



FARMERS
BRANCH

Solar Ready and EV Charging Ordinances

Study Session

May 16, 2023



Sustainability Plan Alignment



Built Environment

Designing, constructing, and retrofitting buildings and infrastructure in a sustainable manner

Goal	Recommended Actions
Increased Efficiency	<ul style="list-style-type: none">• Regularly review and adopt building codes• Assist residents with utility conservation incentives and rebates• Provide education and resources for homeowners to save energy and water<ul style="list-style-type: none">• Explore the feasibility of creating a residential rebate program for energy and/or water savings• Continue to update building stock through Demo/Rebuild and PACE programs• Reduce energy use at City facilities through cost effective building upgrades
Increased Renewable Energy	<ul style="list-style-type: none">• Pursue a 100% renewable electricity contract for City operations• Adopt a Solar Ready building code• Adopt an electric vehicle (EV) ready building code• Reduce barriers to solar energy<ul style="list-style-type: none">• Pursue SolSmart designation• Increase the number of households on 100% renewable electricity plans through the Texas Power Switch Program



Electric Vehicle Charging

What are Electric Vehicle (EV) charging codes?



EV-CAPABLE

- Electrical Panel Capacity
+ Branch Circuit
+ Raceway



EV-READY

- EV-Capable
+ 240-volt outlet



EV-INSTALLED

- Install a Minimum
Number of Level 2
EV Charging
Stations

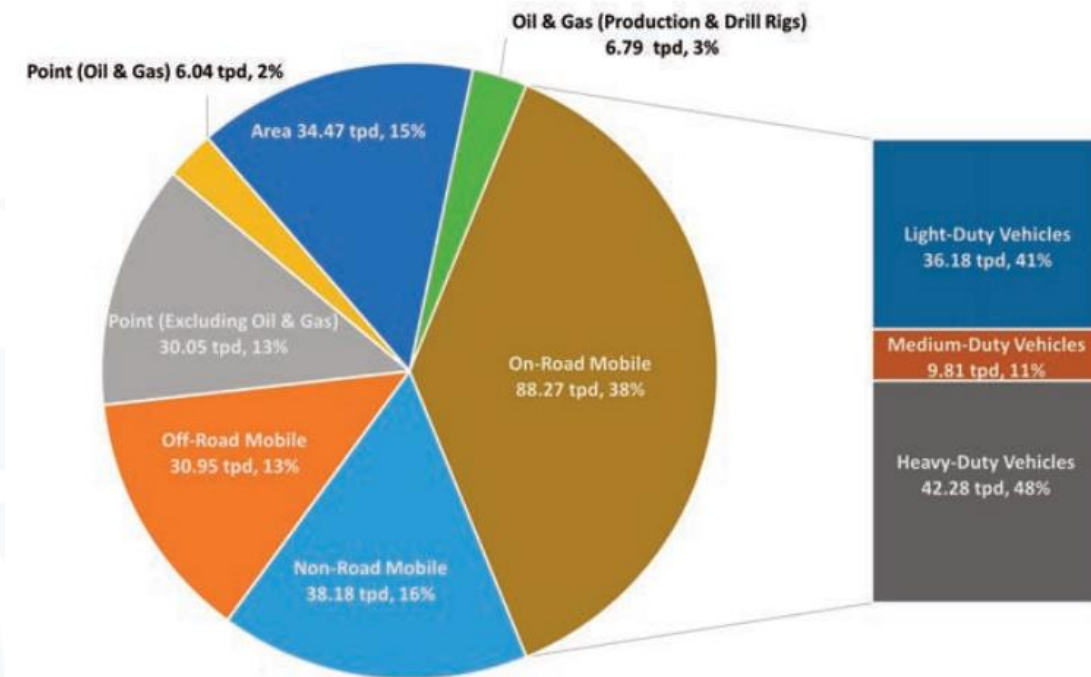
- EV Capable
 - Estimated cost per space \$500
- EV Ready
 - Estimated cost per space \$1,200
- EV Installed
 - Estimated cost per space \$5,000

Why Adopt EV Charging Codes?

- Vehicles are the primary source of DFW's air pollution
 - 48 ozone exceedance days in 2022
- City has a goal to decrease vehicle emissions
- 80% of charging takes place at the home
- Cost to install EV-Capable infrastructure is 4-6 times cheaper than during a retrofit.

Estimated 2020 NOx Emissions Inventory Sources

Total 234.75 tons per day (tpd)



Source: The Texas Commission on Environmental Quality

EV Charging Code Recommendation

- Based on International Code Council model language
- New construction only
- Residential (one and two-family dwellings)
 - One EV-Ready space per dwelling unit
- Multi-family buildings

Total Number of Parking Spaces	Minimum number of EVSE-Installed Spaces ^a	Minimum number of EV-Capable Spaces
1 – 10	1	-
11 – 15	1	3
16 – 20	2	4
21 - 25	2	5
26+	2	20% of total parking spaces

- Commercial buildings
 - No EV charging codes



Solar Ready

What is Solar Ready?

- A building that can easily accommodate solar
 - Does not mandate solar be installed
- Included attributes:
 - Continuous roof space, uninterrupted by roof equipment
 - Electric panel capacity
- Includes exemptions



Why Adopt Solar Ready?

- Citywide we use a lot of electricity
 - Over 805 million kWh per year (*responsible for 300,000 MTCO2e emissions*)
- City has goal to increase renewable energy and remove barriers for solar adoption
- City facilitates Solar Switch program to help homeowners to adopt solar
- Easier and cheaper to install components during construction

Building Type	New Construction Costs	Existing Building Costs	Savings
Two-Story Residential Homes	\$1,000	\$5,000 - \$7,500	\$4,000 - \$6,500
Three-Story Mixed-Use Buildings	\$5,000 - \$7,500	\$20,000 - \$30,000	\$12,500 - \$25,000

Solar Ready Recommendation

- New construction only
- Residential (one and two-family dwellings)
 - Adopt wording of 2021 International Energy Conservation Code (IECC) Appendix RB Solar Ready Provisions with slight modifications
 - Modifications made after discussions with local builders to reduce planning and construction costs
- Commercial buildings
 - Adopt wording of 2021 International Energy Conservation Code (IECC) Appendix CB Solar Ready Zone





Questions?