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# Unlocking Private Sector Financing to Advance Natural Gas and Electric Vehicles: Two Case Study Papers

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*NASEO 2014 Annual Meeting*



CENTER FOR CLIMATE  
AND ENERGY SOLUTIONS

C2ES.ORG



- **Independent, nonpartisan, nonprofit organization**
- **Working to advance strong policy and action to address the twin challenges of energy and climate change**
- **Founded in 1998 as the Pew Center on Global Climate Change**
- **Became C2ES in 2011**

# Project: *Unlocking Private Sector Financing for Alternative Fuel Vehicles and Fueling Infrastructure*



- **NASEO and C2ES, with funding from U.S. Department of Energy's Clean Cities Program, began this project in early 2013**
  - Transportation Energy Partners (TEP), New York State Energy Research and Development Authority (NYSERDA), and Colorado Energy Office are partners on this project
- **Goal: Develop strategies to demonstrate and advance new business models for AFVs and fueling infrastructure**
  - Apply lessons learned from use of financial mechanisms in other sectors to accelerate AFV deployment
- **Convening the AFV Finance Advisory Group, a diverse group of finance professionals, automakers, infrastructure providers, and public officials**
- **Producing original research and conducting stakeholder engagement and advising**

# Report: *Applying the ESCO Model to Advance Deployment of Fleet NGVs and Fueling Infrastructure*



## Applying the Energy Service Company Model to Advance Deployment of Fleet Natural Gas Vehicles and Fueling Infrastructure

June 2014



- Explores how energy service providers (ESPs) could offer ESCO-like services to help advance fleet natural gas vehicles (NGVs) and refueling infrastructure deployment
- Identifies opportunities and challenges for both ESPs and fleets
- Analyzes case studies of companies offering these services
- Summarizes business opportunities and provide recommendations for businesses and policymakers



- **Private fleet fueling services**
  - Trillium CNG fueling infrastructure contract with a major retail food chain
- **Private fleet NGV and fueling services**
  - GE Capital and Clean Energy natural gas truck agreement
- **Public fleet contracting**
  - Johnson Controls CNG school bus performance contract with the Rose Tree Media School District

- **NGV fleet projects share opportunities and barriers with building EERE projects and NGV services could be a new business opportunity for ESPs to offer to new and existing customers**
- **While ESCO-like services are not a perfect fit for NGV projects, they could be adapted to be beneficial**
  1. Identification and evaluation of project opportunities
  2. Performance guarantees
  3. Management of technology transition
  4. Alternatives to equipment ownership
  5. Bundling projects into a portfolio
  6. Partnership facilitation
- **Public and institutional sector fleets more likely than commercial fleets to demand more ESCO-like services built around performance contracting**
- **In some states, policy changes may be needed to apply ESCO models to fleet NGV projects in the public sector**

# Report: *The Role of Clean Energy Banks in Increasing Private Investment in EV Charging Infrastructure*



## The Role of Clean Energy Banks in Increasing Private Investment in EV Charging Infrastructure

*(REPORT IN REVIEW)*

2014



- Explores how public-private finance programs could help reduce the barriers to EV charging infrastructure
- Identifies the short term and long term opportunities and challenges for EV infrastructure and financing solutions
- Provides an overview of existing and proposed clean energy banks (CEBs) and other government financing programs that could be applicable to AFVs
- Summarizes available financial program options and provides recommendations for policymakers

- **Short and medium term**

- Sharing upfront costs and risk with project developers
  - Grants and rebates
  - Public private partnerships
- Expanding EV charging developers' access to attractive financing options
  - Direct lending
  - Interest rate buydowns
  - Credit enhancements
  - Alternative collateralization and repayment mechanisms

- **Long term**

- Increasing capital flows by fostering the development of secondary markets for EV charging loans and leases



- Public-private finance programs could help EV markets overcome the limitation currently posed by insufficient access to EV charging infrastructure
- No CEBs have yet focused on the deployment of EV infrastructure, but many of their tools could be applicable
- States could gain experience applying financial tools to increase private investment in EV charging infrastructure by using existing funding sources and authorities to launch pilot programs
- It is valuable for CEBs and other clean energy financing programs to be empowered with a range of tools and to retain flexibility



- **Designing public programs to increase private sector investment in EV charging infrastructure**
  - Funding pools from private stakeholders for public EV charging
  - Public-private partnerships for public EV charging
  - Community-based marketing for EVs (and coordinated EV charging station deployment)
- **Implementing NGV fleet projects using the energy service company model**
  - Public school district school bus fleets
  - Public fleets of light- and medium- duty service vans and trucks
  - Private tractor-trailer fleets



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