

Zero-Emission Fleet Infrastructure Planning

June 2 - 3, 2021 | 8:45 AM - 3:00 PM PDT | Digital Access

Wednesday, June 2, 2021

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- 8:50-9:00 **Introduction and Opening Remarks**
Dean Siegrist, *AVP, Transformative Technologies*, BLACK & VEATCH
Randal Kaufman, *Sales Director*, BLACK & VEATCH
- 9:00-9:50 **Session 1: Selecting Your Vehicles, Chargers and Infrastructure**
The first step in transitioning a fleet to zero-emission vehicles (ZEV) is having a solid understanding of the ZEV options available in the marketplace and how to evaluate them. This session will provide an overview of ZEV options, the associated infrastructure, and typical uses cases. It will explain the technology metrics necessary for comparison, and the recommendation methodology for different zero-emissions technologies.
- An overview/comparison of various market lenses for zero emission vehicles for commercial, private, and municipal fleets as well as transit agencies.
 - An overview of electric vehicles and associated infrastructure, including typical use cases and technology metrics for comparison
 - An overview of hydrogen fuel cell electric vehicles and associated infrastructure, including typical use cases and technology metrics for comparison
 - Define and differentiate the various products and the route/charging considerations
 - Differences between long-haul and light/medium-duty
 - An overview of how to calculate baseline energy needs for electric vehicles
 - Planning considerations – energy cost analysis, economics, timing, phasing, resilience
- Cheshta Balwani**, *C&I Renewable and Mobility Energy Consultant, Distributed Energy Projects*, BLACK & VEATCH
Ajay Kasarabada, *Distributed Generation Services Projects Director, Global Distributed Energy*, BLACK & VEATCH
- 9:50-10:05 *Live Q&A*
- 10:05-10:15 *Break*
- 10:15-10:55 **Session 2: Understanding & Choosing EV Charging Equipment**
This session will give attendees an understanding of Electric Vehicle Service Equipment (EVSE), while explaining hardware and software considerations. It will define and differentiate the various products and business models available on the market today

and give an overview of how EVSE choices relate to both demand response and revenue considerations.

- Introduction to EV hardware and service providers and key differences
- Learn how various EVSE business models work
- Understand the difference between Level 2 & Level 3 (DC Fast) charging
- Software considerations: matching project requirements and company needs with software and service
- Demand Response: using charging infrastructure for grid ancillary services

Steve Bloch, *Western Regional Vice President – EVCI*, ABB E-MOBILITY DIVISION
Keith Dickerson, *Sales Director*, BLACK & VEATCH

10:55-11:10 *Live Q&A*

11:10-11:20 *Break*

11:20-12:10 **Session 3: Site Selection & Permitting**

Infrastructure sites should be carefully chosen, as the site location greatly impacts a project's infrastructure design and layout, access to power, and project timelines. Learn what makes a particular site a prime candidate for electric vehicle or hydrogen fueling infrastructure, understand how to make smart choices for energy planning and monetization, and hear why acquiring sites now for future needs is the smart play. This session will:

- Delineate the qualities of a 'good' site for ZEV infrastructure for various use cases such as transit, delivery vehicles, and light-duty passenger vehicles
- Explain how to evaluate and prioritize sites
- Explain benefits of using GIS as a tool for site selection process
- Discuss property entitlements and authorizations
- Review zoning and permitting processes
- Give tips on successful site development

Matt Jurson, *Manager, Site Acquisition & Zoning*, BLACK & VEATCH
Ryan Liddell, *GIS Specialist*, BLACK & VEATCH

12:10-12:25 *Live Q&A*

12:25-1:00 *Lunch Break*

1:00-1:45 **Session 4: Engineering & Design, Utility Coordination**

Engaging and building a relationship with your local utility early in the planning process is a vital step toward successful zero-emission fleet deployment. A technology integrator, such as Black & Veatch, can also bridge this relationship, and accelerate utility design and service delivery. Learn what happens during this phase – which sets up your success for today, and in the future, including:

- Working with utilities to deliver immediate power needs, while accommodating growth over 5-10 years

- Designing and coordinating with utility for on-site infrastructure, such as conduit and switch gear
- Planning space for transformers, alternate energy sources, and utility interconnections (if required)
- Primary power alternatives
- Understanding the proper approvals and contracts
- Planning for necessary utility distribution grid updates, and how that can impact project cost and timelines
- Planning for necessary utility distribution grid updates, and how that can impact project cost and timelines
- Primary versus secondary metering
- Pros and cons of utility-owned versus client owned infrastructure

Greg Krug, *Electrical Design Engineer*, BLACK & VEATCH

Cameron Cederlind, *Design Engineer*, BLACK & VEATCH

1:45-2:00 *Live Q&A*

2:00-2:15 *Break*

2:15-3:00 **Session 5: Panel: Fleet Owner Perspectives and Lessons Learned**

Hear expert advice and insider tips from companies who have already started the process of decarbonizing their fleets. Gain from the knowledge of their lessons learned during planning and pilot stages, and as their ZEV fleets take to the roadways.

Moderators:

Scott Davidson, REVOLV

Tony Deluca, PROTERRA

Randal Kaufman, *Sales Director*, BLACK & VEATCH

Suzanne Linfante, **GPRO: O+M**, *Sustainability Program Manager*, REENERGIZE RENO

Ken Marko, PEPSICO

Paul Stith, *Director, Global Transportation Initiatives*, BLACK & VEATCH

3:00-3:15 *Live Q&A*

3:15 *Day 1 Adjourns*

3:15-4:15 *Virtual Networking*

- 9:00-9:05 **Day 2 Opening Remarks**
Randal Kaufman, *Sales Director*, BLACK & VEATCH
- 9:05-9:50 **Session 6: Preparing for Construction & Overall Project Success**
This session will delineate a walk-through of the construction process and give an overview of common issues and considerations, such as ADA requirements, existing underground utilities, and existing easements and rights of way. We'll also plan for unknowns and uncertainties before the construction phase starts – because you can count on at least one. Once your equipment is in place, all the pieces come together, and we look to operations considerations. Topics that will be covered include:
- Pre-Construction meeting with property owner, utility and general contractor
 - Equipment Deliveries (the importance of timing)
 - Unforeseen conditions such as rocks, soil conditions, and underground Obstructions
 - ADA requirements, such as slope, path of travel, and reach requirements
 - RFI's — quick resolution of field questions and changes
 - Inspections — what is required and who to call
 - Grid integration — technical necessities and coordination in action, know the utility requirements
 - Landscaping, sound, and traffic control
 - Build in time for commissioning and testing, and scheduling and coordination
 - Ensure stations run smoothly after initial commissioning with ongoing Operations & Maintenance
- Richard Horne**, *Director, Project Execution*, BLACK & VEATCH
- 9:50-10:05 *Live Q&A*
- 10:05-10:15 *Break*
- 10:15-10:55 **Session 7: Paying for It All: Understanding Incentives, Funding & Capital and Business Model Strategies**
Research has shown that cost is the biggest concern for any organization looking to decarbonize their fleets. Understanding and finding the right grants, incentives and funding options available can go a long way toward making a ZEV fleet cost-efficient. In addition, several business models are emerging that provide options from independently owned to as-a-service.
- Learn about emerging programs and new policies
 - Know how to find and qualify for state, local, and utility incentives
 - Understand power purchase agreements and private sector partnerships
 - Leverage small public funds to attract larger amounts of private capital
 - Compare owning and operating charging stations versus subscription models
 - Investor financed as-a-service offerings

Meghan Comiskey, *Project Finance Director*, DIODE VENTURES
Alycia Gilde, *Senior Director, Initiative Lead, Clean Fuels and Infrastructure*, CALSTART
Scott Gosselink, *Principal & Head of Underwriting*, GENERATE CAPITAL
Paul Stith, *Director, Global Transportation Initiatives*, BLACK & VEATCH

10:55-11:10 *Live Q&A*

11:10-11:20 *Break*

11:20-11:55 **Session 8: Chart Your Course for Your Clean Energy Journey**

You don't have to leap into decarbonization. In fact, a transitional path is often the most cost-efficient option. This session will explore some options that allow for the buildout of clean transportation and energy program while also creating back-up power and long-term sustainability and resiliency.

- Introduction to ZEV Multi-Fuel Hub Concept that allows for flexibility to transition from current fuels to a completely decarbonized future state
- Create multiple energy sources for back-up power and resilience
- Monetize energy sources to control fleet expenditures and provide additional long-term business revenues
- How to connect your energy assets to the broader energy market to drive additional internal and external economic value
- V2G as back-up generation, supplemental storage, and long-term fleet and facility sustainability

Randal Kaufman, *Sales Director*, BLACK & VEATCH
Leslie Ponder, *Technology Portfolio Director, Global Distributed Energy*, BLACK & VEATCH

11:55-12:10 *Live Q&A*

12:10-12:40 *Lunch*

12:40- 1:30 **Session 9: Office Hours: Interactive Live Zoom Session**

This Interactive Live Zoom Session at the class conclusion allows you to get your most pressing questions answered, and to interact with Master Class Instructors and your peers face to face and in real time.

Richard Horne, *Director, Project Execution*, BLACK & VEATCH
Randal Kaufman, *Sales Director*, BLACK & VEATCH
Leslie Ponder, *Technology Portfolio Director, Global Distributed Energy*, BLACK & VEATCH
Dean Siegrist, *AVP, Transformative Technologies*, BLACK & VEATCH
Paul Stith, *Director, Global Transportation Initiatives*, BLACK & VEATCH

1:30-1:45 **Closing Remarks**

1:45 Day 1 Adjourns

1:45-2:45 Virtual Networking