Agenda
Terminal Equipment
Trucks
Infrastructure
Looking Forward
Emission Reductions
(% reductions vs. aging diesel)

- NOx
  - Diesel
  - Natural Gas
  - Electric

- PM
  - Diesel
  - Natural Gas
  - Electric

- CO2
  - Diesel
  - Natural Gas
  - Electric
Cargo Handling Equipment
($ in thousands)

Yard Hostler
- Diesel: 125
- Natural Gas: 165
- Electric: 275

Top Handler
- Diesel: 560
- Natural Gas: 800
- Electric: 1,900

RTGs
- Diesel: 1,300
- Natural Gas: 1,820
- Electric: 2,500
Trucks
($ in thousands)

- Diesel: $140
- Natural Gas: $195
- Electric: $200
- Fuel Cell: $500
Infrastructure
50% less electricity

60% less maintenance
Buildings

Maintenance
More Lighting
Solar/PV
Charging Infrastructure

Expensive!

Charging Standards Emerging

Grant Funding (some)

Construction Interruptions
Lighting
Solar/PV
Electric CHE
Consolidation

Change is coming.
Thank You

Greg Alexander, PE

greg@munifedenergy.com
(562) 303-6514