# Grid impacts from transportation electrification

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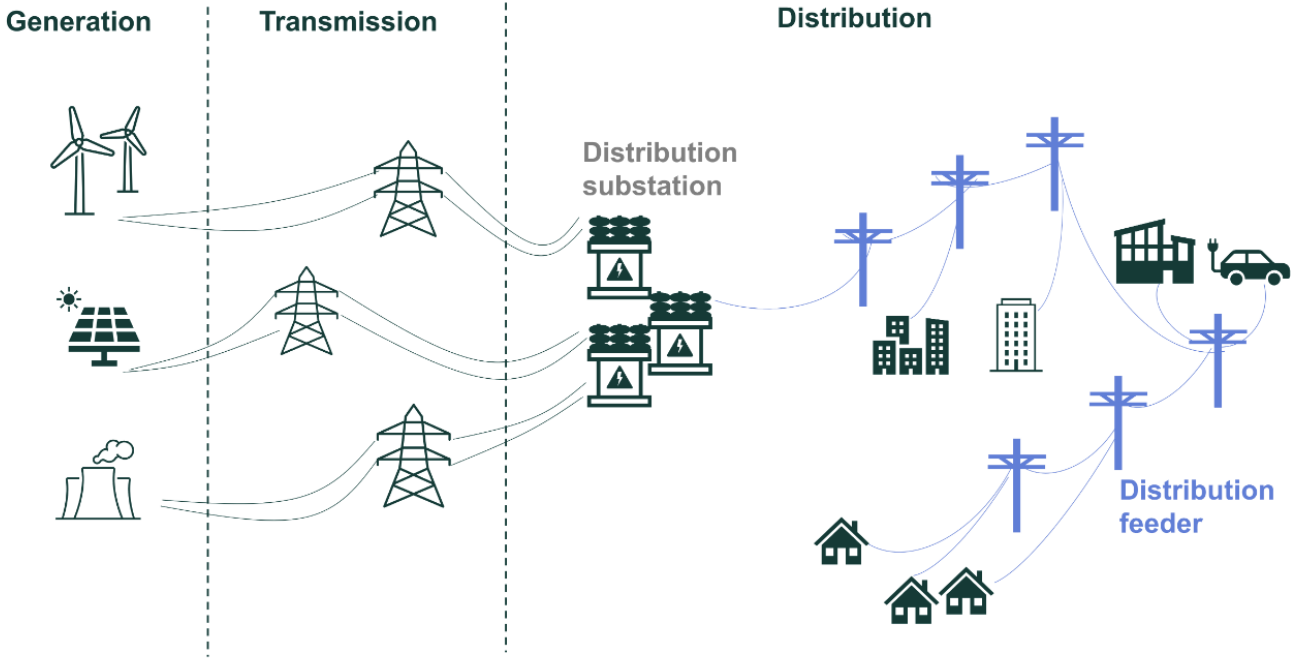
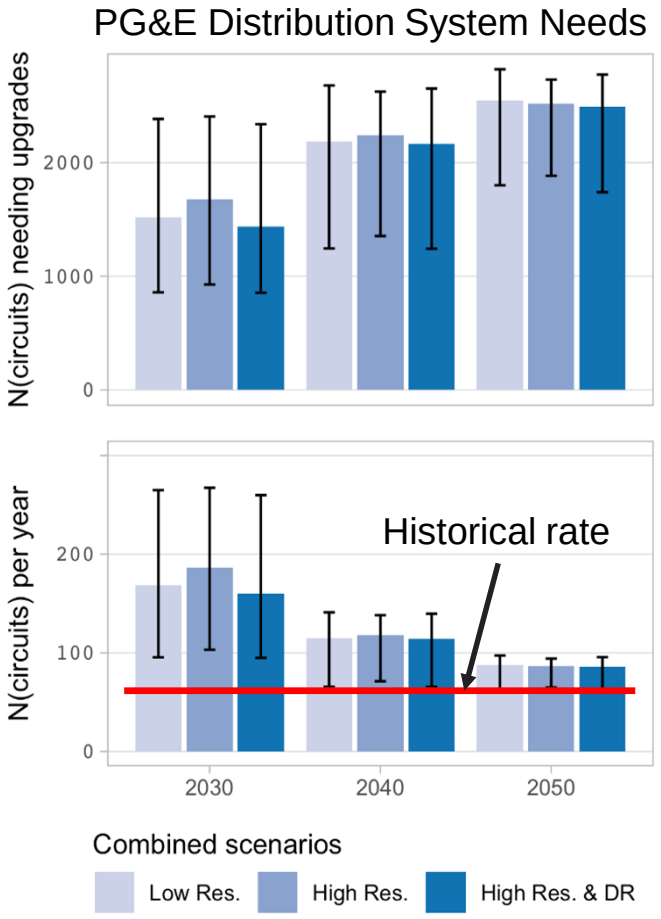
# Electrification implies an enormous infrastructure transition



# Distribution system capacity needs for electrification

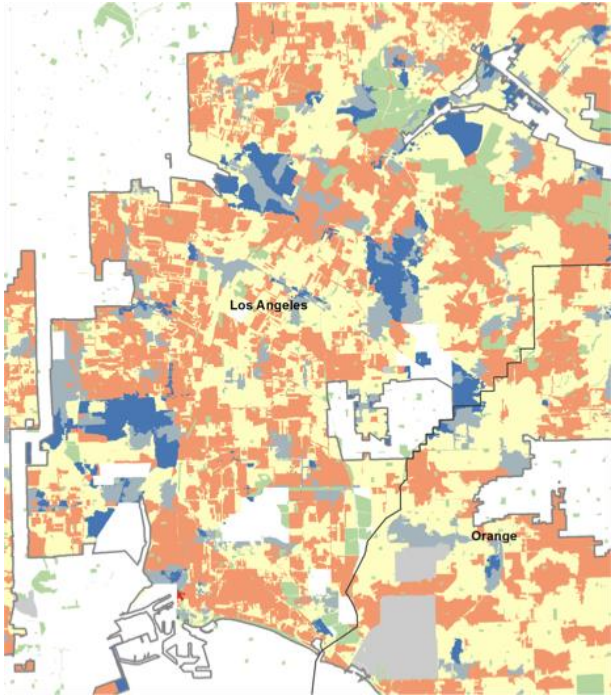
- Several recent studies show significant buildout to support electrification pathways
- Can distribution equipment **supply chains** deliver?
- Is the utility **workforce** ready?
- Will all communities have **equal access**?




Elmallah et al, ERIS, 2022

# The importance of equity and planning

- Communities with more Black or Latinx residents tend to have less capacity for new load per household.
    - Historical distribution system planning processes have not set these communities up for electrification




New DER capacity for a portion of SCEs service territory including parts of Los Angeles and Orange Counties. (Brockway et al, Nature Energy, 2021)

# Solutions

- Distribution grid-focused smart charging delays the need to build new capacity
  - Must accelerate development of hardware, software; customer engagement
- Longer term distribution planning tools enable proactive buildout
  - Enables workforce planning, supply chain commitments, equitable allocation of grid capacity