



# Sustainable Cities Network

August 14, 2019



Ground Breaking Ceremony 12/4/17



Soft Opening 9/26/18



Grand Opening 10/17/18



# Since opening...

**370,000**

Pounds at  
Intake

**6,506**

Resident  
Drop-Offs

**153,000**

Pounds  
Shipped



# Since opening...

**700+**

**Residents  
Utilizing Swap  
Shop**

**29%**

**Of Materials to  
Swap Shop**

**2**

**Large Paint  
Donations**

# April Customer Survey Results



**“Thank you for the convenience of year-round drop-off!”**

**“Great Service! Helps keep our City clean. I like the store!”**

**“Thank you for being there! You make Mesa better!!”**

**“This is a great facility that far meets the needs of the local community, thanks!!”**

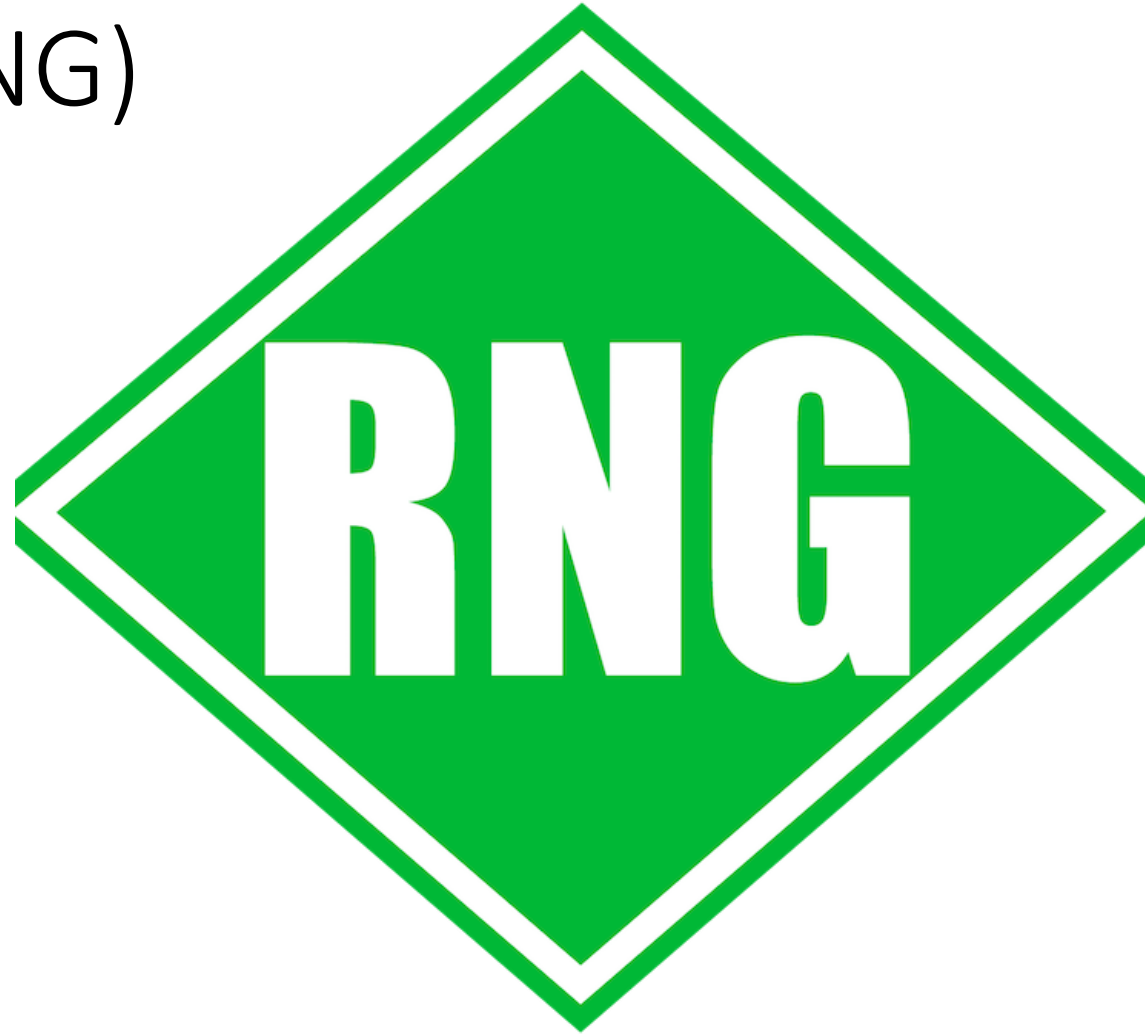
**“This is an important service to the community. Thank you for putting it in place!”**

# Food to Energy?



# Renewable Natural Gas (RNG)

- Biomethane – CH<sub>4</sub>
- Variety of end uses:
  - Transportation fuel
  - Heating value
  - Electricity generation
- Utilizes existing CNG infrastructure
- 70% to 300% reduction in Green House Gases (GHG) compared to diesel





## SOURCES OF RNG



AGRICULTURAL  
WASTE  
8,000 Land Farms  
and Dairies



WASTE WATER  
17,000 Facilities



LANDFILL GAS  
1,750 Landfills



FOOD WASTE  
66.5 Million Tons / YEAR

\*Equivalent 60 Billion Gallons of Untapped Resources

Source: The Coalition for Renewable Natural Gas

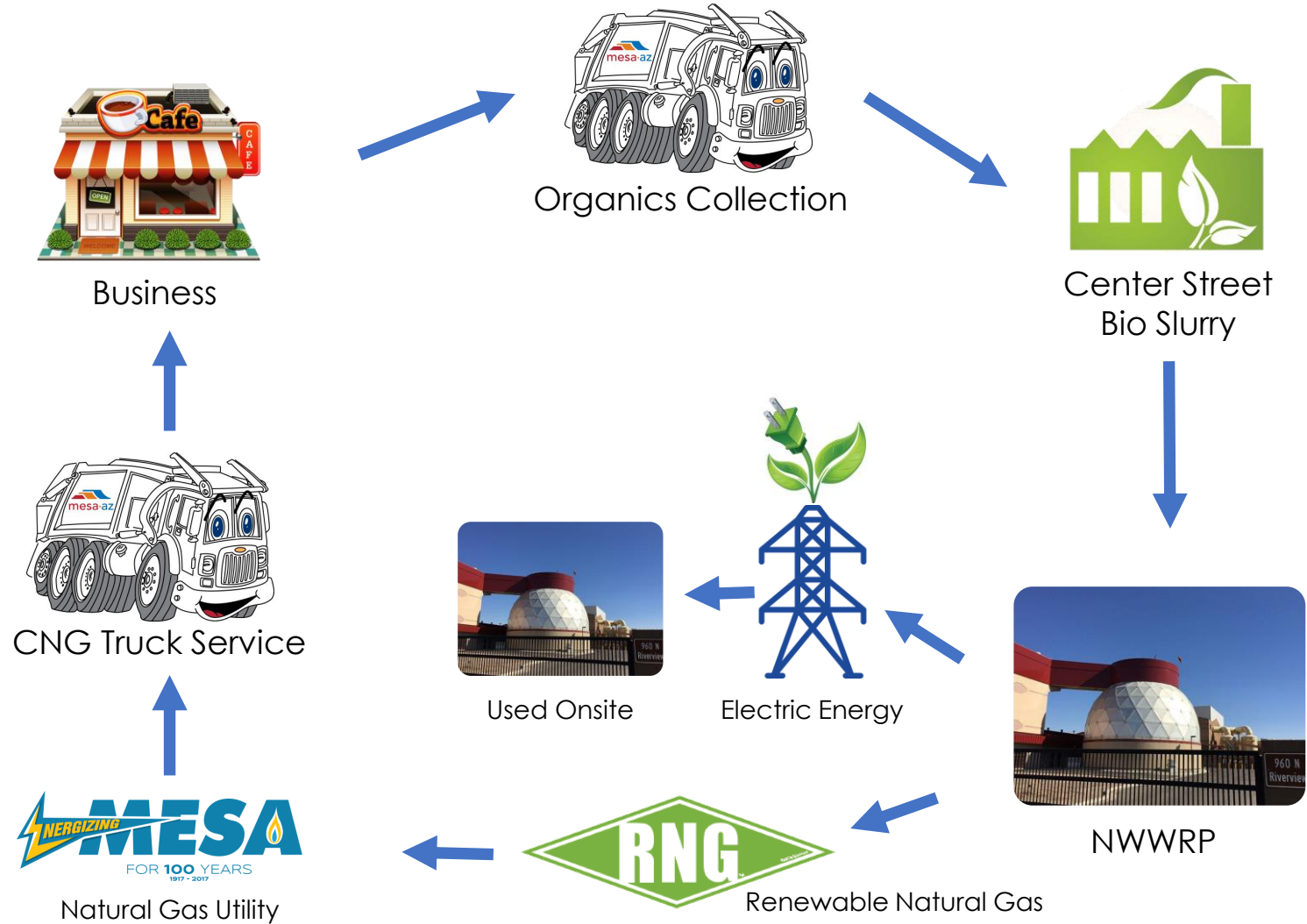
- City of Mesa Water Treatment Facilities will produce an estimated **150,000 MMBtu** of biogas annually\*
- City of Mesa refuse trucks use approximately **70,000 MMBtu** of CNG annually
- City of Mesa refuse trucks collected an estimated **90,000 tons of food waste** in 2018

\* After Greenfield expansion





# Food **to** Energy



# Business



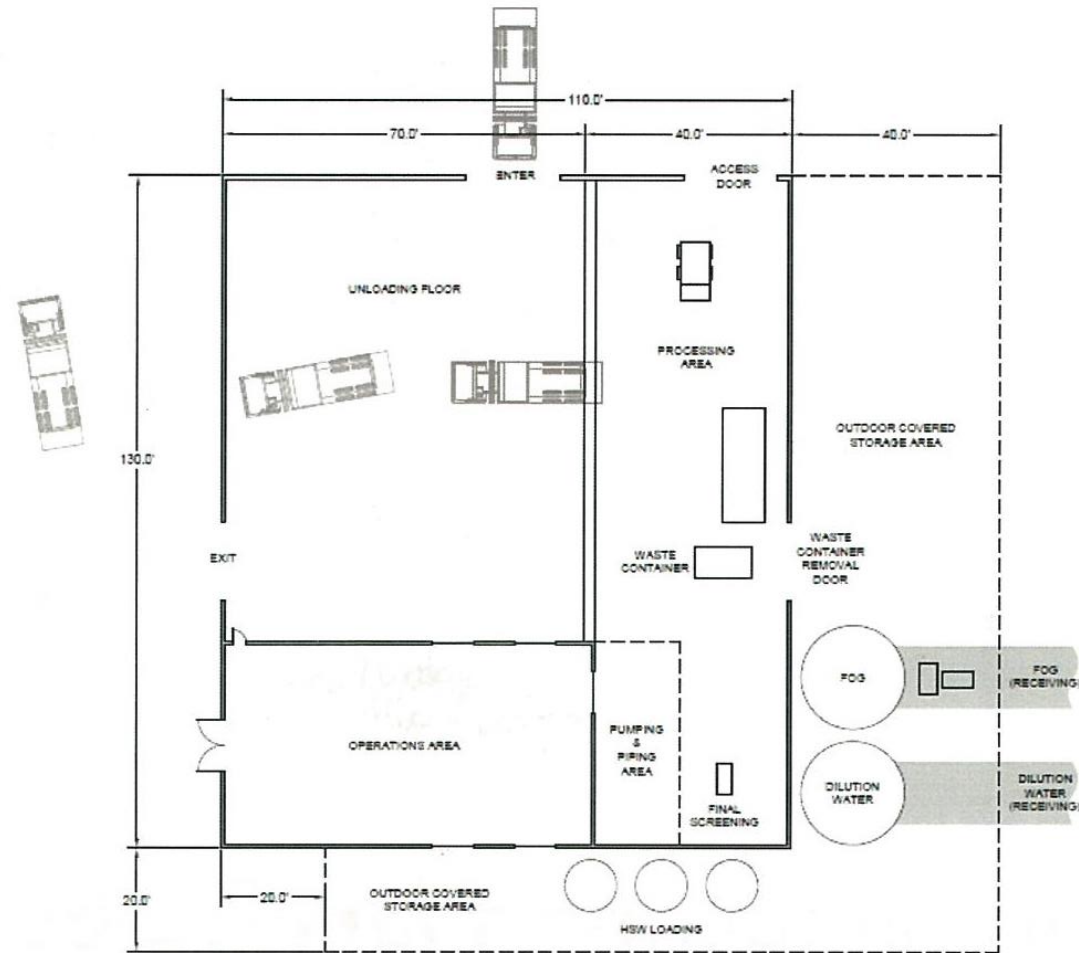
- Bashas
- United Food Bank
- East Valley Institute of Technology
  - Culinary School
  - Bistro
- Carson Junior High School
- ASU Memorial Union
- City of Tempe FOG Cooperative

# Collection





# Pre-processing Facility



# Processing





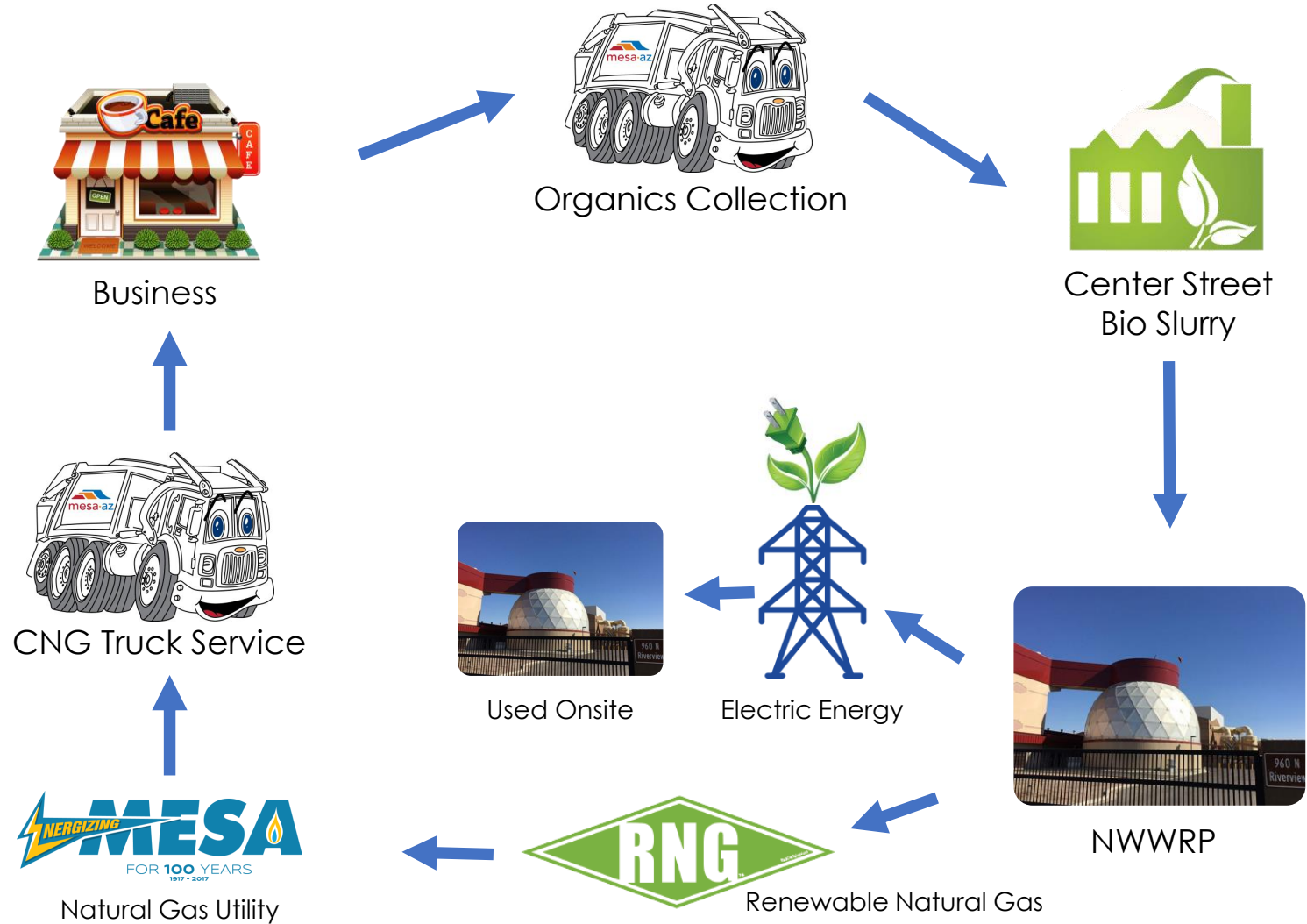


# Anaerobic Digestion





# Food **to** Energy



# Project Status

- Technical
  - Bench-scale digesters soured
  - Biomethane specs
- Operational
  - Mesa has enough food waste available for collection
  - Pre-processing facility
  - NWWRP Co-Digestion Capabilities
  - Biogas Upgrading
- Financial
  - Renewable Fuel Standard and Renewable Identification Number credit challenges
  - Can food waste be collected at a competitive rate?



# Sustainable Cities Network

August 14, 2019