



# AEG Mobility & Transportation Challenge

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ENGIE Impact



# ENGIE's Mobility offerings & enablers are tested, proven, and trusted around the globe.

**2<sup>nd</sup>  
Largest**  
provider of EV charging stations

**900M+ kWh**  
charged in 2018

**75,000+**  
installed charging stations globally

**\$3.2B in Savings**  
For US clients identified via data analytics over past 5 years

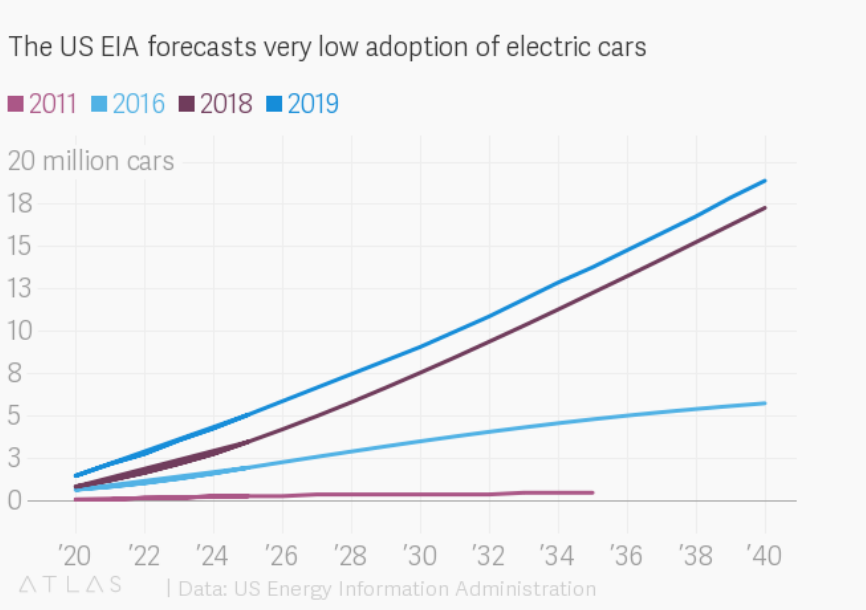
**1,000,000+ Sites**  
Under management (25% of Fortune 500) supported by our platform and analytics

**55+ Countries**  
use ENGIE-provided chargers

**900 Experts & Researchers**  
In 11 R&D centers in North America

**Dozens**  
Of proprietary software and digital solutions

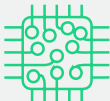
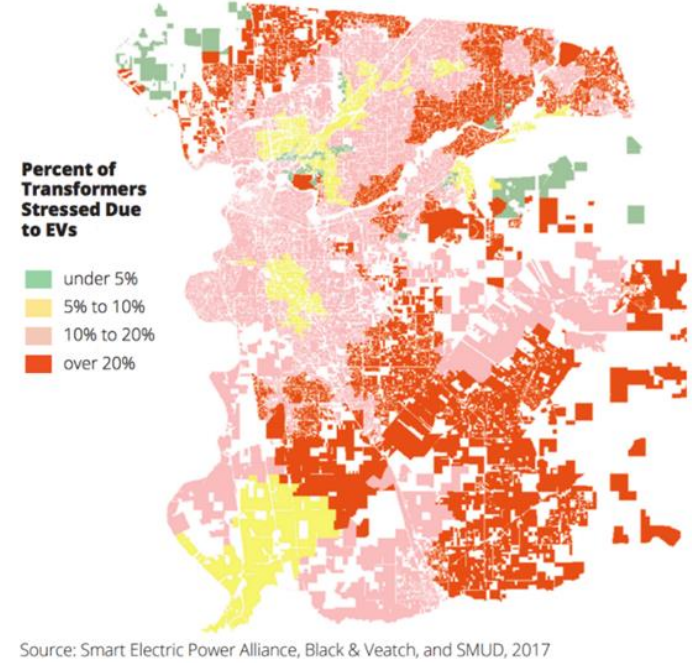
# Mass EV adoption is inevitable



- Each year, EV adoption forecasts are upwardly revised
- 13 states followed CA's lead on GHG standards and/or ZEV mandate
- EV is still a developing market despite their current electric power demand may be minute

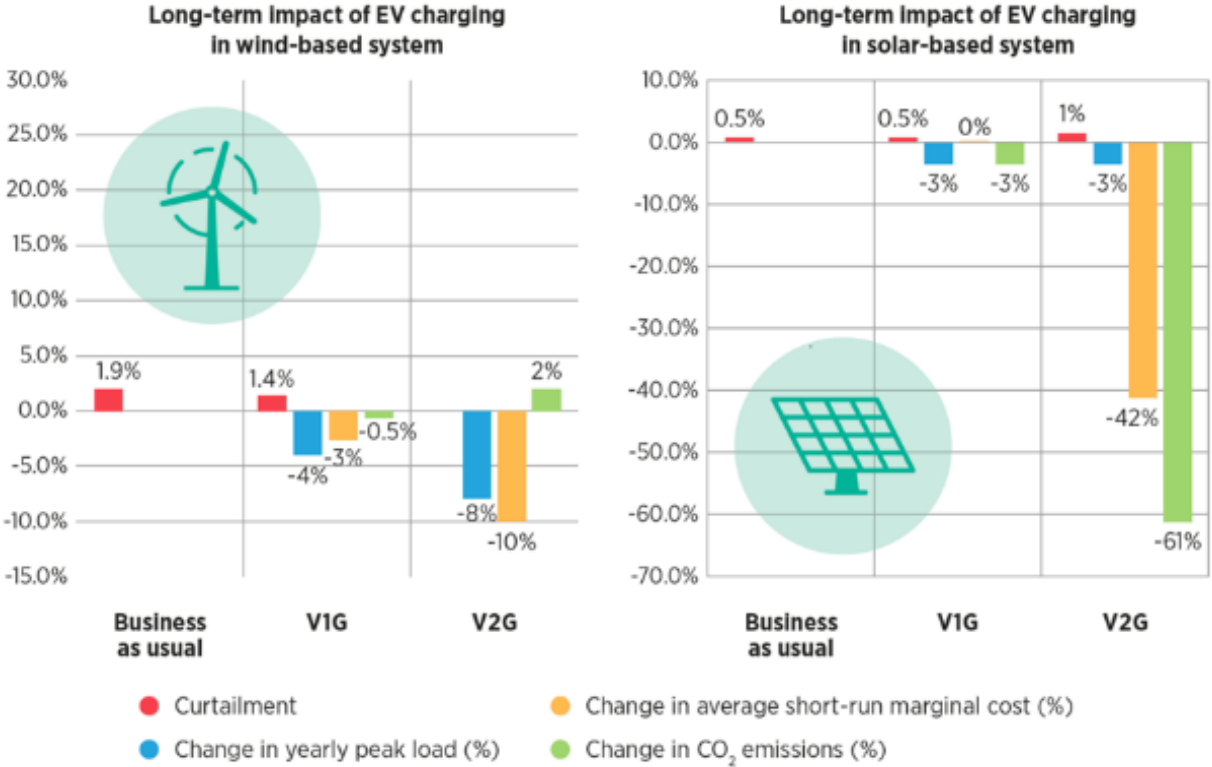
# EVs create major infrastructure opportunities & challenges

FIGURE: EV Impact on Transformers in SMUD Territory Through 2030



- EVs are not dispersed evenly across all territories, as there has already been real-world evidence that they are clustered in particular areas, such as California

# Vehicle-Grid Integration | Considering EVs as energy assets creates new opportunities for equity & sustainability



## Aligned EV & infrastructure planning can:

- Lower infrastructure costs (now & future)
- Reduced grid & transportation emissions
- More equitable access to clean transportation
- New economic opportunities

## ENGIE is a global leader in VGI

- Policy & regulatory development
- Technical standards
- Technology development & deployment
- VGI operations & optimization

Source: International Renewable Energy Agency (2019)

# Consequences for not addressing VGI are significant



Sub-optimal (possibly inadequate) grid infrastructure upgrades



High CAPEX for EV charging infrastructure



Slower EV adoption

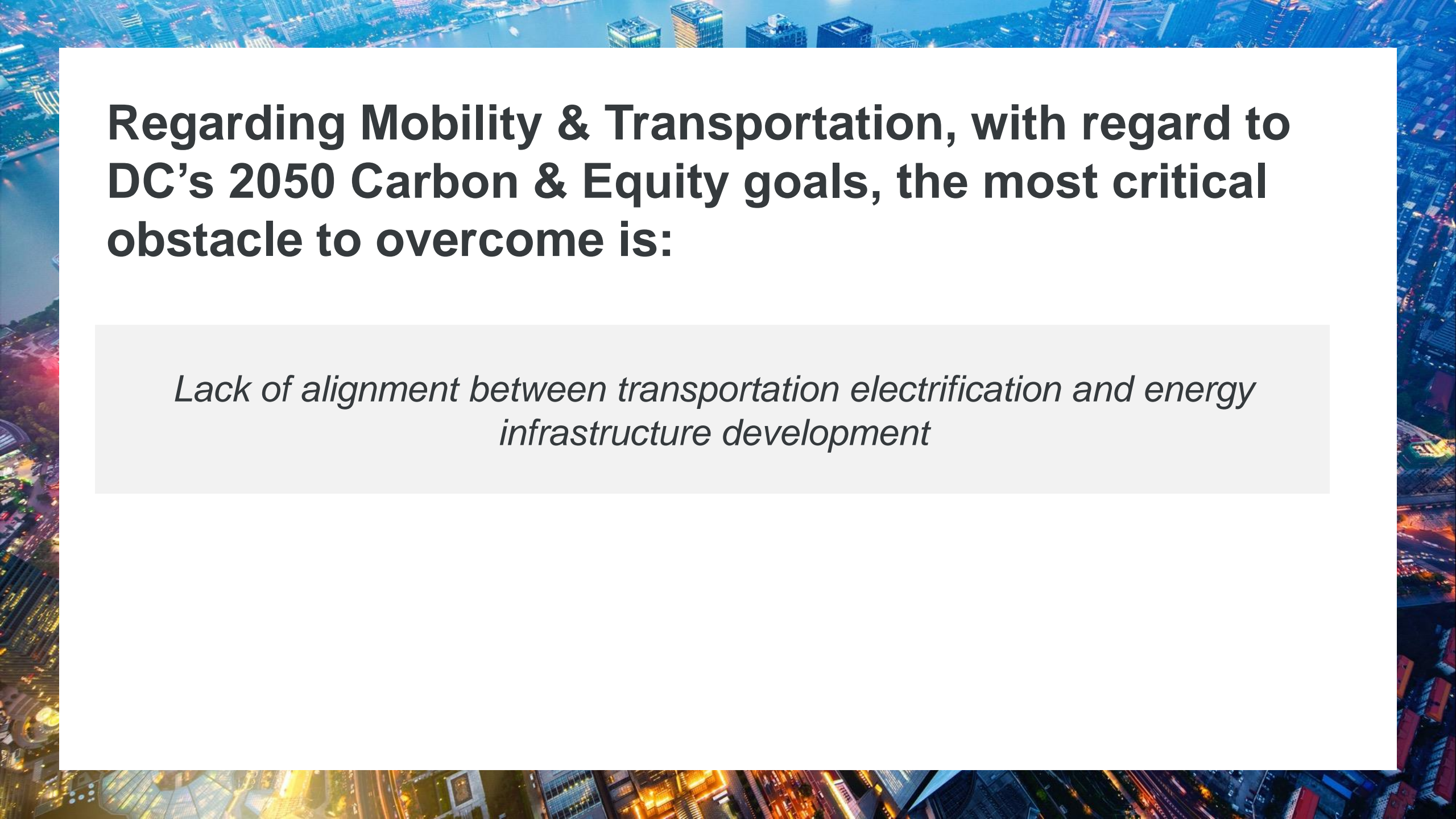


Inequitable access to clean transportation



Reduced economic opportunity





**Regarding Mobility & Transportation, with regard to DC's 2050 Carbon & Equity goals, the most critical obstacle to overcome is:**

*Lack of alignment between transportation electrification and energy infrastructure development*





**Thank you!**

