



# MICROGRID KNOWLEDGE™

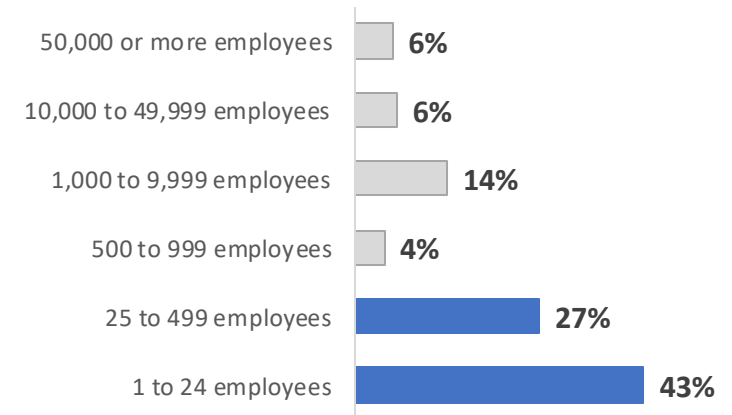
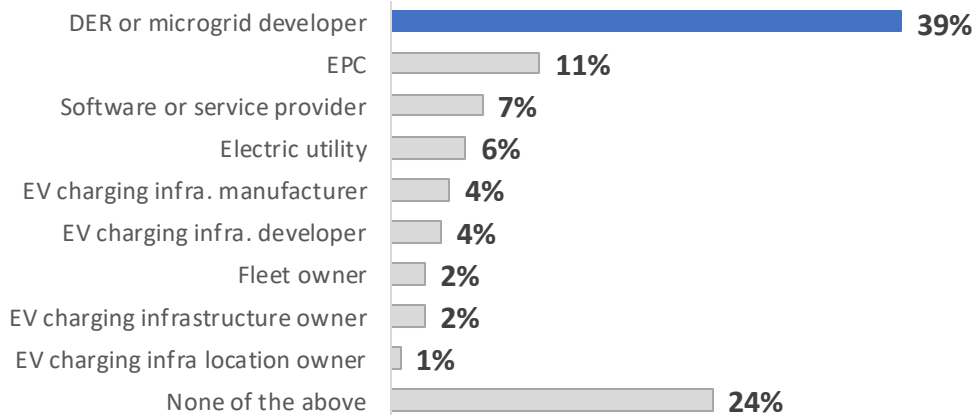
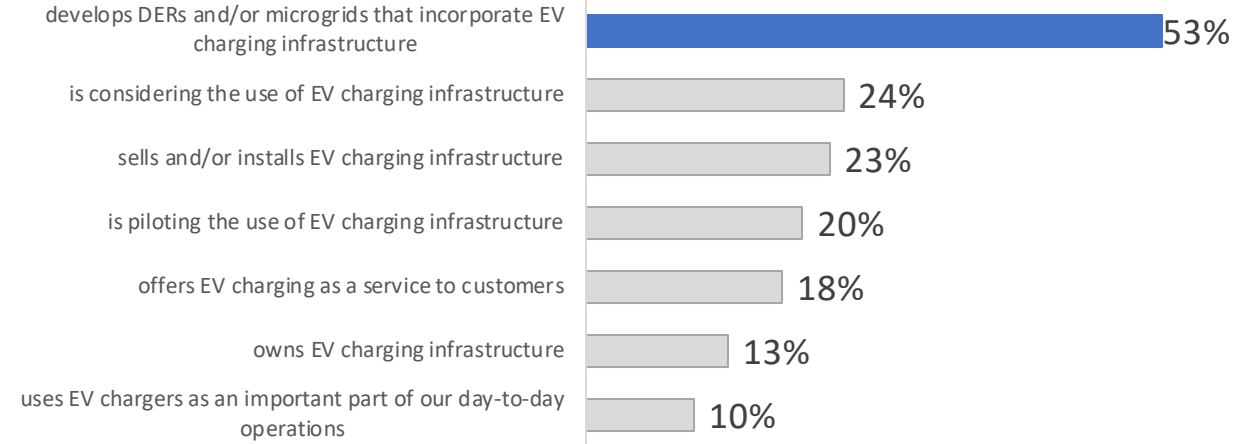
2023 CONFERENCE

Survey Results:  
Commercial EV Charging  
Infrastructure Development

# Methodology and background

- *Microgrid Knowledge* database
- 161 qualified respondents
- All involved with EV charging infra.
- Duration: End March – End April

## My organization ...

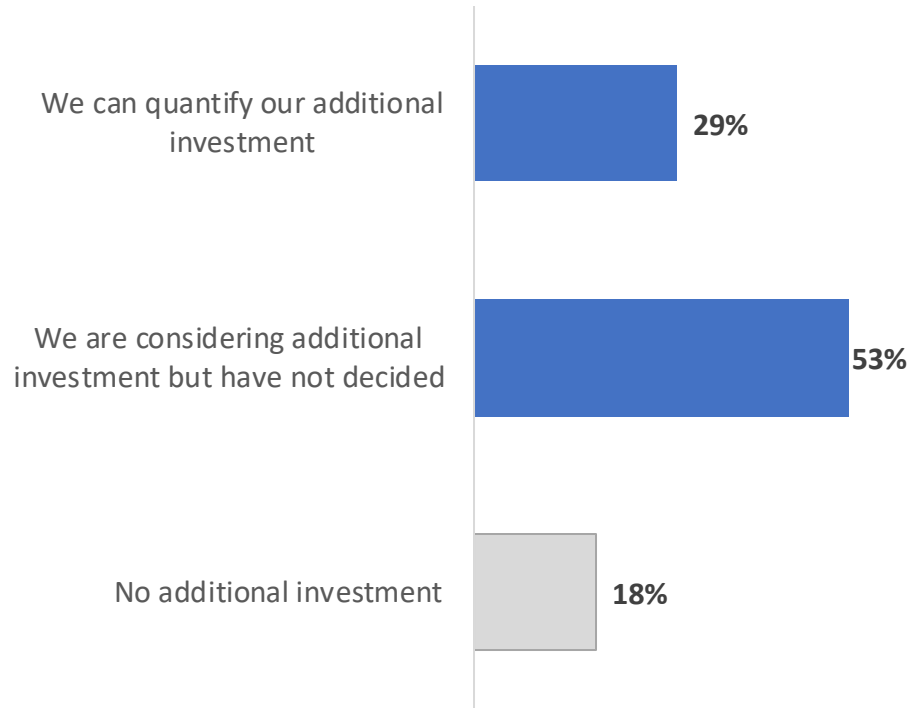


# Summary results: 3 emerging themes

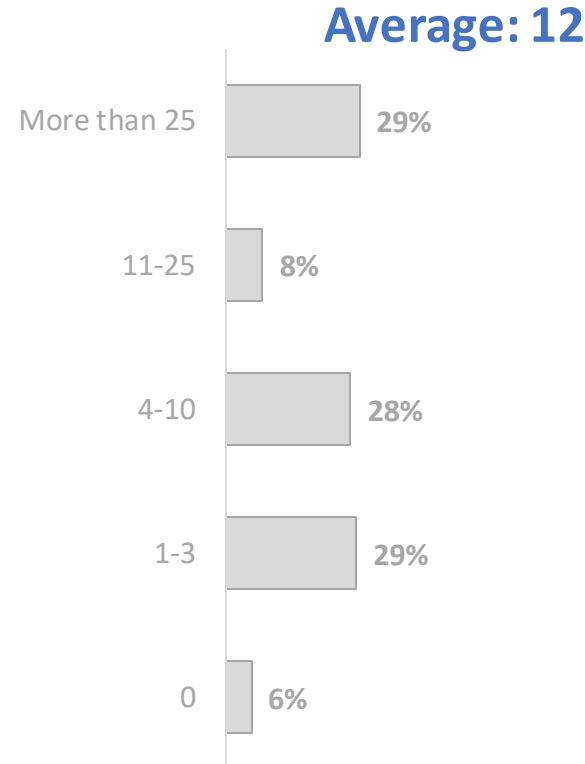
- 1 EV charging industry needs continued and active government support
- 2 Grid hurdles and associated costs are major constraints to power access
- 3 Microgrids can help solve this challenge and improve returns

# Significant reliance on BIL and IRA Incentives

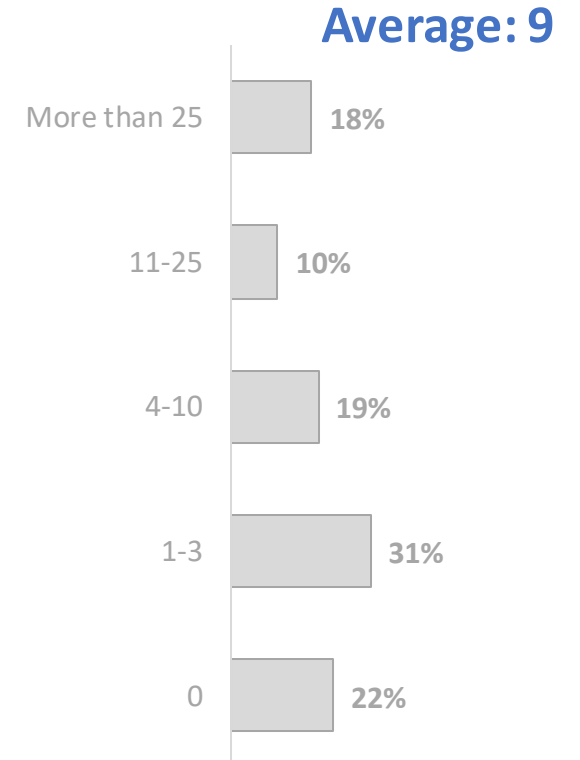
How much additional investment will your organization make in new EV charging infrastructure due to the BIL and IRA incentives?



How many EV charging infra. projects expected to complete within the next five years?



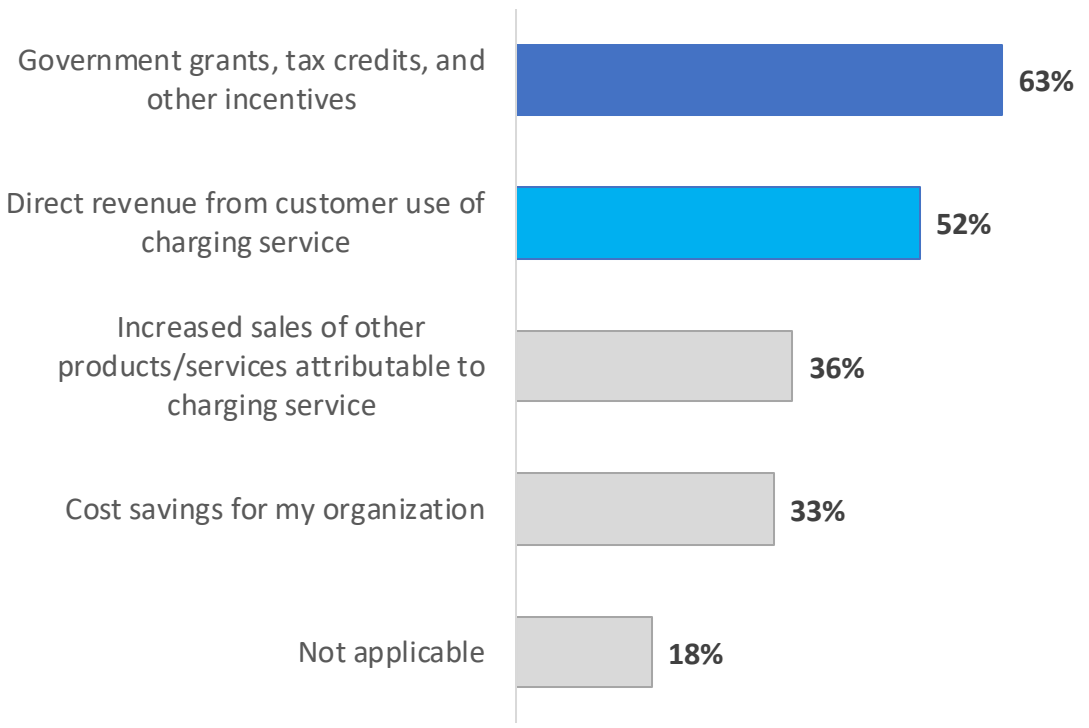
How many EV charging infra. projects expected to complete within next five years that WOULD NOT have developed without incentives?



NOTE: BIL = Bipartisan Infrastructure Law; IRA = Inflation Reduction Act

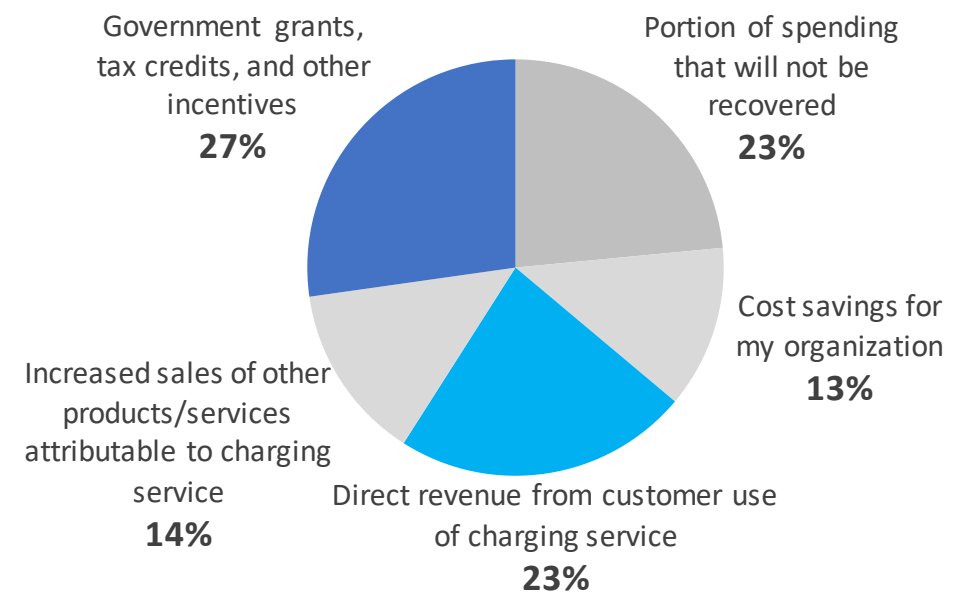
# Grants continue to cover major cost of EV Charging Infra.

How do you expect to recover the cost of EV charging infrastructure investments?



Base: All respondents (n=160); multiple answers allowed.

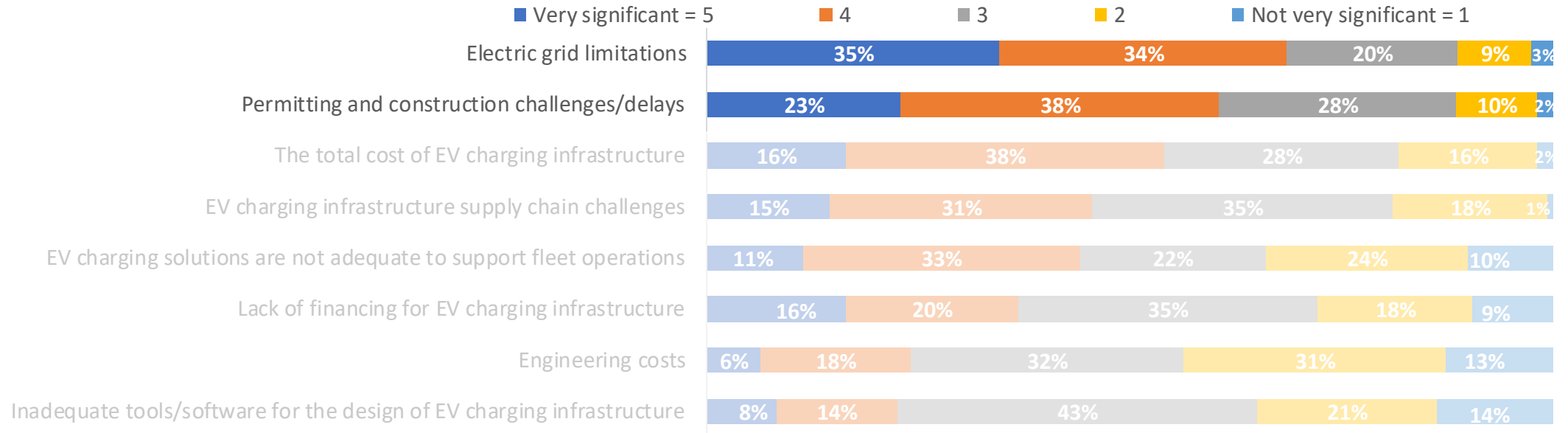
Enter percentages each of the following options will contribute to recovering the cost of EV charging infra. investments.



Base: All respondents (n=119). Average percentages are reported.

# Grid limitations, permitting & construction delays are major roadblocks

Which of the following are significant roadblocks to the rollout of EV charging infrastructure for commercial EV usage?



Base: All respondents (n varies from 157 to 160).

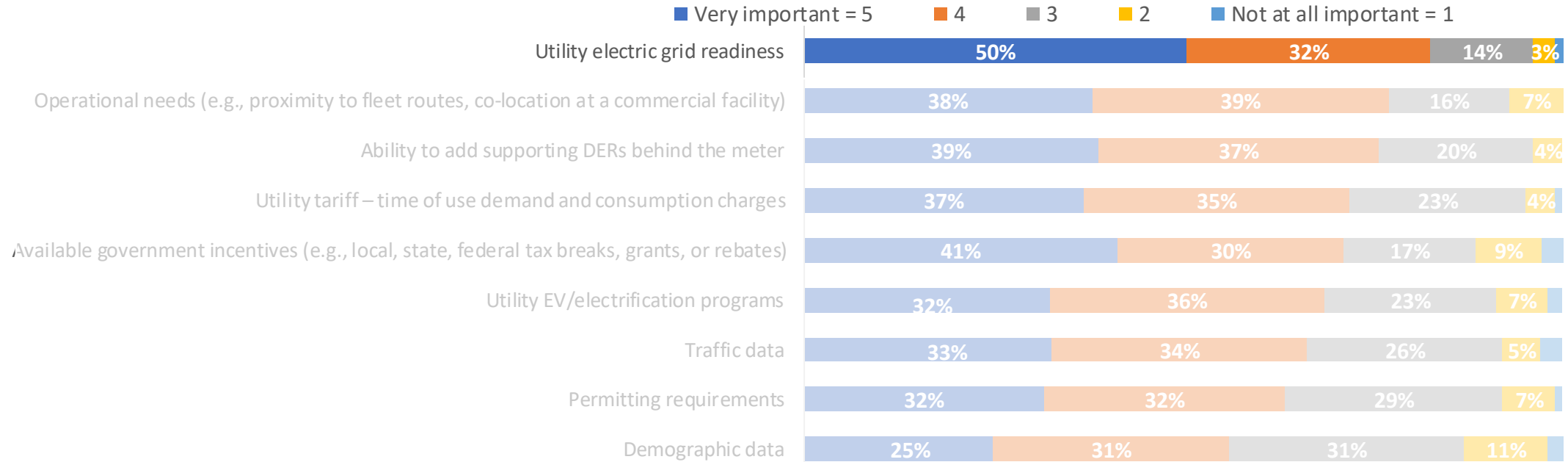
**Comments:**

*“Better, easier process for interfacing and partnering with our local power utility for developing standardized designs and interconnection details for smaller DER and EV charging facilities. Right now every site has to be approached as a custom install and it takes forever.”*

*“Cost of grid upgrades to meet EV charging loads.”*

# Utility grid readiness tops list when ranking EV charging locations

How important are the following variables when ranking the potential of EV charging locations?



Base: Developers, Manufacturers, Owners, Utilities (n varies from 100 to 104).

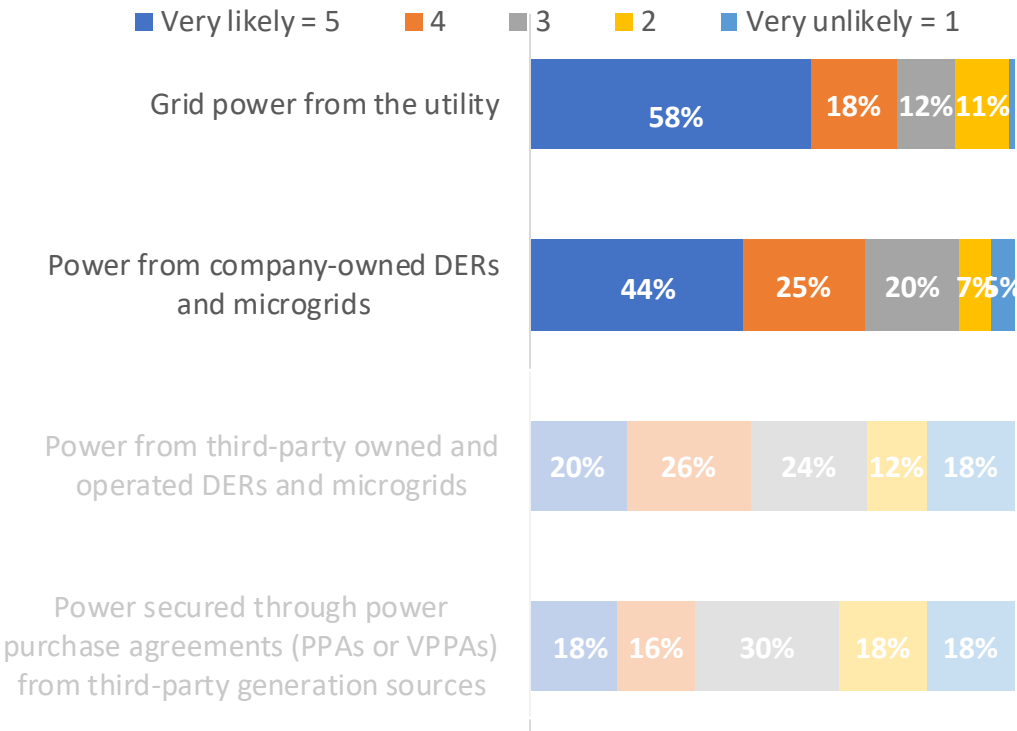
**Comments:**

*“Best locations to build EV charging stations based on distribution system studies”*

*“Grid availability without a costly study.”*

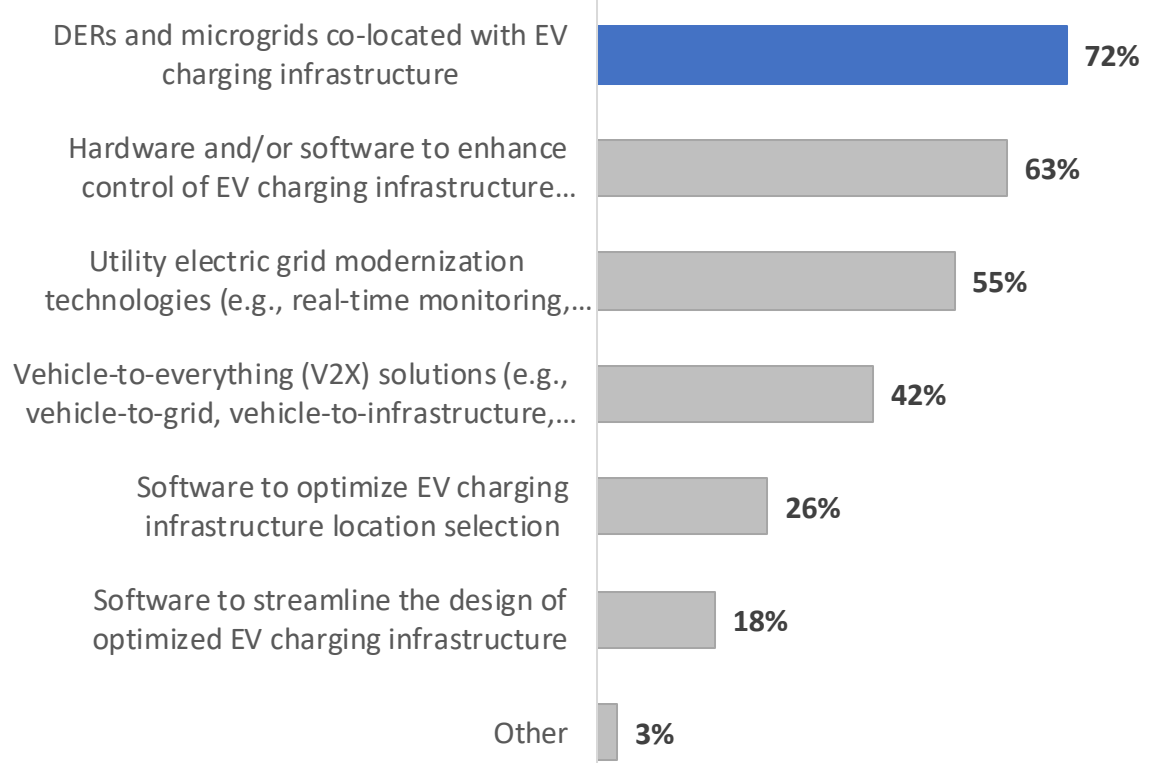
# After grid power, DER/Microgrids next best option and game changer

How likely are you to use the following power sources for future EV charging infrastructure?



Base: Developers, Manufacturers, Owners, Utilities (n varies from 105 to 107).

Please select the top 3 game-changing technologies for stimulating the transition to commercial EVs and EV fleets.



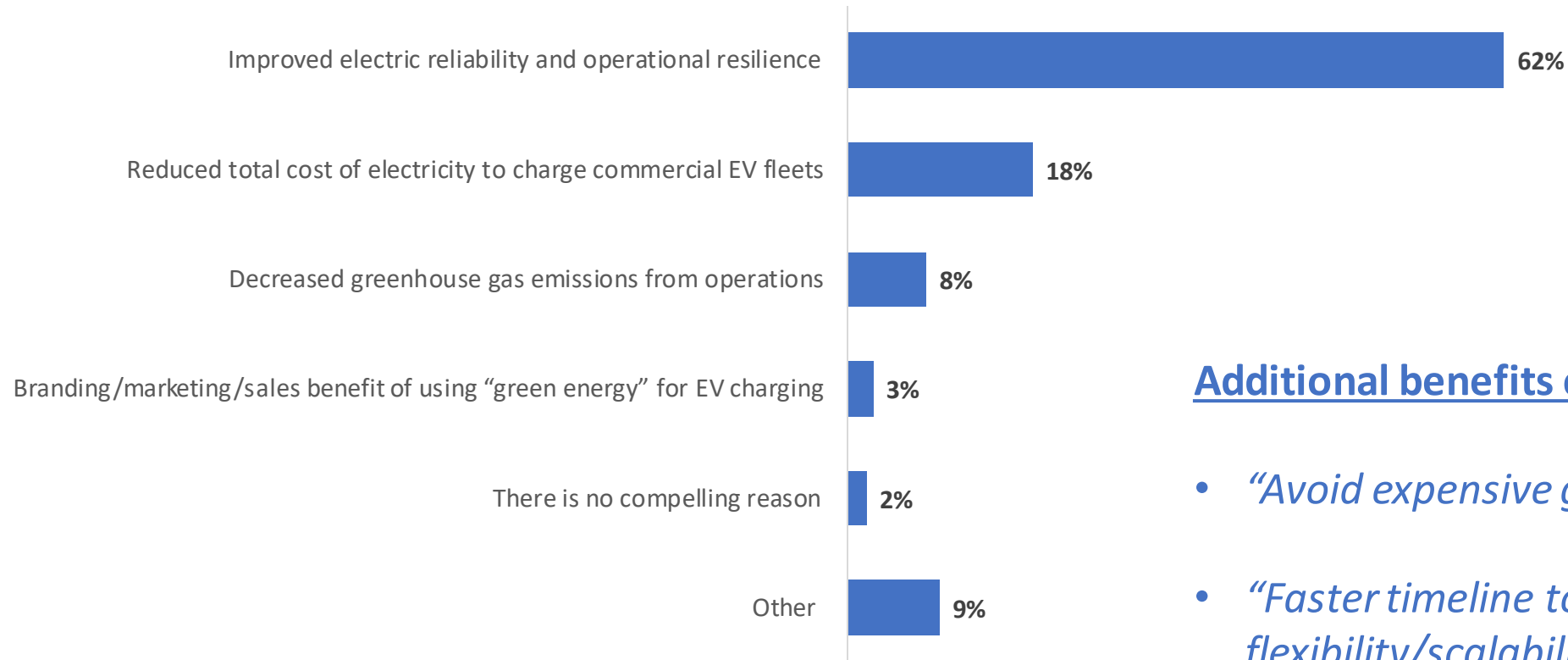
Base: Respondents (n=161); multiple answers.





# Reliability & resilience main reason for DERs/microgrids supporting EVSE

What is the most compelling reason DERs and microgrids should be used to support commercial EV charging?



Base: All respondents (n=160).

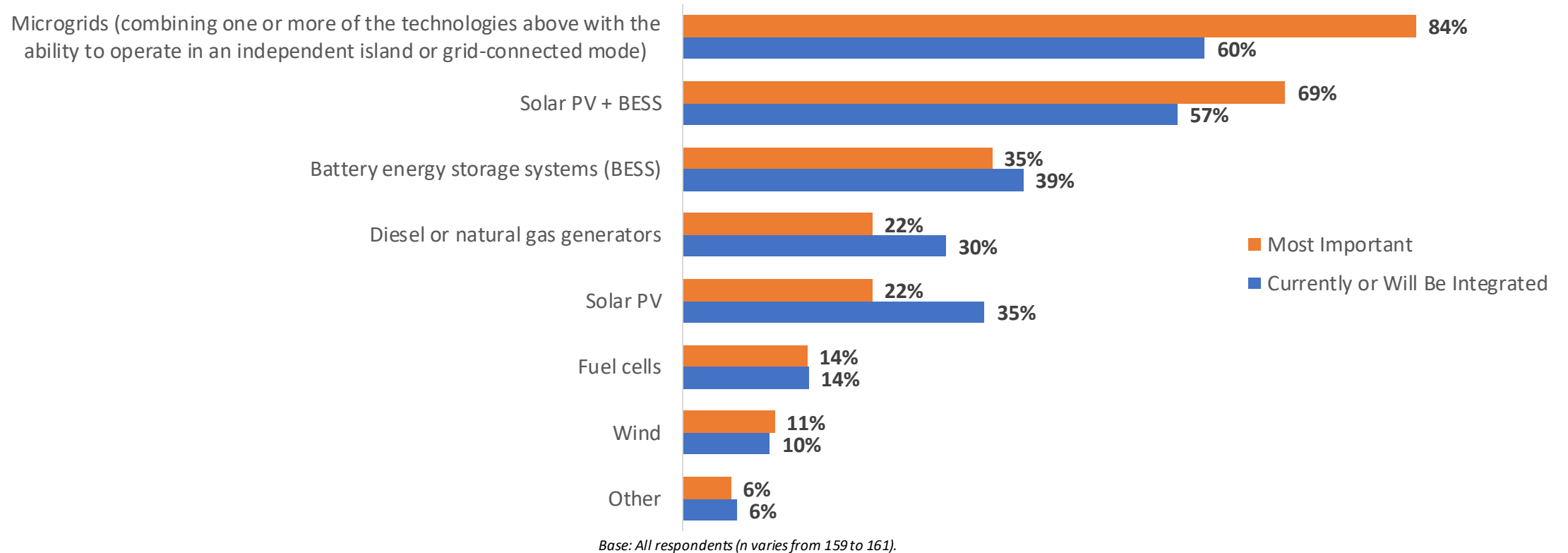
## Additional benefits called out:

- *"Avoid expensive grid capacity upgrades"*
- *"Faster timeline to implement and flexibility/scalability"*
- *"Multi-purpose benefits for batteries"*

# Microgrids, Solar/BESS were flagged for co-location with EVSE

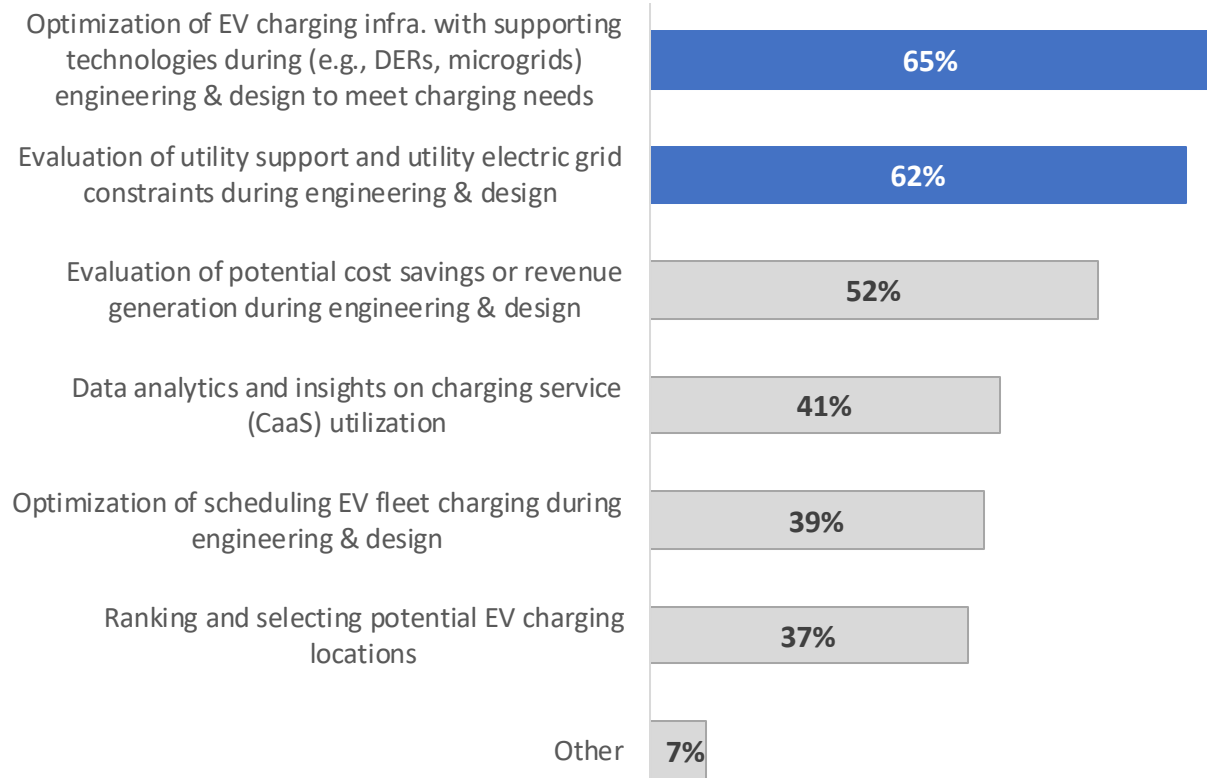
What three generating technologies do you think are most important to co-locate with EV charging infrastructure?

Which technologies are currently integrated or will be integrated with EV charging infra. your organization owns, uses or develops?



## 3 2 needs: Optimization of EVSE with DER & evaluation of grid constraints

What capabilities would improve the process of developing and/or operating new EV charging infrastructure?



Base: Developers, Manufacturers, Owners, Utilities (n=106); multiple answers allowed.

### Comments:

*“We would want to analytically:*

- Determine the optimal number, spacing, and charge rate of chargers necessary to support a fleet of given specifications*
- Optimize the potential cost savings of DERs and/or BESS storage co-located with EV chargers for a given fleet use case and charging regime.”*

*“We would want to know:*

- If we could be more cost-effective in generating our own electricity vs utilizing the grid.*
- What utility programs we could utilize to sell back (or just be available) to the grid for additional revenue sources.”*

# Thank you!

Aks Gulhati  
Chief Business Officer  
XENDEE Corporation  
[agulhati@xendee.com](mailto:agulhati@xendee.com)