The Changing Landscape

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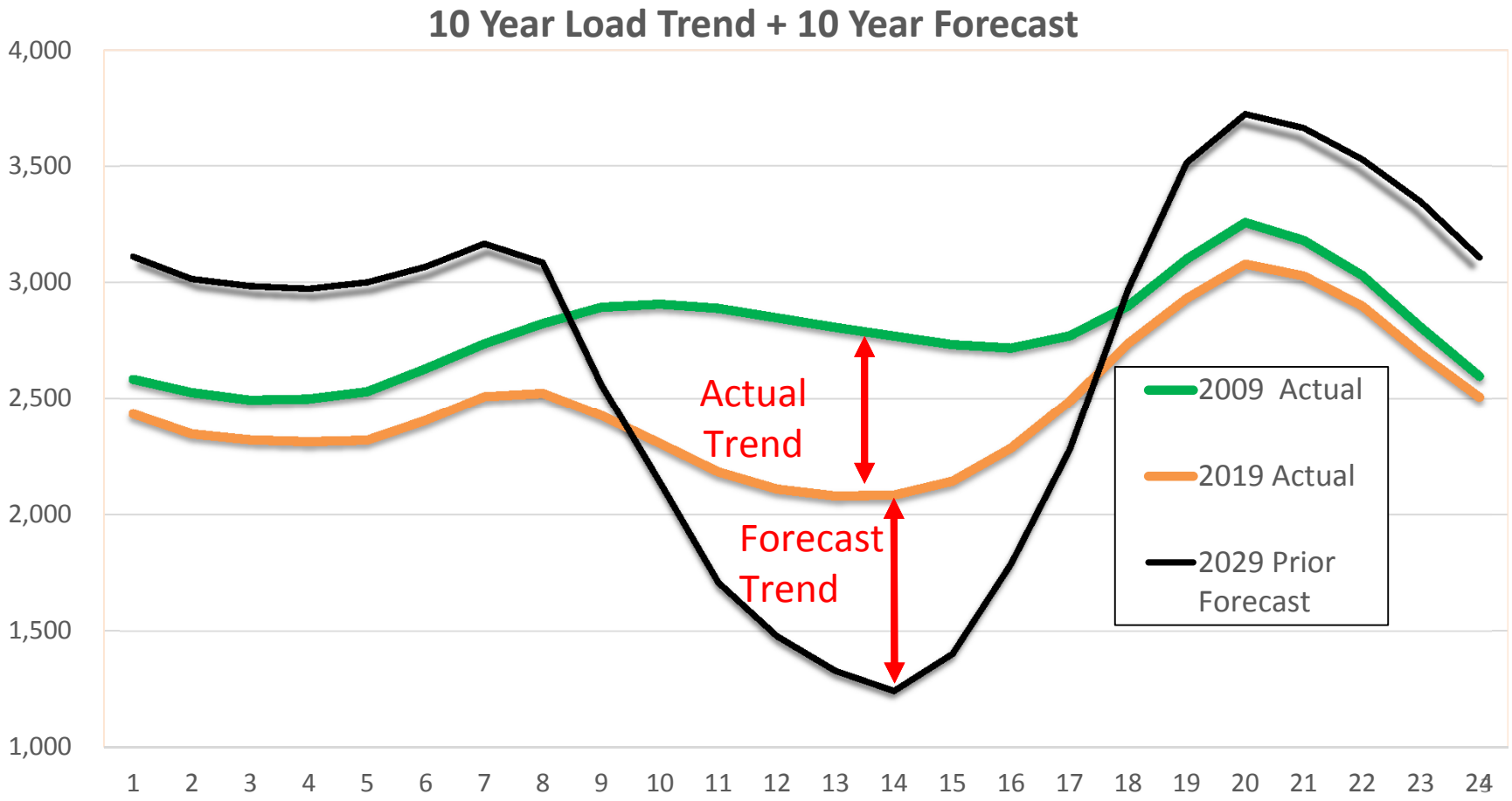
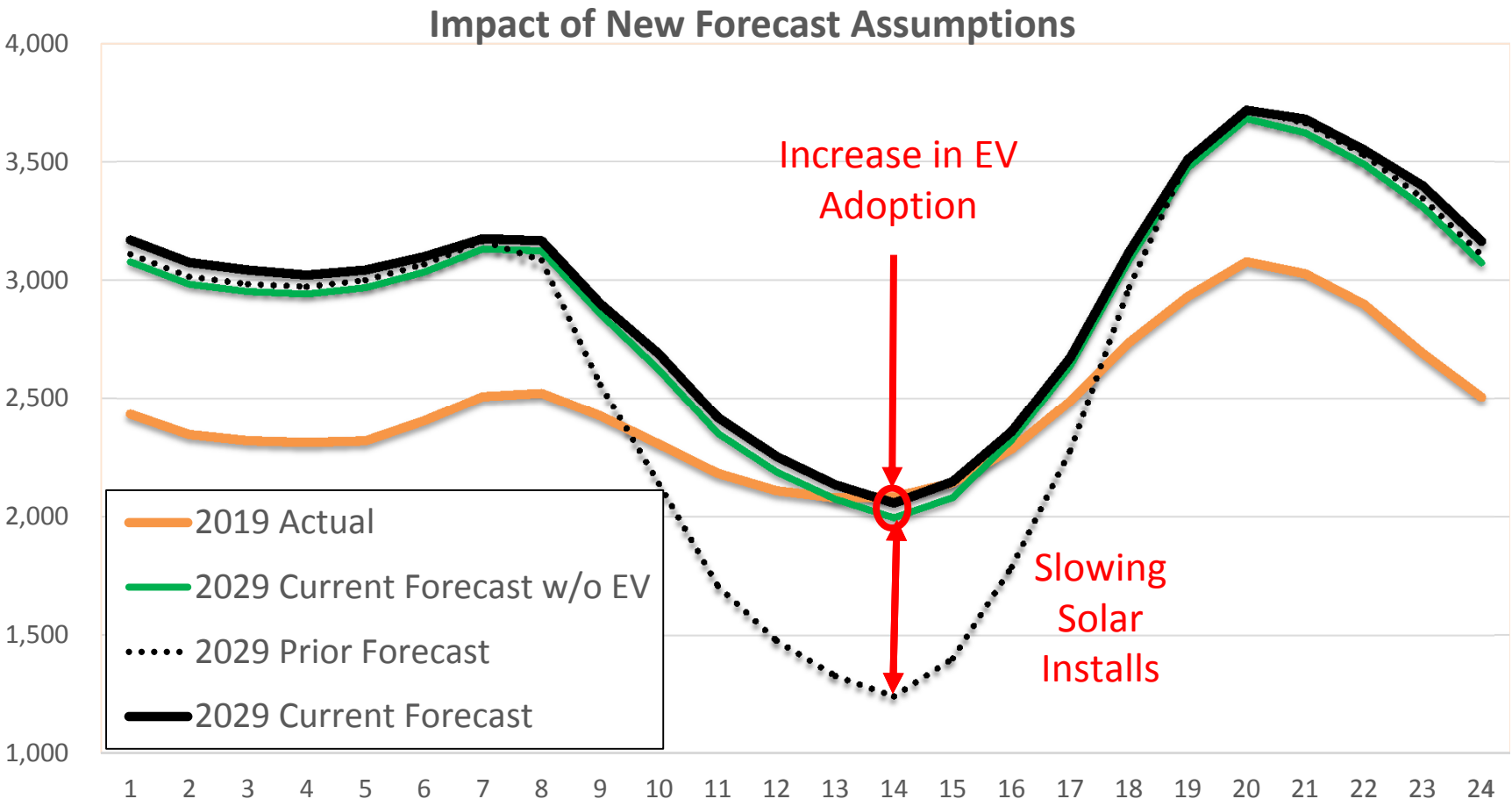
Outline

- Yesterday's load predictions
- Today's load predictions
- Why did it change:
  - Lower adoption of rooftop solar – especially residential
  - Electric vehicles – helps duck curve
- Batteries – game changer

Yesterday's Load Predictions

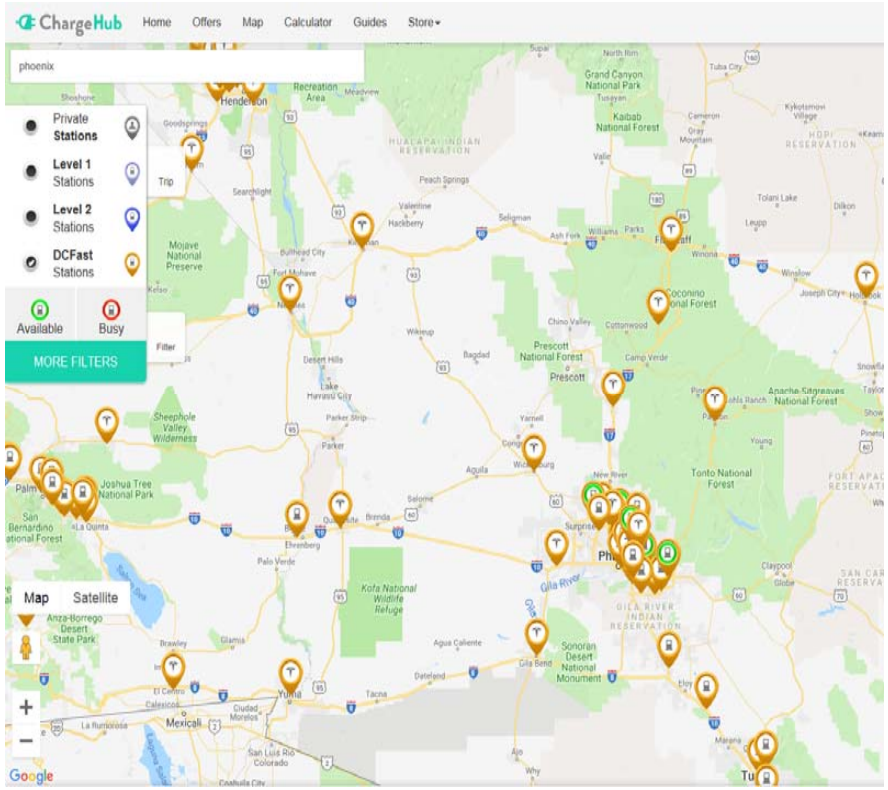


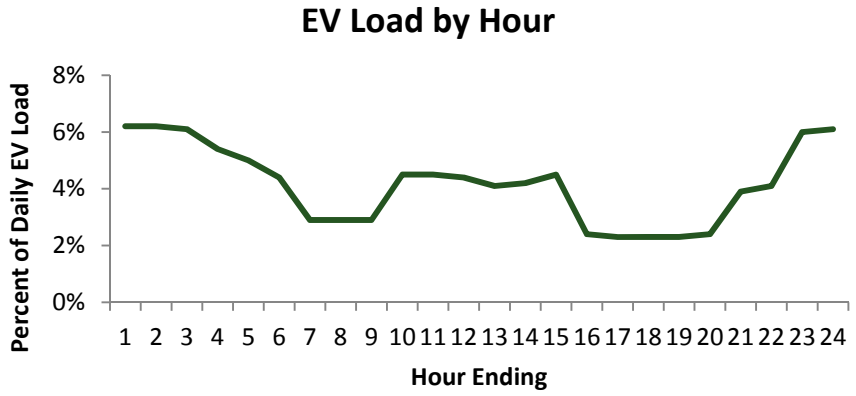
Today's Load Predictions

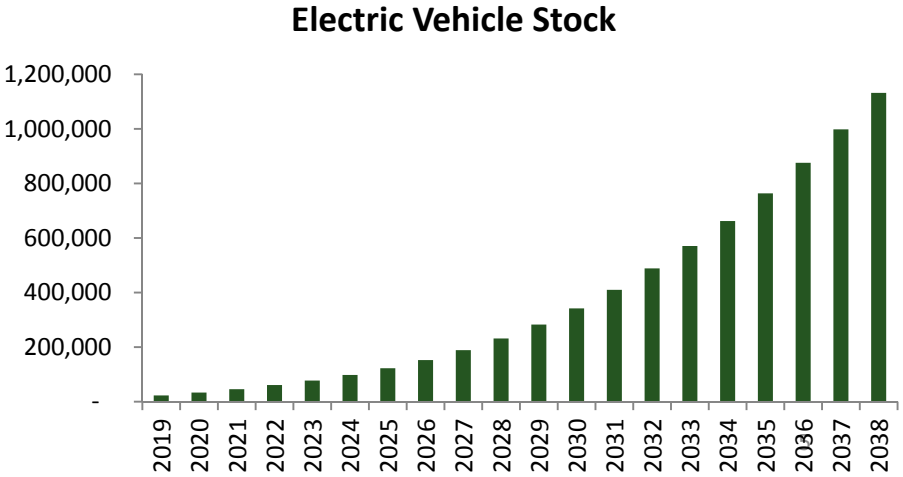


What We Are Learning

The Changing EV Infrastructure





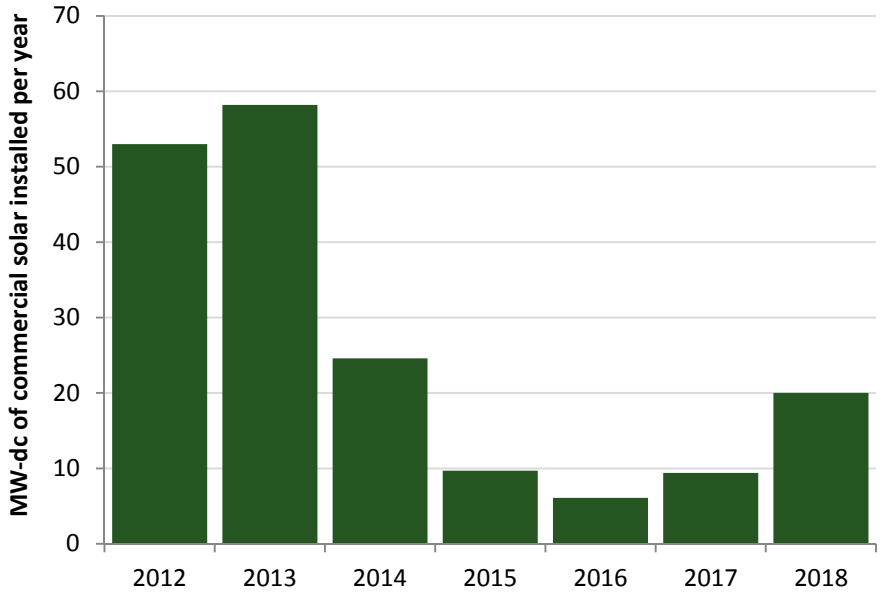


- EV infrastructure is growing quickly and will need to grow even quicker to meet expected demand.

What We Are Learning (Cont'd)

Solar Adoption Slowing

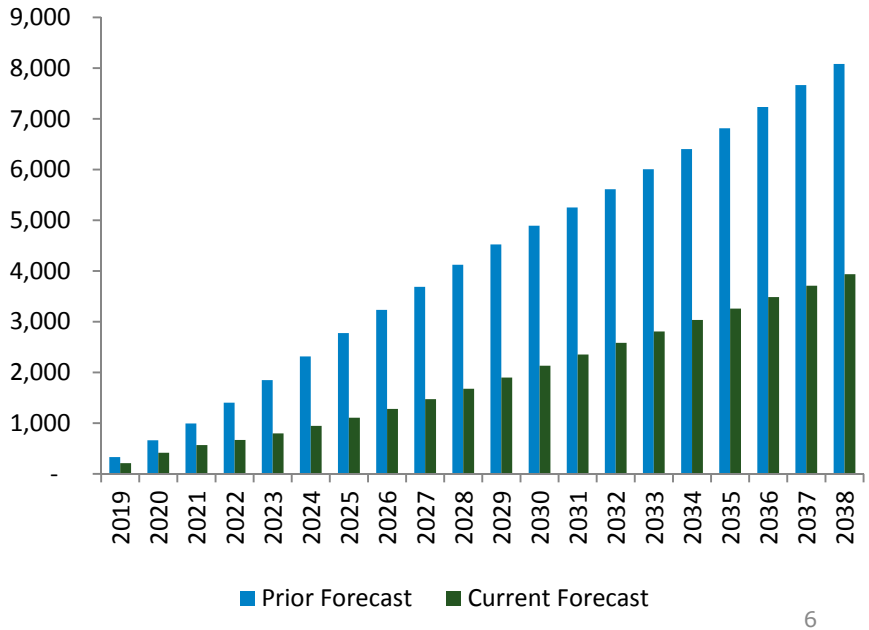
Commercial solar installed annually in APS service territory



– Commercial solar trending down from early 2010's and anticipated to remain between 10-20MW annually.

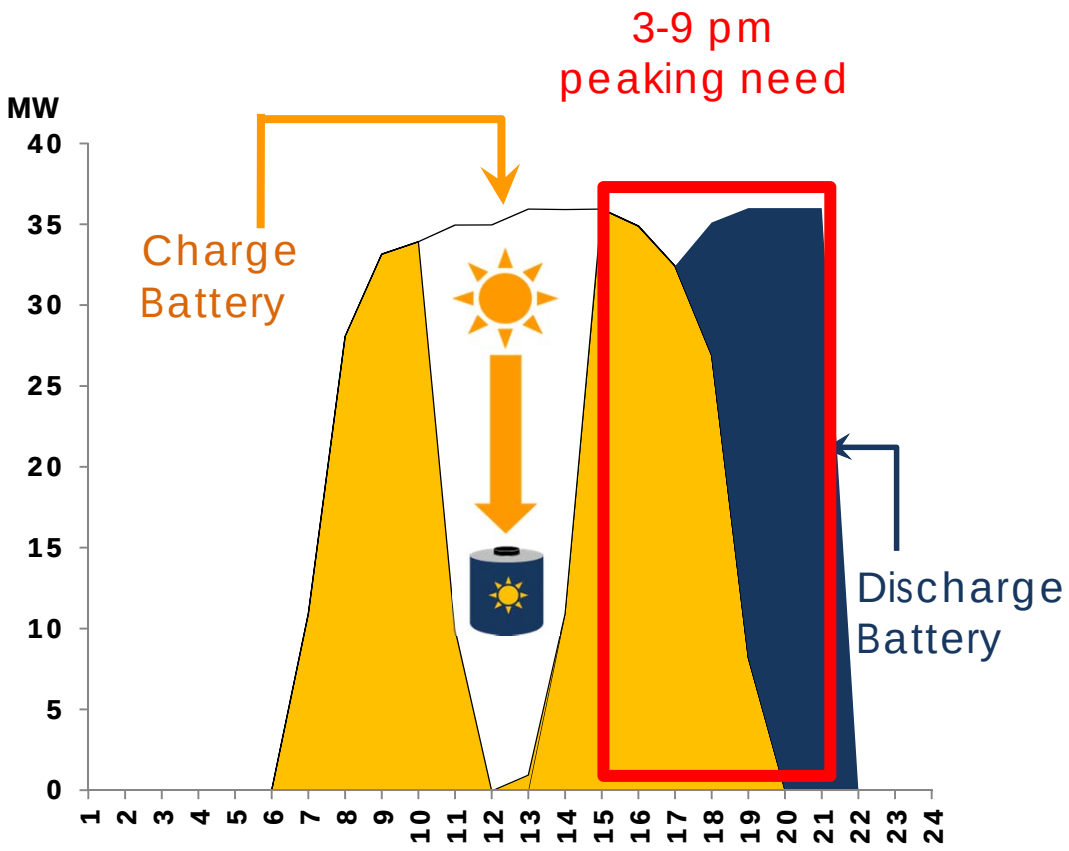
– Non-residential installations account for ~80% of the decline in production in 2038

Total DG Production Incremental to 2018 (GWh)



Solar with Storage

Renewables with large batteries can meet peaking needs and manage the "duck curve"



Summary

- Increases in EV adoption rates along with a decrease in solar installations are predicted to reduce the impact to APS' minimum generation challenge
- Battery storage is a game changer in managing the duck curve long term

Questions???