WELCOME

Wednesday, April 13 ■ Breakout Session ■ 10:45-11:45 ■ Joshua Tree

WORKING TOGETHER FOR THE SUCCESSFUL ENERGY TRANSITION OF AGENCY FLEETS



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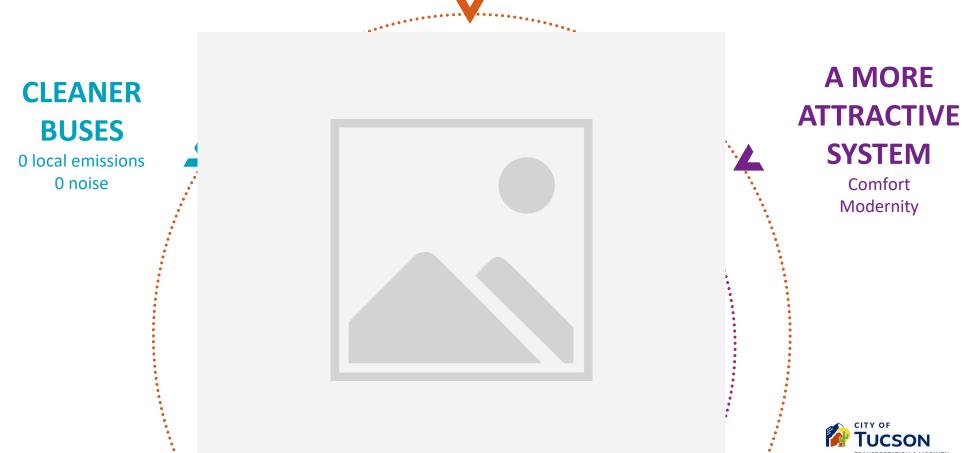




Goals for Energy Transition

A MORE SUSTAINABLE CITY

Quality of life Public health







Drivers of Change



COMMUNITY EXPECTATIONS

Reduction in **local pollutants**

•

Fight against noise pollution



REGULATIONS

Commitments: Clean Air Act (CAA) through the EPA

Regulatory **obligations**



TECHNOLOGY

Increasingly expansive and mature manufacturer offers

Reductions in the **cost** of technology

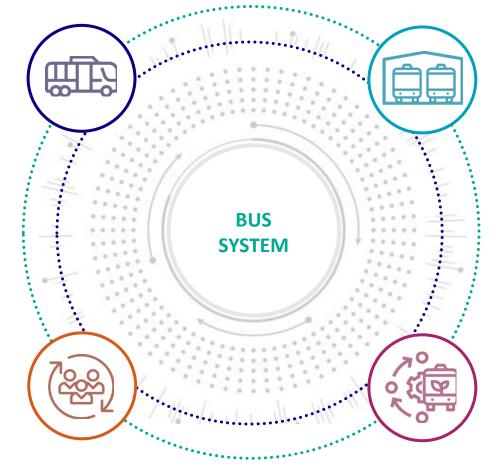




Partnership Beyond Technology

VEHICLES

- Choice of technology
- Renewal of fleet



INFRASTRUCTURE & FACILITIES

- Facility modification and recharge solutions
- Management of regulation compliancy and safety/security

HUMAN RESOURCES

- Support for personnel
- Training

OPERATIONS & MAINTENANCE

- Adaptation of timetables
- Impact on organization





Our Beliefs



START FROM AGENCY NEEDS

There is no ready-made solution. Agency strategy must be created using a local diagnosis.



THINK SYSTEM NOT VEHICLE

New energies involve a 360° approach, rolling stock, infrastructures and facilities.



INVEST IN THE LONG TERM

Consider the operational lifetime and the entire fleet into account





Challenges for Agencies in Energy Transition



STRATEGY

- What technology to choose?
- How much is that going to cost?
- What infrastructures need to be set up?
- Extra buses compared to a normal diesel fleet?
- What's the speed of renewal?



TRANSITION

- How long does the transition take?
- What suppliers should I choose?
- What are the pitfalls to avoid when adapting a facility?



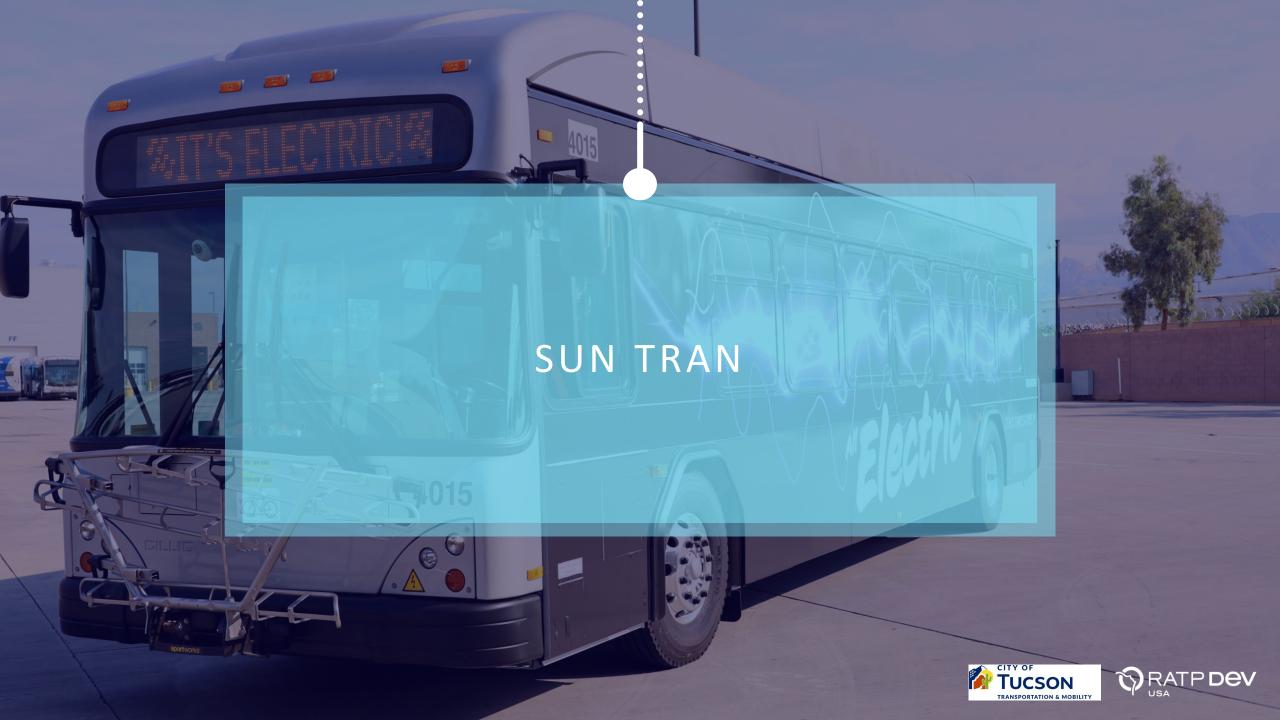
OPERATIONS

- Can we keep the same timetable?
- What are the restrictions to consider?
- What is the impact on maintenance organization?



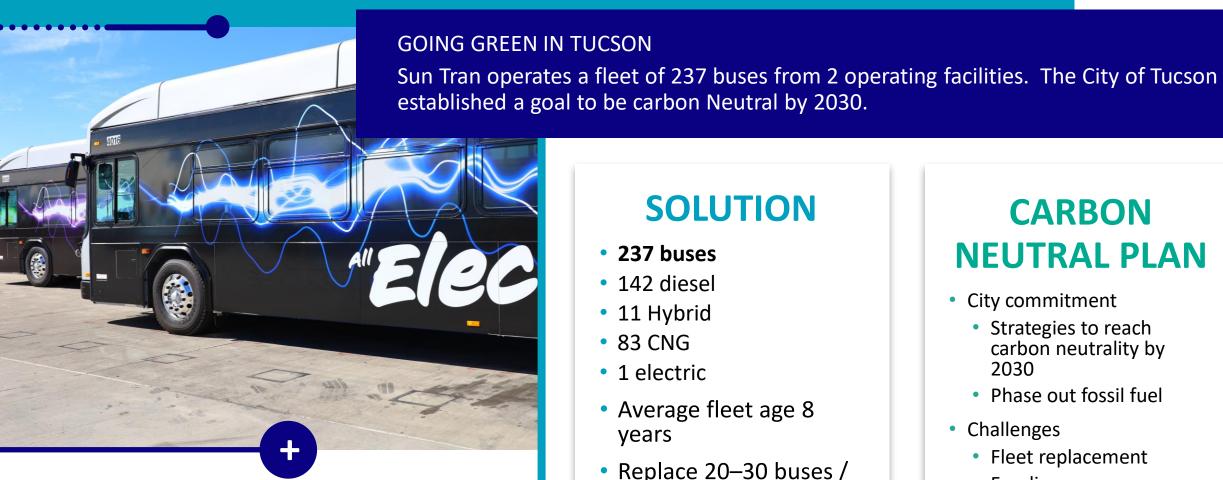






FOCUS: Sun Tran Electrification, Tucson, AZ





By 2028

Vehicles Replaced

Electric or CNG buses

SOLUTION

- 237 buses
- 142 diesel
- 11 Hybrid
- 83 CNG
- 1 electric
- Average fleet age 8 years
- Replace 20–30 buses / year

CARBON NEUTRAL PLAN

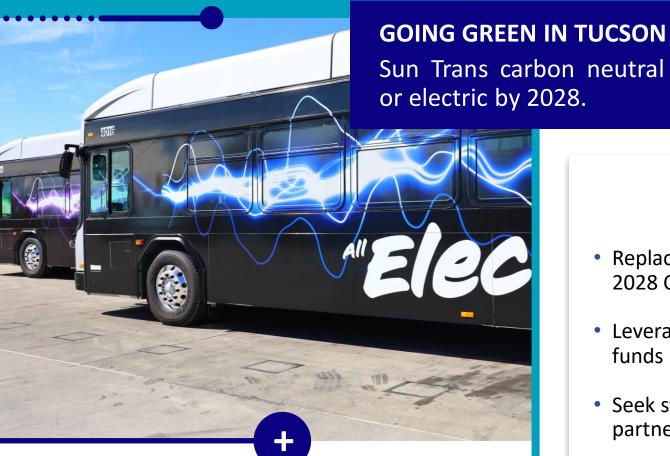
- City commitment
 - Strategies to reach carbon neutrality by 2030
 - Phase out fossil fuel.
- Challenges
 - Fleet replacement
 - Funding
 - Infrastructure





FOCUS: Sun Tran Electrification, Tucson, AZ





By 2028

Vehicles Replaced

Electric or CNG buses

Sun Trans carbon neutral plan will replace all diesel buses with either CNG or electric by 2028.

PLAN

- Replace all diesel buses by 2028 CNG or Electric
- Leverage discretionary funds
- Seek strategic partnerships
- Manage the reality of having a mixed fuel fleet

RESULTS

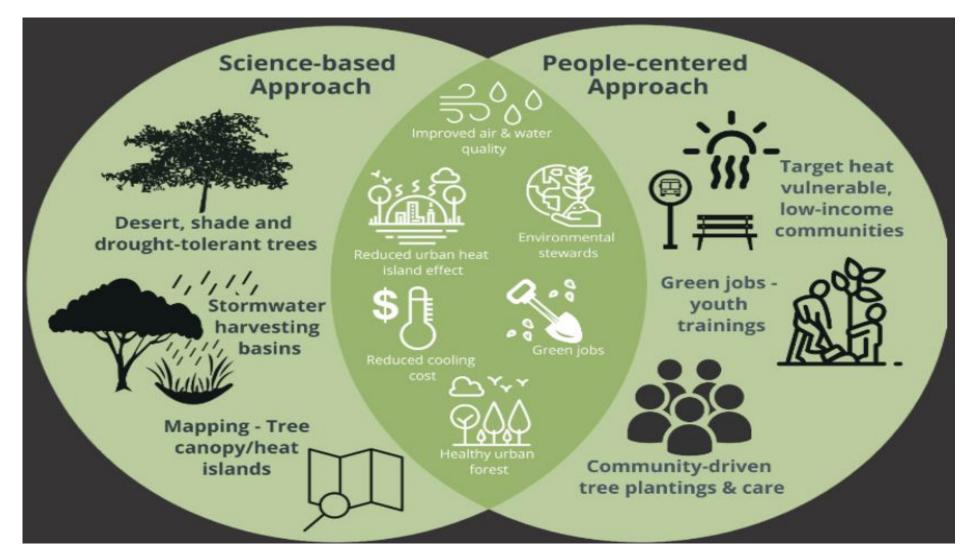
- Lo No applications
 - Partners Gillig Corp and Tucson Electric Power
 - 5 electric buses delivered 2021
- 5 electric buses for delivery in summer of 2022
- 237 buses
 - 115 diesel (-19%)
 - 11 Hybrid
 - 101 CNG (+18%)
 - 10 electric (+1000%)







Los Reales Sustainability Campus







Los Reales Sustainability Campus

NOTES

PROJECT: LOS REALES SUSTAINABILITY CAMPUS (LRSC)

LEGEND

REFERENCE DESCRIPTION

PROPERTY LIMITS

PROPOSED SITE-MIXED WASTE
MATERIALS RECOVERY FACILITY

PROPOSED COMMERCIAL AND INDUSTRIAL LOTS

PROPOSED INTERSECTION IMPROVEMENTS

PROPOSED INTERNAL SERVICE ROAD IMPROVEMENTS

LANDSCAPING BUFFER AND TRAIL IMPROVEMENTS

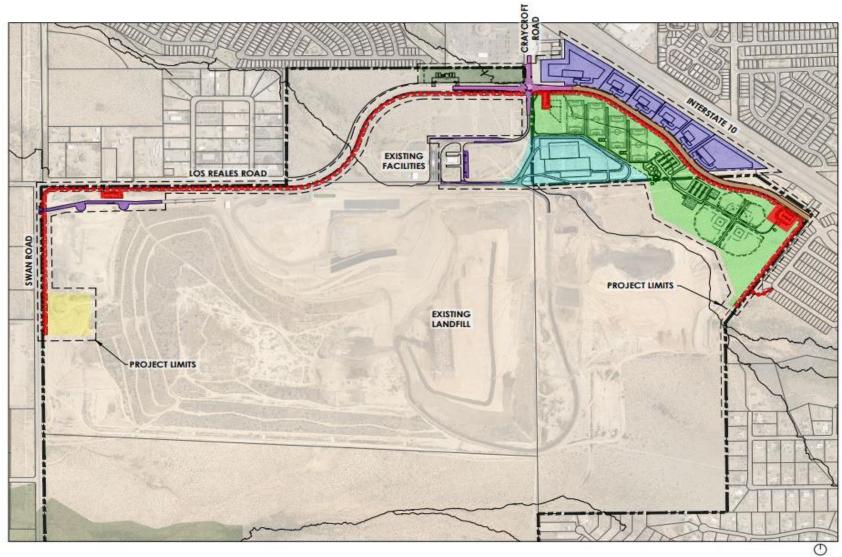
PROPOSED RECREATION AREA (ACTIVE AND PASSIVE)

FUTURE E. GARDEN STONE DRIVE ROAD CONSTRUCTION (FORESTAR DEVELOPMENT)

FUTURE GAS RECOVERY AND

RE-UTILIZATION

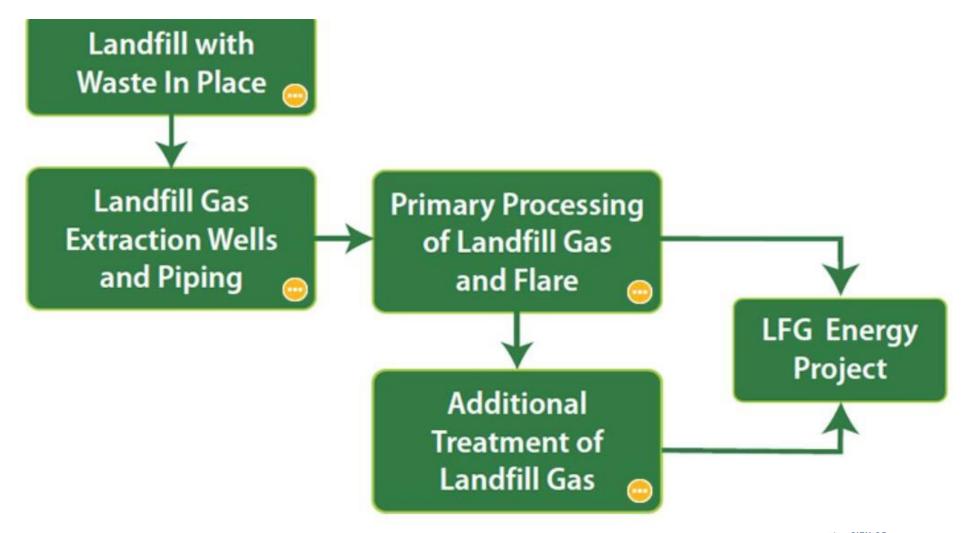
NATURAL OPEN SPACE







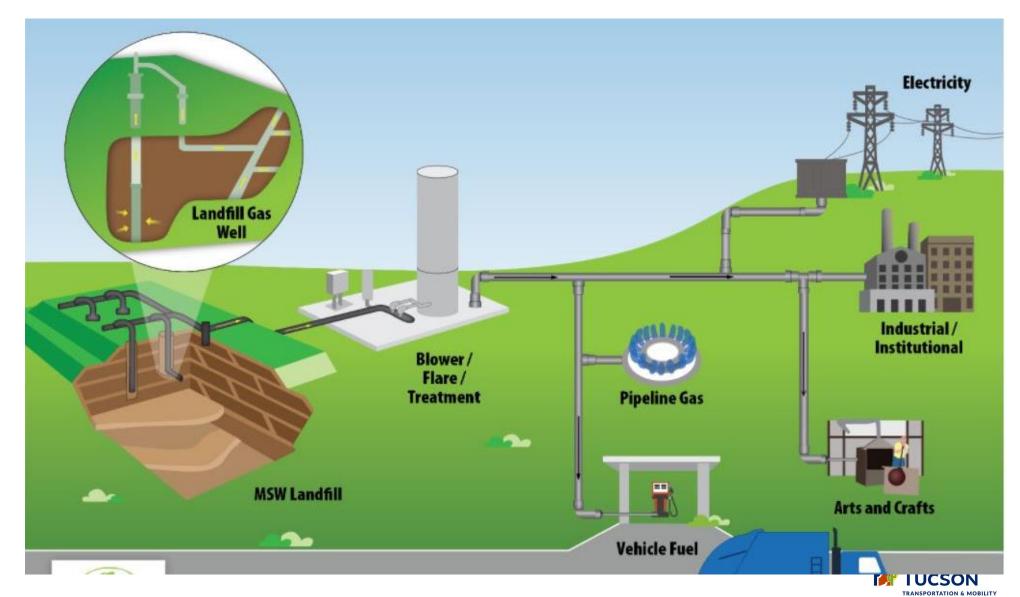
Basic Landfill Gas and Processing = Renewable Gas







Los Reales Sustainability Campus





What does it look like?











Questions

