

# Recovery Act -- Clean Energy Coalition Michigan Green Fleets

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ARRAVT055



## Timeline

<b>Started</b>	Dec 21, 2009
<b>Ends</b>	Dec 21, 2013
<b>Progress</b>	75%

## Budget

<b>Total</b>	\$ 41,323,456
<b>DOE</b>	\$ 14,910,487
<b>Contractor</b>	\$ 26,412,969

## Barriers

- Lack of infrastructure
- Limited availability of vehicles/kits
- Increased cost of alt. fuel vehicles
- Significantly reduced capital budgets

## Partners

- Michigan Economic Development Corporation
- Greater Lansing Area Clean Cities Coalition

## Project

- Displace petroleum imports with cleaner, domestic fuel sources
- Increase deployment of alt. fuel vehicles and advanced vehicle technologies
- Build the infrastructure necessary to support these vehicles
- Create sustainable local and regional markets
- Create/sustain local jobs
- Reduce the burden of rising fuel costs on capital budgets

## Current year

- Provide training and support to key parties
- Collect and analyze project data

## Target fleets for full or partial conversion to:

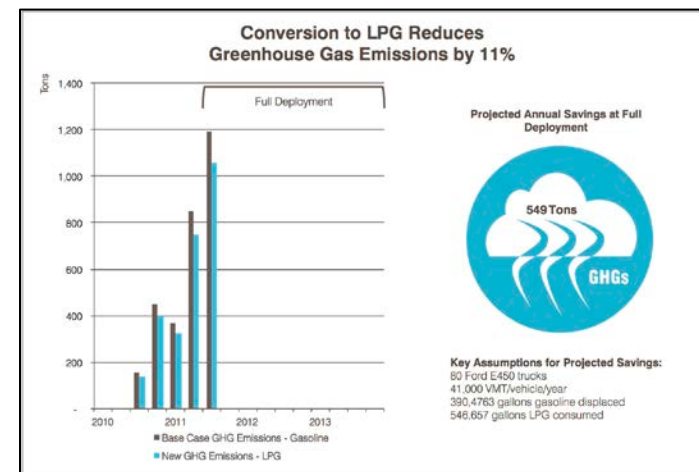
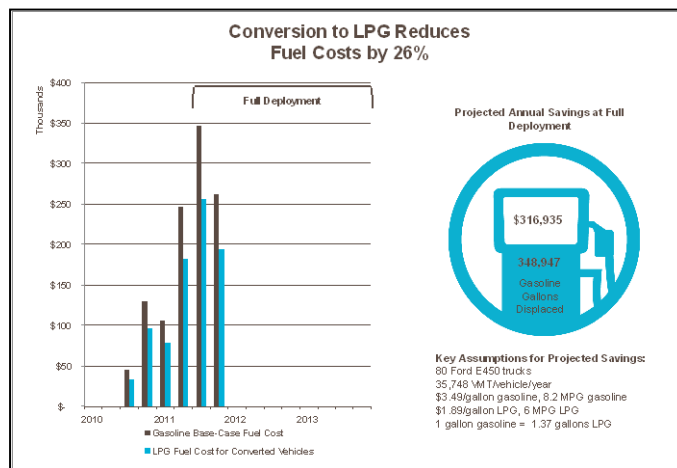
- Increase market penetration of alt. fuel vehicles
- Provide greater visibility for the vehicles and technologies
- Leverage economies of scale
- Maximize displacement and emissions metrics
- Provide significant relief for capital and operating budgets

## Remain fuel neutral

- Use the right fuel and technology for the application

## Collect detailed data from project partners to:

- Develop technology- and application-specific case studies
  - Partners are provided with a summary report at full deployment
- Provide ongoing consulting to help partners maximize gains/savings
- Develop impartial, “real world” benchmarks of different technology and fuel types
- *Data examples: fuel used/dispensed, vehicle use and VMT, MPG*



Sample slides from a summary report for Schwan's, a Clean Cities national partner

## Safety and environmental considerations

- All vehicles and technology have EPA or relevant certifications, as required
- Provide training to first responders on:
  - Gaseous fuel (CNG and propane) infrastructure
  - Gaseous fuel and electric vehicle accidents
  - All NEPA CXs have been granted, none outstanding

## Selection process and go/no-go decisions

- Prioritize petroleum displacement potential and project readiness
- Ensure that all vehicles, technology and infrastructure are:
  - Commercially (and readily) available
  - Eligible for funding
  - Procured locally or regionally, if possible

# Remaining Project Milestones

Milestone	Date	Progress
75% of vehicles deployed	31 March 2012	80% deployed
100% of vehicles deployed	30 June 2012	On target
100% of stations operational	30 June 2012	60% operational
Training completed	30 June 2012	Anticipated in May
Offer consulting to project partners	1 Jan 2012 – 31 Dec 2013	Ongoing

## Deployment and installation

- Deployed **159** vehicles:
  - Displacing **5,829** bbl of petroleum per year
  - Reducing GHG emissions (CO<sub>2</sub>e) by **615** US tons per year
- Installed **1** CNG station

Deployments	
H2	4
HEV	1
CNG	95
LPG	59

## Jobs

- Created **2** jobs per quarter, on average

## Outreach and awareness

- Featured in TIME, Reuters and others

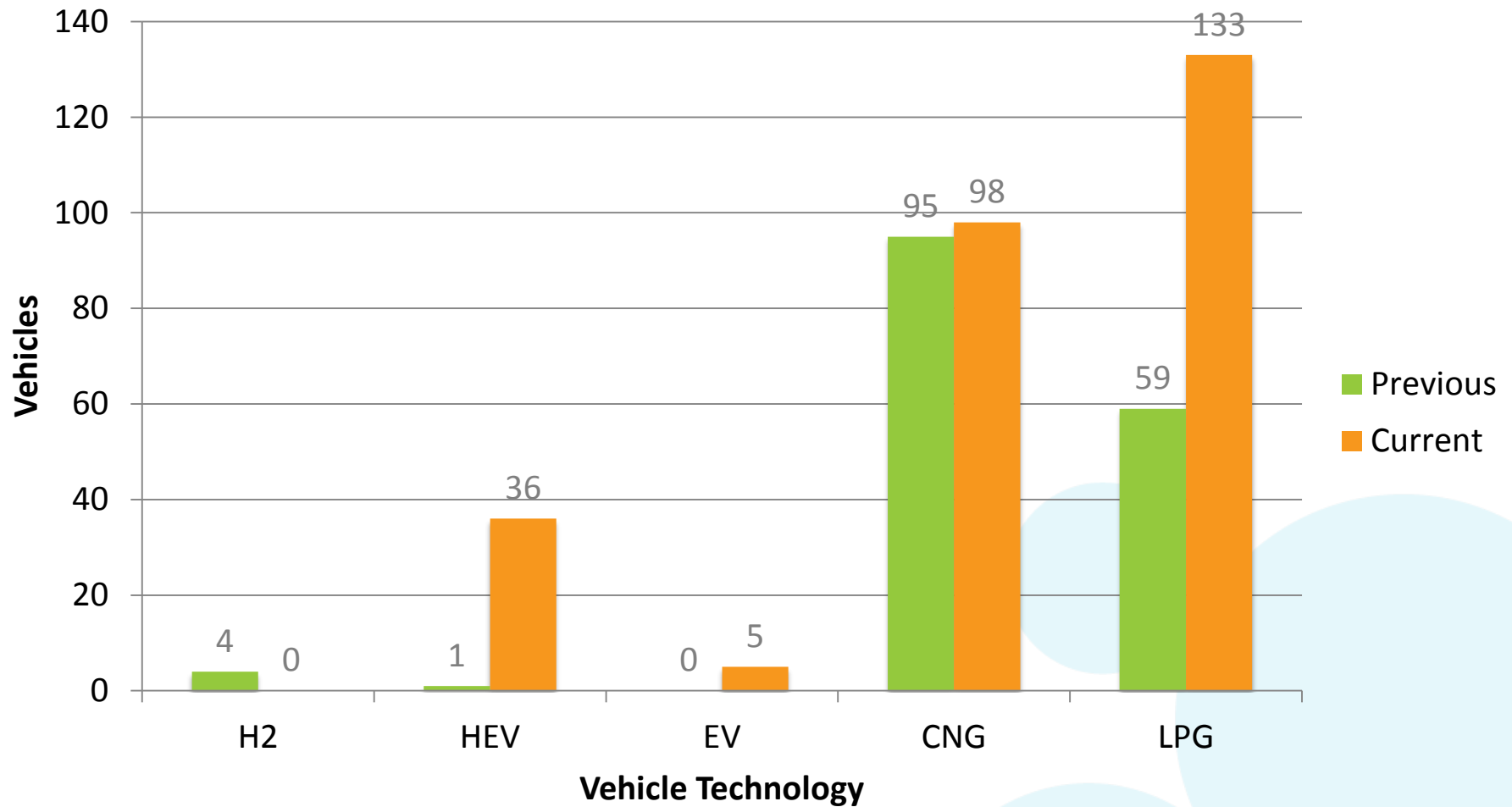


# Accomplishments

## Vehicle Deployments



**Vehicle Deployments by Type: Previous and Current Year**

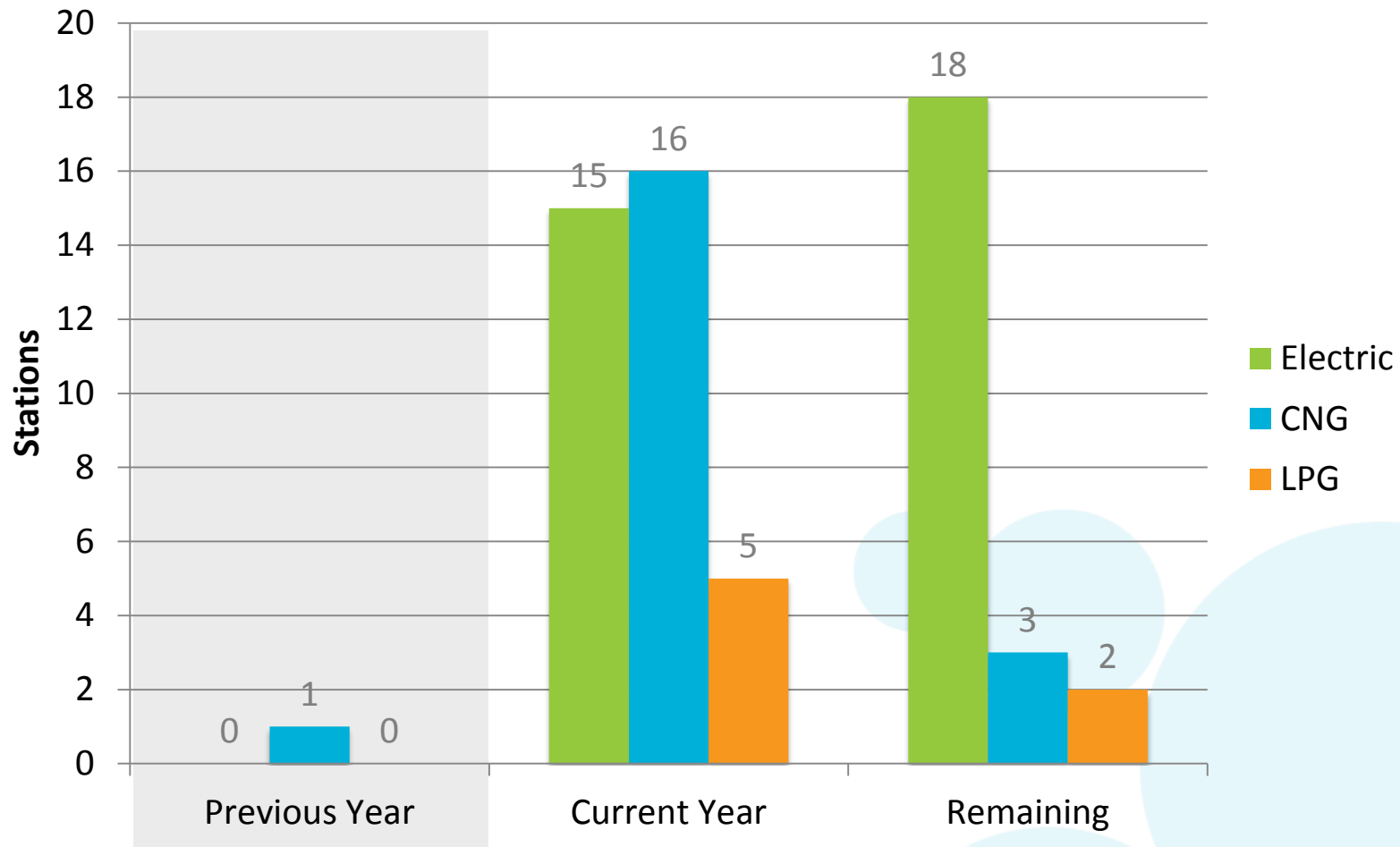


# Accomplishments

## Station Installations

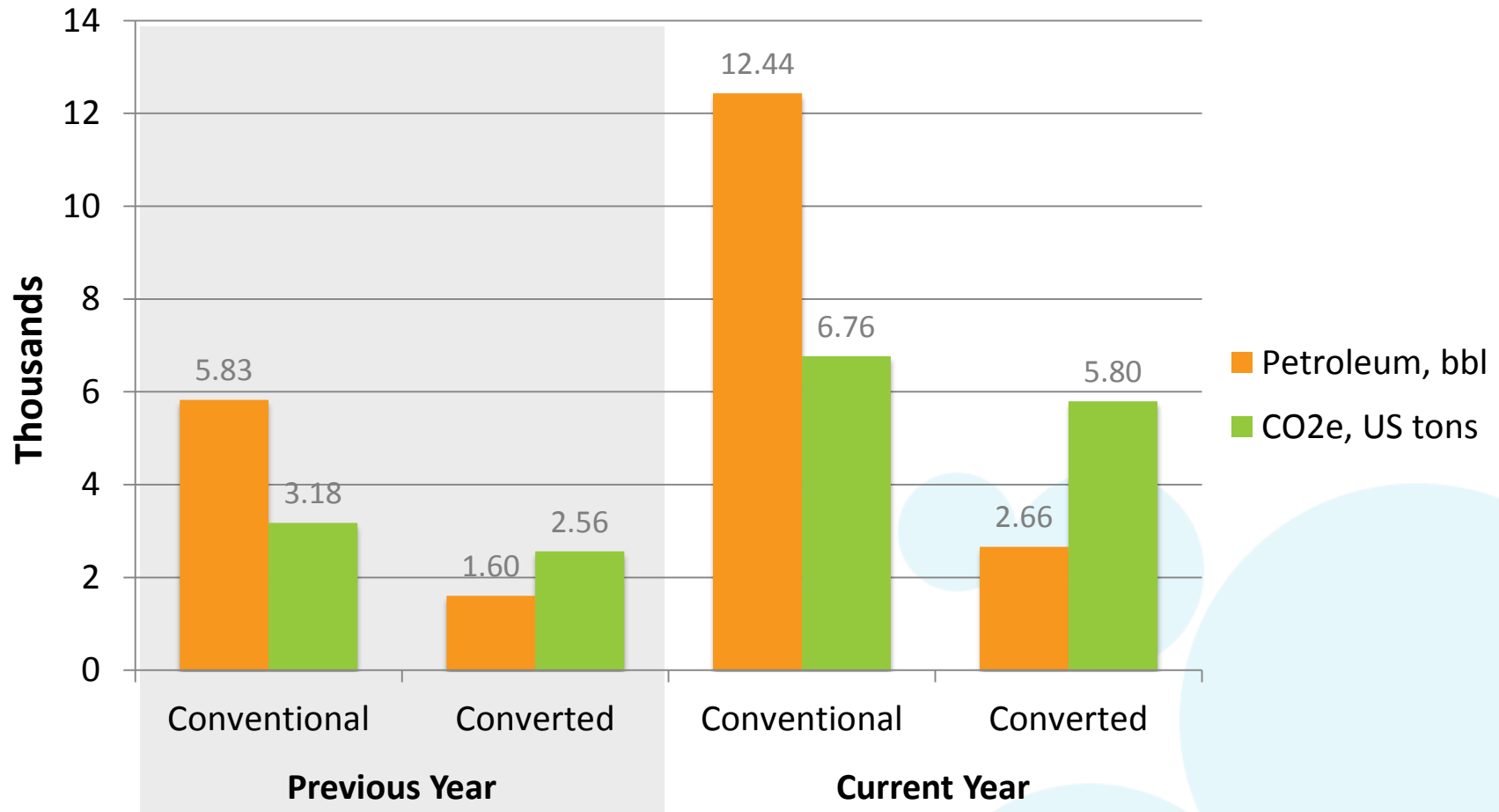


**Station Installations: Previous, Current and Planned**



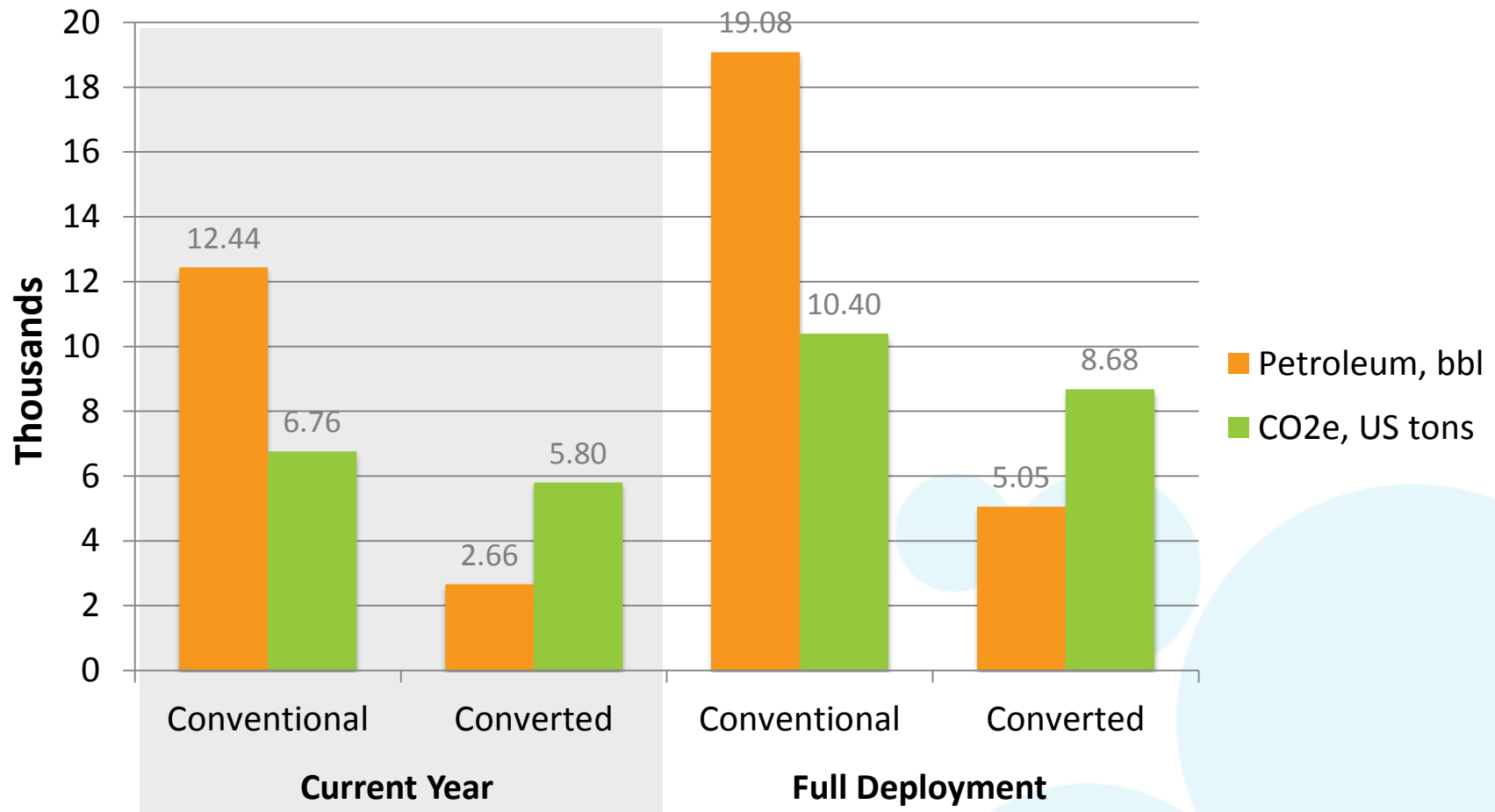
# Displacement and emissions

Annual Displacement and Emission Reductions: Previous and Current Year

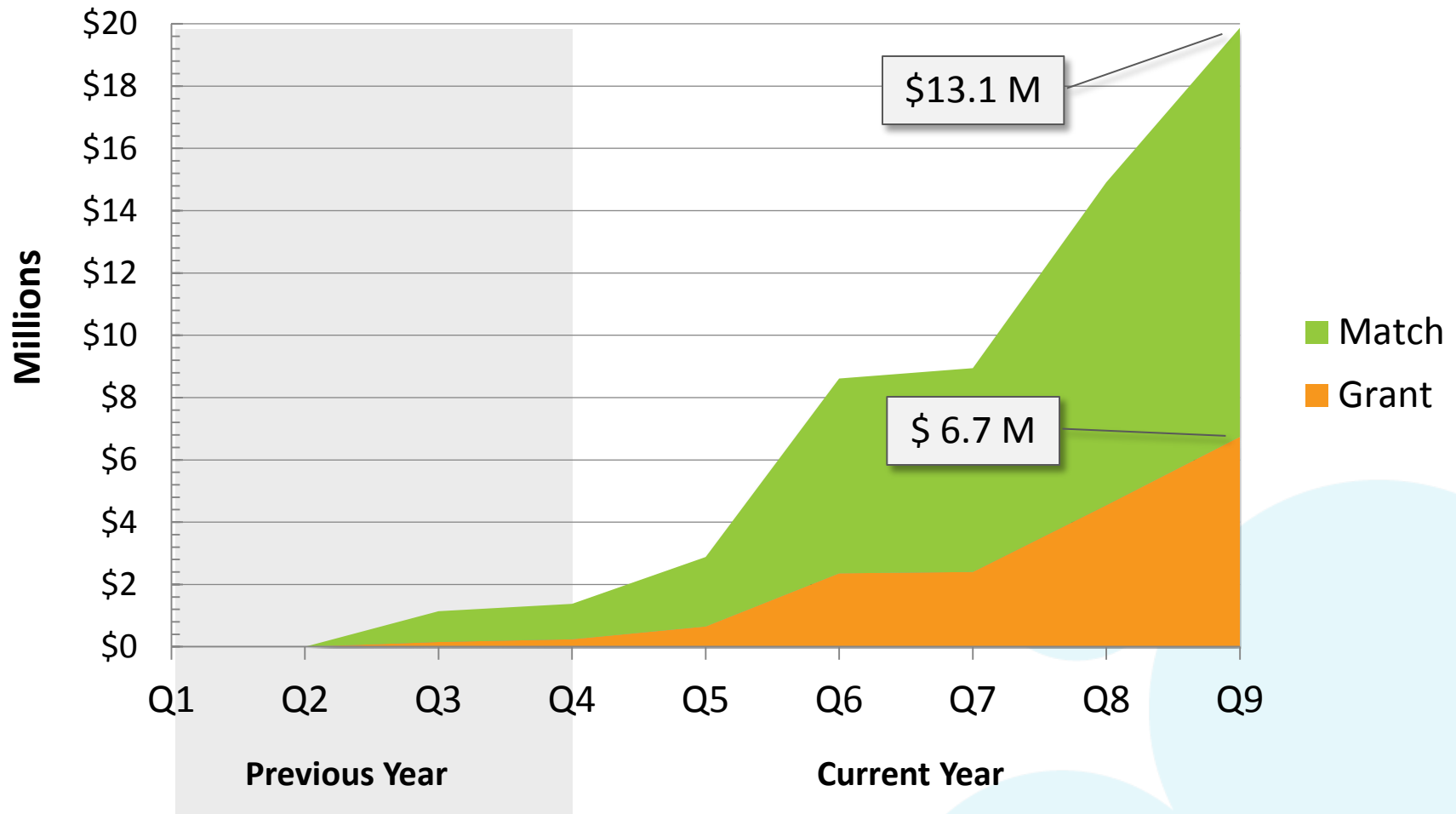


# Displacement and emissions

## Annual Displacement and Emission Reductions: Current and Full Deployment

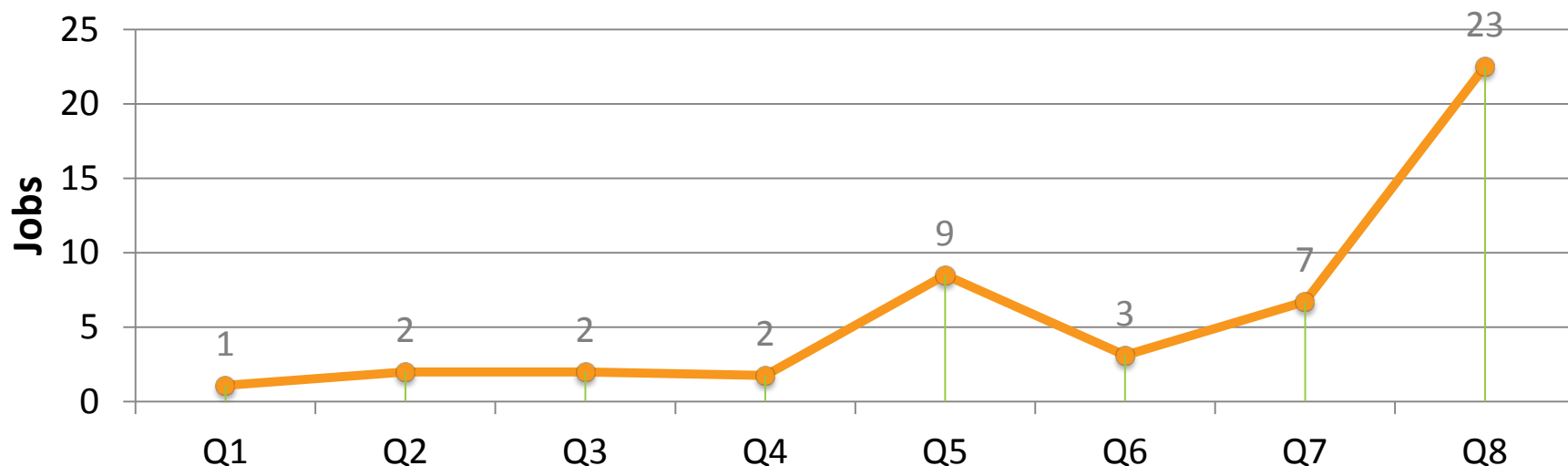


## Subrecipient Direct Spending



# Accomplishments

## Jobs



### Spending Notes

- **75 cents** of every **grant-funded dollar** spent in-state
- Figure is **higher** for **match dollars**
- **20** of **31** vendors were in-state
- Subrecipient match has exceeded original estimates

### Job Notes

- All jobs were in-state
- Figure only reflects on-site work related to station installations
- Vehicle conversions are exempt from DBRA reporting requirements

## Subrecipients

- Government
  - Ann Arbor Downtown Dev. Authority
  - City of Ann Arbor
  - City of Detroit
- Industry
  - DTE Energy/MichCon
  - FedEx Ground
  - Frito Lay
  - Great Lakes Transportation, LLC
  - Schwan's Home Service
  - UBCR, LLC
  - Wright & Filippis
- Higher Education
  - University of Michigan
  - Western Michigan University

## Implementation Partners

- Greater Lansing Clean Cities Coalition
  - Education and training partner
- Michigan Economic Development Corporation, Michigan Energy Office
  - Encourage regional collaboration

# Future Work

## Site work

- Deploy remaining 106 vehicles
  - All have been ordered or received
- Install remaining 23 stations
  - Work is under way at all sites

## Education and analysis

- Provide safety training to first responders
- Continue collecting vehicle and fuel use data for analysis

## For our project partners

- Develop a case study for each, detailing displacement, emissions, and cost savings
- Provide ongoing consultation and support
  - Identify opportunities for further gains/savings
- Promote their successes with press releases and events



# Summary

- Displace petroleum imports with cleaner, domestic fuel sources
  - 74% reduction in petroleum use
  - 16% reduction in CO<sub>2</sub>e
- Increase deployment of alt. fuel vehicles and infrastructure
  - Our work is the largest effort to date
- Create jobs and sustainable local and regional markets
  - 75% of every grant dollar spent in-state
  - All direct jobs are in-state
- Reduce the burden of rising fuel costs on capital budgets
  - Expected fuel savings of several million dollars per year for project partners