

“What should regulators and advocates consider when deciding who will build public EV charging infrastructure?”

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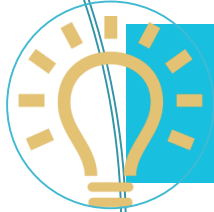
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First...

A decisional  
framework starts  
with the state's  
statutory and  
regulatory goals.



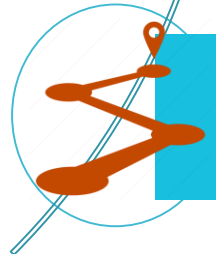
To accommodate market-based EV growth?



Or to accelerate it?



If so, why? Environmental standards? Electric system optimization? Load growth?



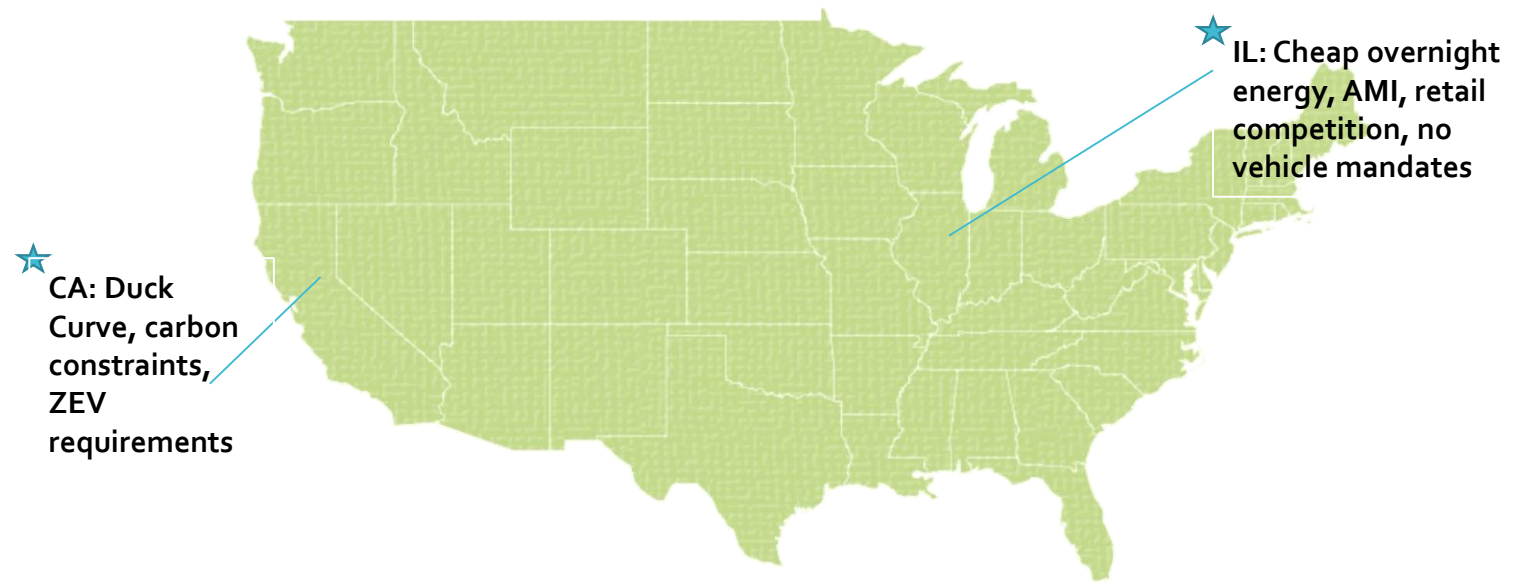
Without statutory directives, does meeting traditional goals require EV policy? (safe, reliable, efficient, least cost...)

# There is no one-size-fits- all solution

Each state's decisions about any support for EV infrastructure and how to achieve system benefits from EV penetration will be based on its:

- Supply & demand characteristics
- Installed network technology
- Market structure
- ZEV definitions/sales standards

(9 states have adopted California standards: Connecticut, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Rhode Island, and Vermont)



# Next...

**When considering public charging investments, answer threshold regulatory questions (with as much evidence and as little conjecture as possible).**

1) What is the need for public charge stations? (Varies from state to state (ZEV vs. PHEV))

2) Will market forces supply sufficient charging infrastructure without utility participation?

3) What is their projected use? (The business case – revenues and expenses, load shape, other system effects)

4) Who will use them? (local jurisdictionals or...)

5) What are the costs and benefits of ratepayer support? Will costs be exceeded by social and consumer benefits?

6) What are the effects on non-participants (without EVs)?

7) What are alternative uses of funding to support EV? (home charging, workplace charging, EV car sharing, smart charging programs, direct load control programs, consumer education, etc.)

# Then...

Consider questions regarding the roles of utility and other actors in planning, constructing and operating public charge facilities.

What are advantages of utilities?

- Optimized siting?
- Costs? (cheaper capital, longer term amortization, costs can be expensed or capitalized)
- Regulatory oversight and accountability? (pricing, terms and conditions)
- Can integrate charging with system operation?
- Established customer relationships, call centers, billing and data systems?

What are utility disadvantages?

- Charging not a historical core competency?
- Costs may be higher?
- Limited incentives?
- Risk of stranded costs?
- Would stifle innovation?

What are the advantages of non-utilities?

- Entrepreneurial culture?
  - Advanced technology deployment?
  - Shared risk?
  - Competitive outcomes?
  - Responsiveness to markets?
- What are the disadvantages of using non-utilities?
    - Lack of accountability?
    - Higher costs?
    - Unknown and unregulated pricing, terms, conditions
    - Risk of failure

...and how can utility and non-utility participation be combined and leveraged to maximize public and system benefits?



## Because EVs are coming and, like it or not:

- Utilities will have a role in charging infrastructure;
- Unregulated actors will also be involved;
- All utility customers will be affected;

... So it's time to begin figuring out how regulation can ensure benefits for all consumers.



## Suggested principles to guide EV public infrastructure investment:

1) Demonstrate that benefits will exceed costs of any utility funding or investment

2) Maintain regulatory oversight of any services provided at utility customers' expense

3) Ensure net benefits for non-participants

4) Promote interoperability, common standards and open networks

5) Maximize grid optimization and efficiency

FYI, my “ABCs of EVs” report (written for CUB) can be found at:

[https://citizensutilityboard.org/wp-content/uploads/2017/04/2017\\_The-ABCs-of-EVs-Report.pdf](https://citizensutilityboard.org/wp-content/uploads/2017/04/2017_The-ABCs-of-EVs-Report.pdf)