Multi-Family Housing

Getting a Handle on Ongoing Charging Costs

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MFH EV Charging Conference
May 18, 2022
Enumerating Ongoing Costs - Summary

- Networking/Communication fees (optional)
- Operation and Maintenance
- Repair (as needed)
- Electricity usage
Recurring Fees (networking/communications)

- Communications hardware
  - Cell modems (host owned)
  - A single device can serve multiple chargers

- Network service provider
  - Annual or monthly service fee
  - System level or per port fee

- These types of fees should be predictable and fixed
Operation and Maintenance

- **Routine inspection**
  - Cables/connectors
  - Equipment displays
  - Online resources (networked or communicating hardware)
  - Maintaining signage

- **Access control**
  - Maintenance of access control (assigned keys, RFID cards, ...)
  - Policing of charging hardware (monitoring usage of charging)
  - Use of network provider tools

- These costs would need to be estimated
Repair

- A non-recurring, as needed cost
  - Will need to estimate until some history is established
  - Insurance?
- Labor needed to contact support or arrange repair and tag equipment “out of order”
- Actual repair cost
- How is repair cost assigned across individual users?

- These costs are unpredictable
Electricity Cost – Metering/Billing Options

Utility Metered Options

- At the independent dwelling level
  - Billed on existing electric account at rate selected by consumer
  - Physically difficult to implement
  - Only actual electric cost is billed

- EV charging on independent meter (charging only)
  - How is energy cost mapped to independent users?
  - Likely on commercial rate with demand charge component
  - Might be eligible for special EV electric rate

- EV charging on common area meter with other loads
  - Need to allocate charging energy to specific user(s)
  - Cost partially dependent on interaction with other loads related to demand charges

Third Party Metering/Networking

- Metered within charger (electric vehicle supply equipment)
- Requires independent billing system
- Requires means to identify users
- Many networks offer sophisticated tools that monitor system statistics
- Allows for assessing fees based on actual cost impact of a specific user
- Additional fees could be included
Some Added Complexities of Electricity Cost

- Different customers in same complex may be on different electric rates
- If charging energy is metered at the facility level, then it would likely fall under a commercial rate (which could include a demand charge)
- Individual behaviors can impact electricity costs for all users
- Charge stations consume a small amount of standby energy (nominal $10/year cost) – where to allocate?
Summary

- Some costs are easily predicted (networking fees)
- Some costs will require estimates (maintenance)
- Some costs unknown until such time as you have a system history (repairs)
- Electricity costs are complex to assess
  - They can have time/season/and demand related components
  - Metering options impact available rate options
  - Individual charging behaviors can impact cost for all users
  - There are some baseline costs (standby energy use, meter fees)
- Site host will need to decide on “calculus” of fee assignment to individual users
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