

May 14, 2014

# EV Business Models Study Overview

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*Joint Transportation Committee 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**

# Business Environmental Leadership Council (BELC)





- **Plug-in Electric Vehicle Dialogue Initiative (2011-present)**
  - Goal: Bring together automakers, electric utilities, policymakers, and environmental groups to develop and implement consensus approaches to accelerate electric vehicle deployment nationwide
  - 2012: Published report *An Action Plan to Integrate Plug-in Electric Vehicles with the U.S. Electrical Grid*, provides a roadmap to enabling a national EV market
  - 2013: Created PEV Action Tool to help state transportation departments determine goals for EV deployment and chart out path for reaching goals
  - 2014: Published report, *A Guide to the Lessons Learned from the Clean Cities Community Electric Vehicle Readiness Projects*, summarizes lessons learned from 16 groups that received Energy Department grants to advance the deployment of electric vehicles
- **Alternative Fuel Vehicle Finance Initiative (2013-present)**
  - Goal: Develop pilot project strategies to demonstrate new business models for alternative fuel vehicles and fueling infrastructure
  - 2013: Published report, *Alternative Fuel Vehicle & Fueling Infrastructure Deployment Barriers & the Potential Role of Private Sector Financial Solutions*, a seminal report on role of private finance in accelerating EV deployment



- **Deployment of clean transportation technology requires significant capital investments**
  - Governments actively seeking ways to multiply the impact of public dollars and unlock greater private investment
- **EV infrastructure gap (public, workplaces, and multi-unit dwellings) must be bridged for robust EV market**
- **Barriers to bridging infrastructure gap**
  - Residential electricity competition
  - A small market
  - Cost of charging stations
  - High cost of capital
- **Business models can capture value of EV charging networks**
  - Public-private finance programs, including public-private partnerships
  - New business arrangements



- **Private finance can leverage small public investments and overcome market deficiencies**
- **Existing financial mechanisms have helped accelerate deployment of cleantech in other sectors**
  - Energy service providers have accelerated deployment of energy efficiency technologies in buildings
  - Public-private finance programs have leveraged public dollars to attract private investment
- ***Washington can be first to use innovative finance to advance EV charging networks***

## Market Barriers

### Low near-term demand for EV charging infrastructure

- **Market Effects:** Limited private investment in charging projects, depresses demand for EVs, etc.
- **Solutions:** Longer loan terms, delayed loan repayment

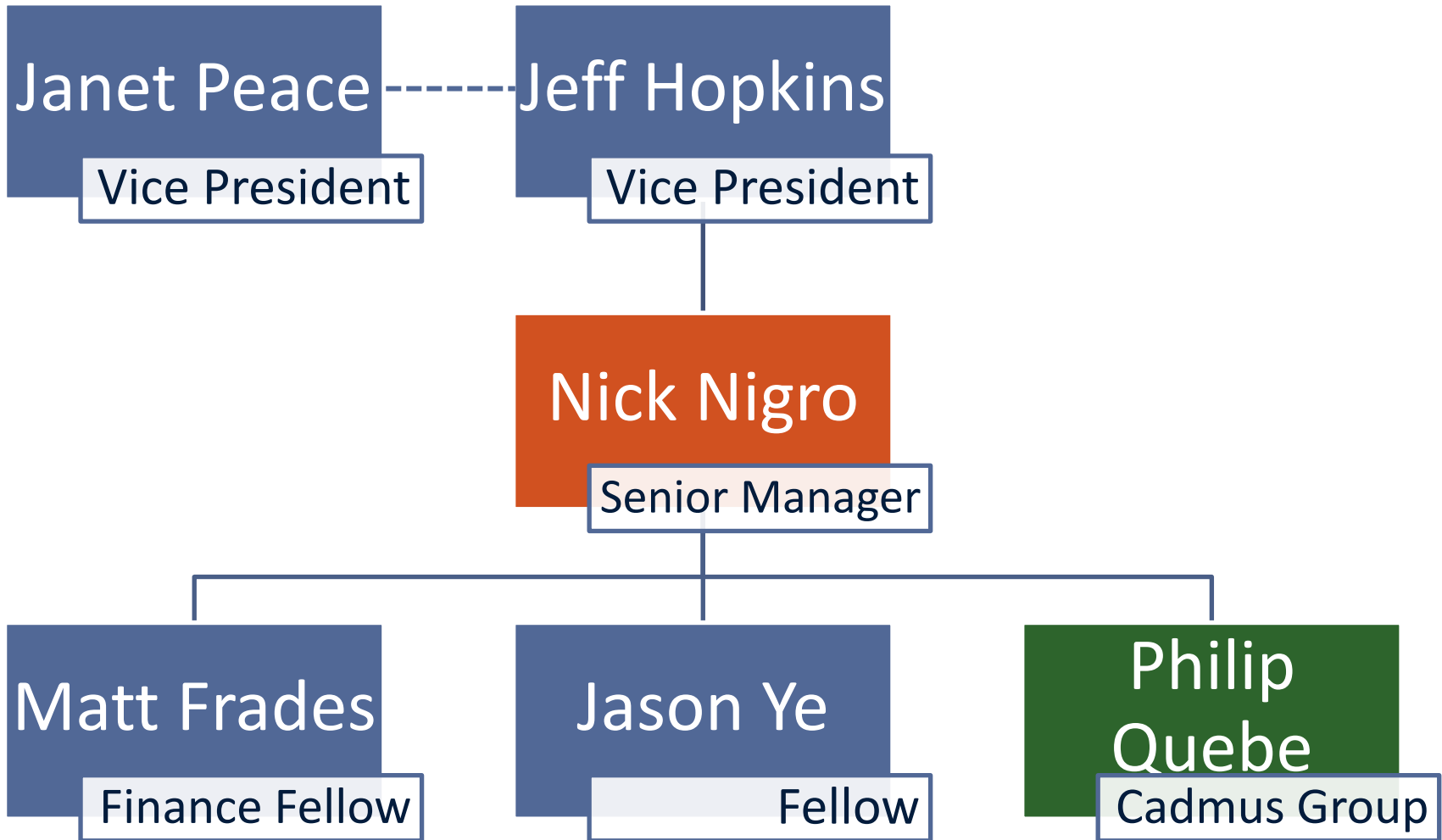
*(short to medium term)*

## Financial Barriers

### Loans cannot be easily resold

- **Market Effects:** Projects appear too risky, thus increasing cost of capital
- **Solutions:** Standardized loan structures, public buying and holding of loans

*(medium to long term)*



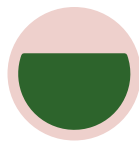




## Evaluate Current Status of EV Charging in Washington

- Establish a stakeholder network
- Construct Public Charging Network Database
- Create interactive maps for charging suitability assessment
- Provide insights into role of public charging networks in encouraging EVs
- Summarize findings

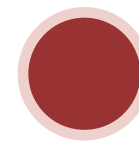
**May – August**



## Develop Business Models

- Leverage C2ES's AFV Finance Initiative
- Conduct Business Model Workshop
- Create 2-3 Business Model Summaries



**July – November**



## Identify Public & Private Roles

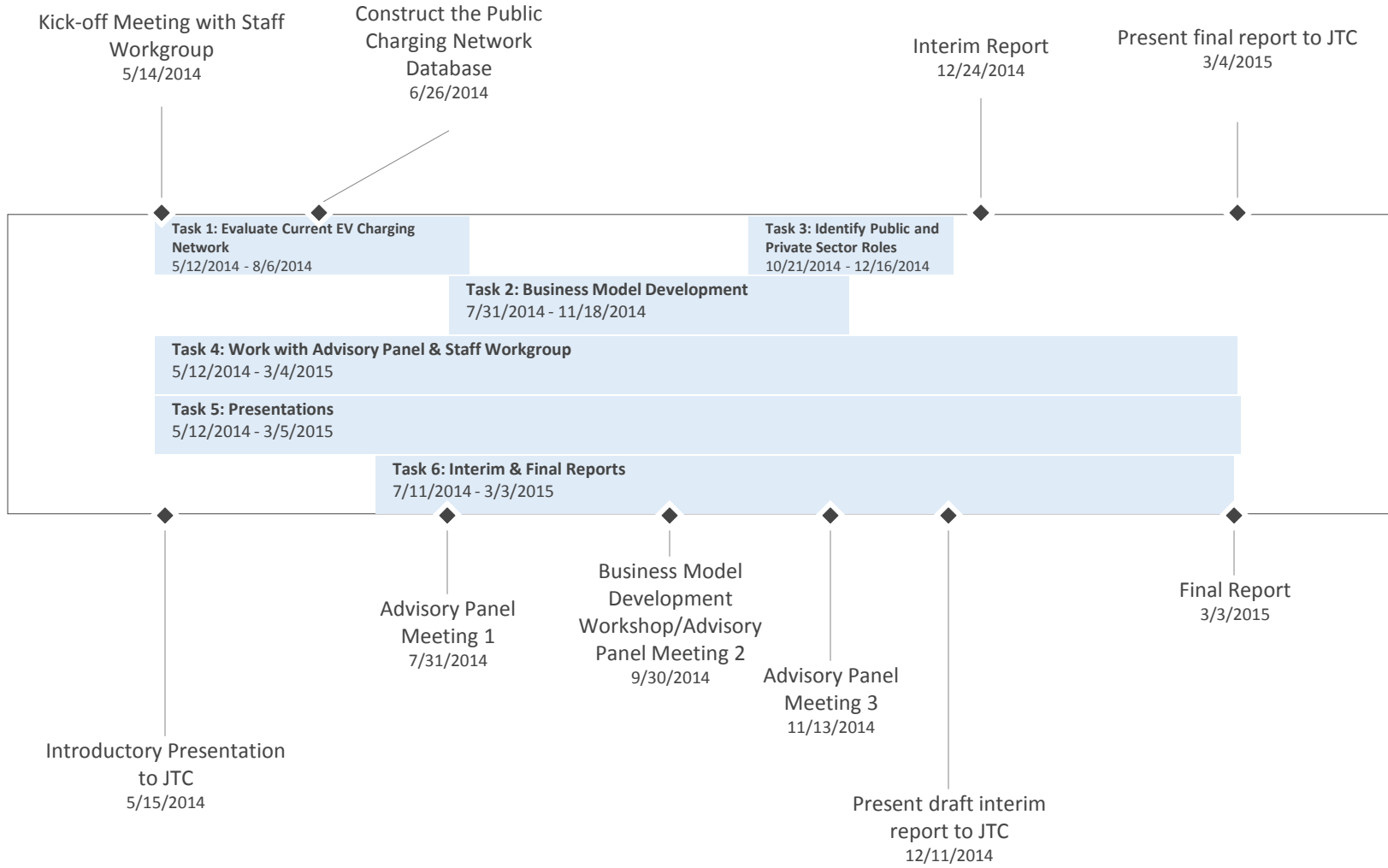
- Execute financial analysis on business model viability
- Identify public sector role in addressing barriers to private investment

**October – December**

-  Advisory Group Meeting
-  JTC Presentation

May 2014 – March 2015

# Detailed Project Timeline





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FOR MORE INFORMATION

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