Industrial Decarbonization: Let’s Level Set First

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Industrial Decarbonization – Where are we in APAC?

>50%
From historically low emissions, APAC is now responsible for more than 50% of GHG emissions.
Source: Asian Development Bank

25%
Industry is directly responsible for a quarter of emissions in APAC. 53% comes from electricity and heat producers, 12% from transport.
Source: IEA, 2021

x2
AI is set to push global data center power demand by more than double by 2030. This is a 15% CAGR between 2023-2030.
Source: Goldman Sachs

Rise in digitalization risks counteracting existing efforts to decarbonize
“Salesforce Calls for AI Emissions Regulations as Concerns Grow Over Tech Sector’s Carbon Footprint”

Wall Street Journal, 22 April, 2024

AI has the potential to exacerbate or alleviate environmental challenges
Capital & Energy Efficiencies: Lower Hanging Fruits + Digital

Detect, Diagnose, Resolve
• Near-real-time infrastructure-wide awareness of performance deviations
• Prioritize maintenance by condition
• Stored information drives advanced pattern recognition
• Identification and improvements – digital twinning

Renewables and storage site development
• Maximizing dispatchable energy with storage, optimal grid access and systems
• Advanced financial modelling
• Integrated GIS data analysis comparing multiple sites and risk factors

Data for decision making, operational optimization, generation and demand dovetailing, and better financial performance
Complex systems driven approach around integrated solutioning coupled with regulatory enablers to maximize energy utilization.
Our client sought to understand the opportunities from transportation decarbonization across their various fleets including medium- and heavy-duty vehicles as well as light cost-savings opportunities from electrifying its commercial fleets across business units and jurisdictions and tapping on data driven planform approaches to utilize opportunities around energy demand and supply, ancillary opportunities, and energy resiliency.

**BACKGROUND**

- **Sustainability impact assessment**: assess impact of decarbonization of Clients transportation fleets and develop a model for the carbon reduction including identifying the cost-savings opportunities from electrifying its commercial fleets across business units and jurisdictions.
- **Transportation electrification business opportunities**: evaluate providing transportation electrification services to markets in southeast Asia balancing customer needs to decarbonize their own fleets with revenue opportunity for the Client.
- **Site assessments**: perform specific site assessments at three pilot projects site to assess site needs and cost estimates to form the foundation for a broader buildout of transportation decarbonization infrastructure.

**SCOPE**

The project is currently underway to move from testbed to scale across a potential of 10,000 vehicles.
1. Community Energy Management
   Campus-wide Network Strategies

2. Integrated Solar Microgrid
   Campus-wide Network Strategies

3. Electric Vehicle Network
   Campus-wide Network Strategies

4. Smart Landscape Network
   Field and Public Promenade Strategies

5. Smart Parking Hubs
   Parking Lot Strategies
Our WHQ Installation Demonstrates Technology and Delivers a Platform for Solution Development

- 150kWh Battery Energy Storage System
- 50kW Rooftop Solar Photovoltaic (PV)
- 2x 65kW CHP Microturbines
- Microgrid Energy Management Application & Public kiosk display
- Geothermal
- Electric Vehicle Charging Stations
Leading our Clients into Tomorrow

Indispensable partner enabling our clients’ growth navigating the world’s most pressing infrastructure opportunities and challenges
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