commercial Energy Efficiency Rebate Providers

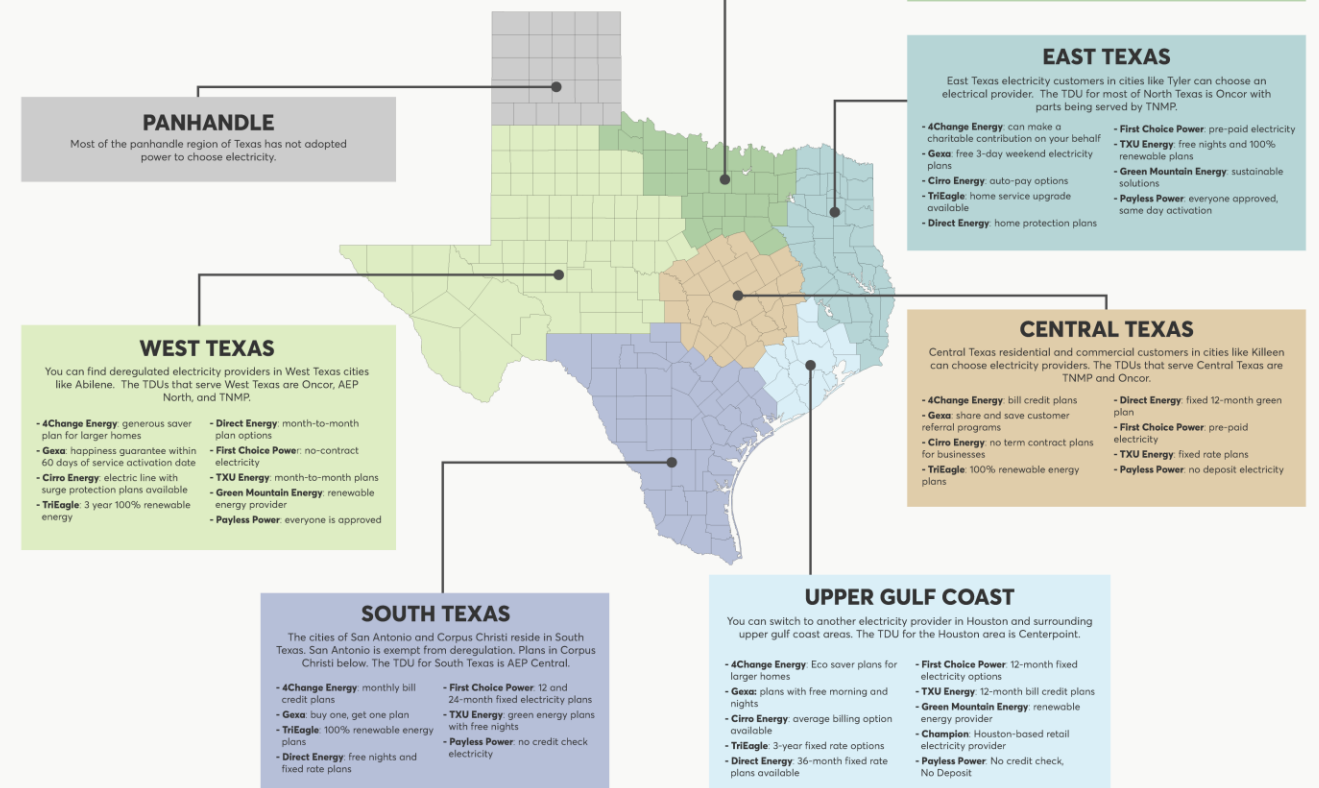
- AEP Texas Central
- AEP Texas North
- Austin Energy
- CenterPoint Energy
- City of Denton
- City of Garland
- City of New Braunfels
- City of San Marcos
- Oncor Electric
- TXU
- TNMP

MAP OF ELECTRICAL PROVIDERS IN TEXAS

If you're in a deregulated energy market in Texas, you can choose REPs (Retail Energy Providers). The REP is the company that sells electricity to consumers. This is the name that appears on the bill. They're different from the TDU (Transmission Distribution Utility). TDUs deliver power to everyone within a given region. The TDU maintains the power lines and responds to outages.

REGIONS OF TEXAS AND ELECTRICAL PROVIDERS

Below are some options of retail electrical providers' plans available by region.



Energy Efficiency- Incentives

Utility Rebates: Financial incentives offered by utilities to encourage energy efficiency upgrades in commercial settings.

Purpose: Stimulate investment in energy-efficient equipment and technologies to decrease utility bills, strain on the grid and environmental impact.



Measure	\$/kW	\$/kWh
Lighting	\$100	\$0.02
Type B & C LED Tubes	\$100	\$0.02
LEDs	\$100	\$0.03
HVAC DX	\$165	\$0.04
Chiller	\$185	\$0.04
Motors	\$150	\$0.03
VFD	\$100	\$0.02
Window Film	\$50	\$0.02
Roofing	\$150	\$0.04
Solar PV	\$185	\$0.04
Other	\$150	\$0.03

Measure	\$/kWh
Lighting	\$0.05
Water Cooled Chillers	\$0.05
Air Cooled Chillers	\$0.05
VFD's on Air Handlers	\$0.05
Occupancy Sensors	\$0.05
Refrigeration	\$0.05
Vending Machine Controls	\$0.05
All Other Measures	\$0.04
Air Infiltration *Flat Fee	\$10/Door Sweep \$20/Weather Strip

Commercial Solutions Incentives

Measure Category/Name	\$/kW	\$/kWh
Lighting	Up to \$325	\$0.05
HVAC – Chiller	\$525	\$0.05
HVAC – DX Units or Controls	\$350	\$0.05
Refrigeration	\$200	\$0.03
Custom/Other	\$200	\$0.05



**Up to 60% of project costs; up to 75% of project costs for YearOut Energy measures*

YEAROUT
ENERGY

Oncor Commercial Standard Offer Program

Lighting Type	\$/kW NPV	\$/kWh NPV
LED Fixture	\$209.21	\$0.057
LED Screw-In	\$146.58	\$0.040
LED Screw-In Corncob	\$209.21	\$0.057
LED Tube	\$6 a fixture	

Measure Type	\$/kW NPV	\$/kWh NPV
NEMA Premium Efficiency Motor	\$100-\$5,000/Motor	-
VFD	\$285.29	\$0.086
Pool Pumps	\$600/Pump	-
Vending Machine Controls	\$105/Refrigerated Unit \$35/Snack Machine	

Examples:

- 400 W Metal Halide to 130 W LED - **\$120 a fixture**
- 1000 W Metal Halide to 250 W LED - **\$320 a fixture**

Examples:

- VFD Addition to 25 HP Hospital Chiller Plant - **\$3,651**
- VFD Addition to 10 HP Hospital Chiller Plant Pump Motor - **\$1,040**
- VFD Addition to Large Office Air Handler Fan Motor - **\$1,600**

HVAC Type	\$/kW NPV	\$/kWh NPV
Chiller – Air and Water Centrifugal	\$387.81	\$0.125
DX Air Conditioner/Heat Pump	\$294.79	\$0.095
Package Terminal Air Conditioner	\$239.46	\$0.077
Geothermal (ground source)	\$294.79	\$0.095

Demand Response Program- Incentives

Goal: Manage electricity consumption during peak demand to reduce strain on the grid, prevent blackouts, and lower energy costs.

Benefit: Encourages energy savings, improves grid reliability, and benefits both customers and utilities.

Incentives: Offered to customers who reduce usage during specified high-demand times.

Financial Incentives: Monetary rewards, credits, or rebates for participation.

Energy-Saving Tools: Provided to customers for efficient energy monitoring and management.

Tune-up HVAC High-Performance

Purpose: Enhance energy efficiency and performance of HVAC systems through maintenance and optimization recommendations.

Process:

- Measure indoor airflow and correct if needed.
- Inspect filter and change or clean if dirty.
- Clean outdoor condenser coils.
- Inspect indoor coil and clean if dirty.
- Inspect indoor blower and clean if dirty.
- Adjust refrigerant charge to the manufacturer's specifications using a digital refrigerant analyzer.

Benefit

- Improve cooling output and performance
- Boost comfort and humidity control
- Reduce wear and tear on your A/C
- Longer equipment life
- Environmental Impact
- Incentives and Savings

Navigating Grants



Flowchart for Competitive Grants



- Applications are reviewed and selected for award negotiation by civil servants with subject matter expertise
- DOE uses a merit-based review process for all competitive selections
- Given the merit-based nature of the process, DOE's ability to give non-public information or take meetings on specific projects is limited

Grants and Incentives Challenges and Benefits

Challenges:

- Administrative Burden
- Delays in Grant Awards
- Variable Funding Amounts
- Matched Funding
- Competitive Nature
- Difficult to Stay Up to Date
- Tight Deadlines

Benefits:

- Financial Support
- Increased Affordability
- Environmental Benefits
- Long-Term Savings



THANK YOU

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