

Integrated Planning for the Electric Vehicle Surge

Prepared By:

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Prepared For:

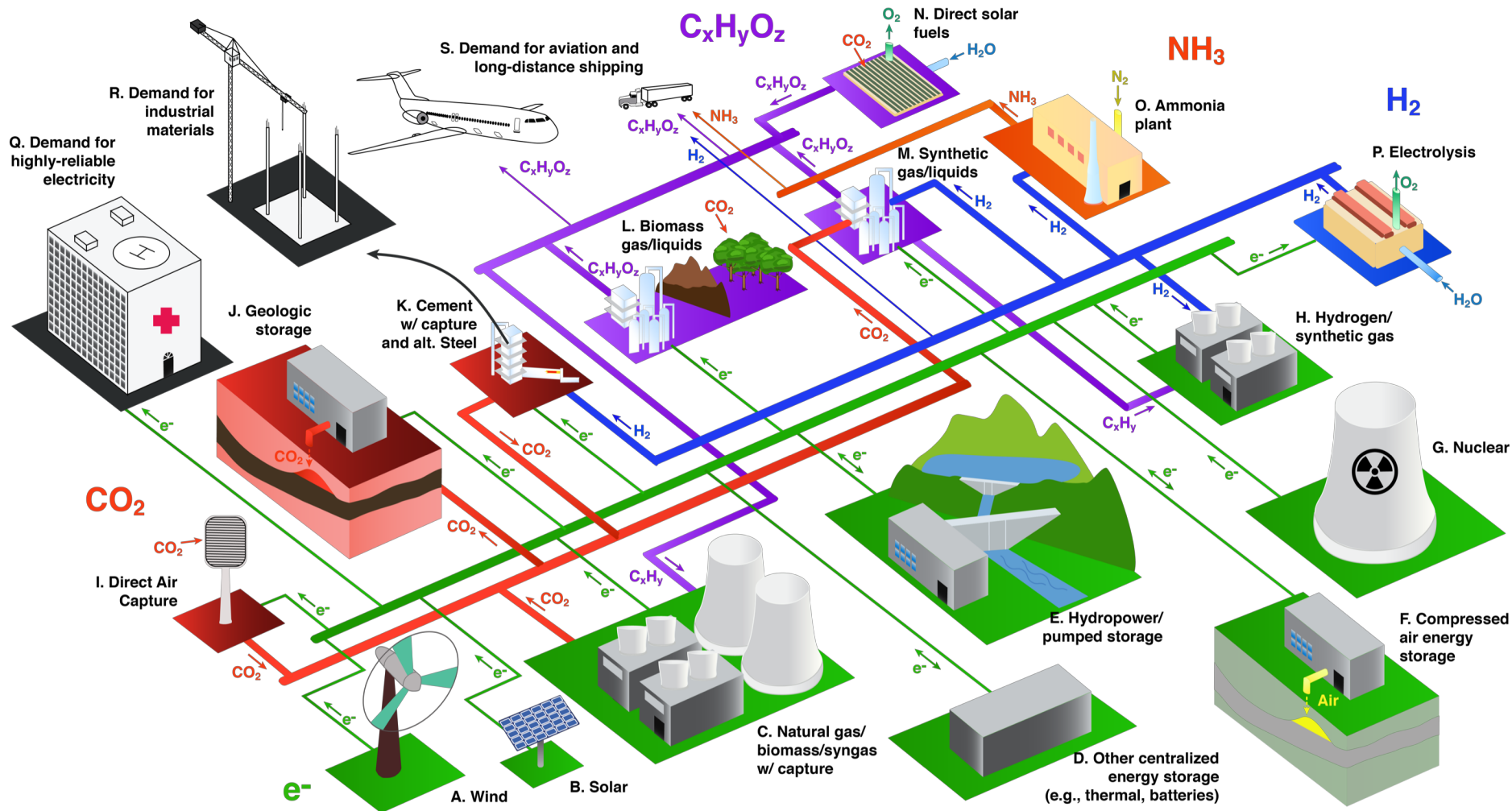
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The Whole Economy Needs Energy



Davis et al. *Science*, 2018

Electrification that WIS:dom® Considers

The WIS:dom® optimization model considers **electrification through:**

1. Light Duty Vehicles,
2. Heat pump Water Heaters (residential & commercial),
3. Heat pump space heating (residential & commercial),
4. Light Duty Trucks,
5. H2 production for:
 - *Medium / Heavy Duty Trucking,*
 - *Industrial Demands,*
 - *Space heating (residential and commercial),*
 - *Other transportation (Sabitier to Fischer-Tropsch Processes).*

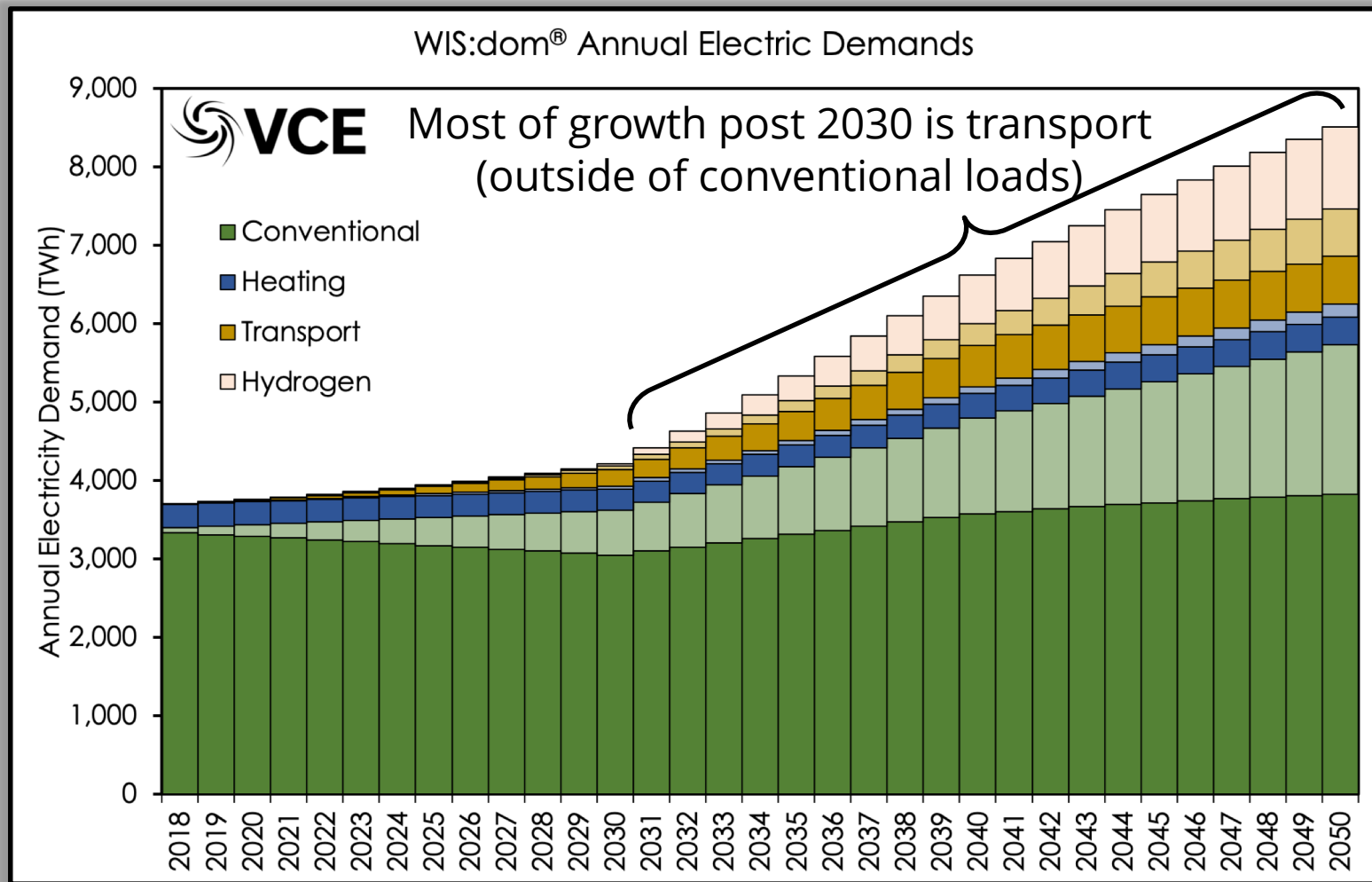
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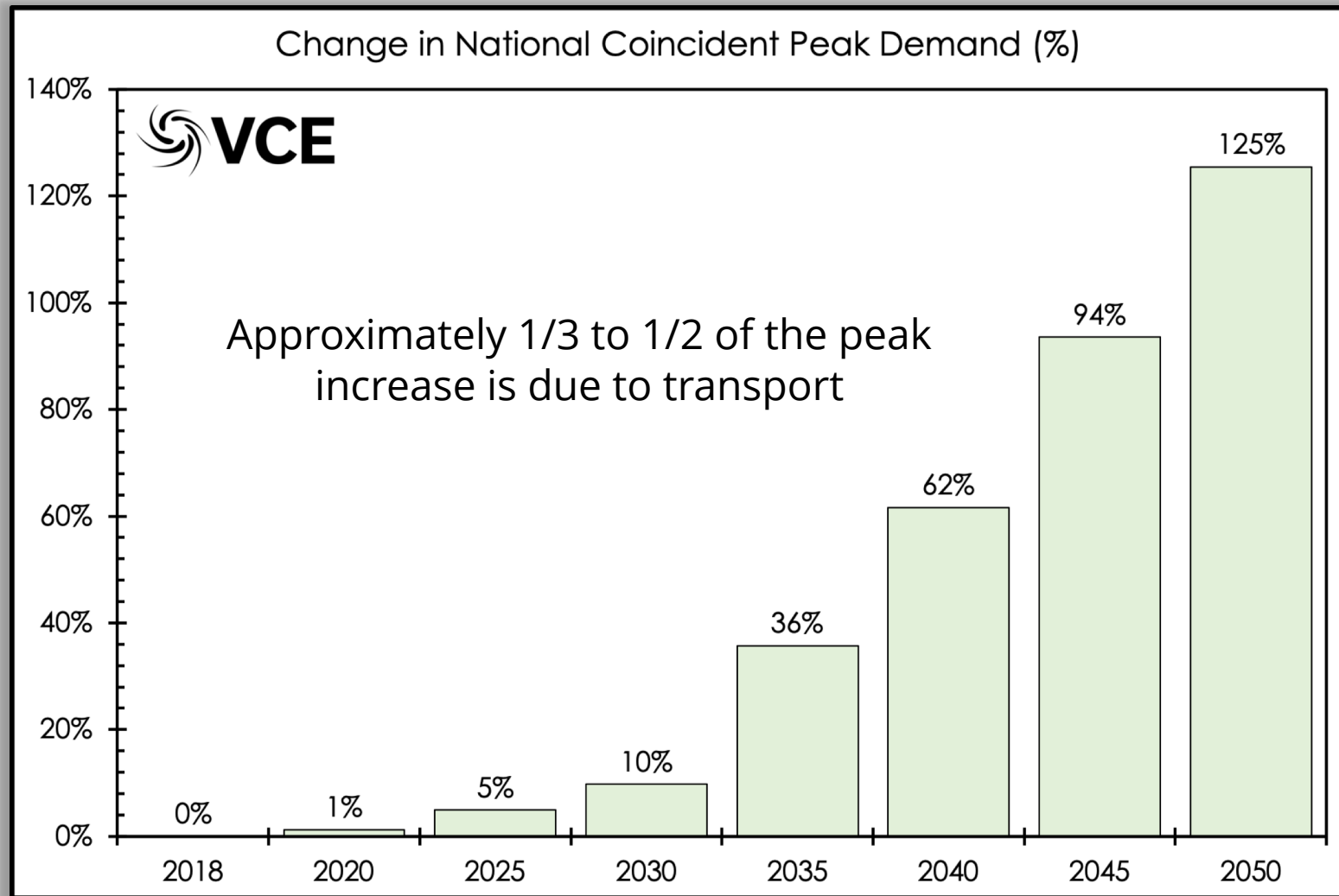
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 - *Other transportation (Sabitier, Fischer-Tropsch and Haber Processes).*

**Our focus
for this talk**

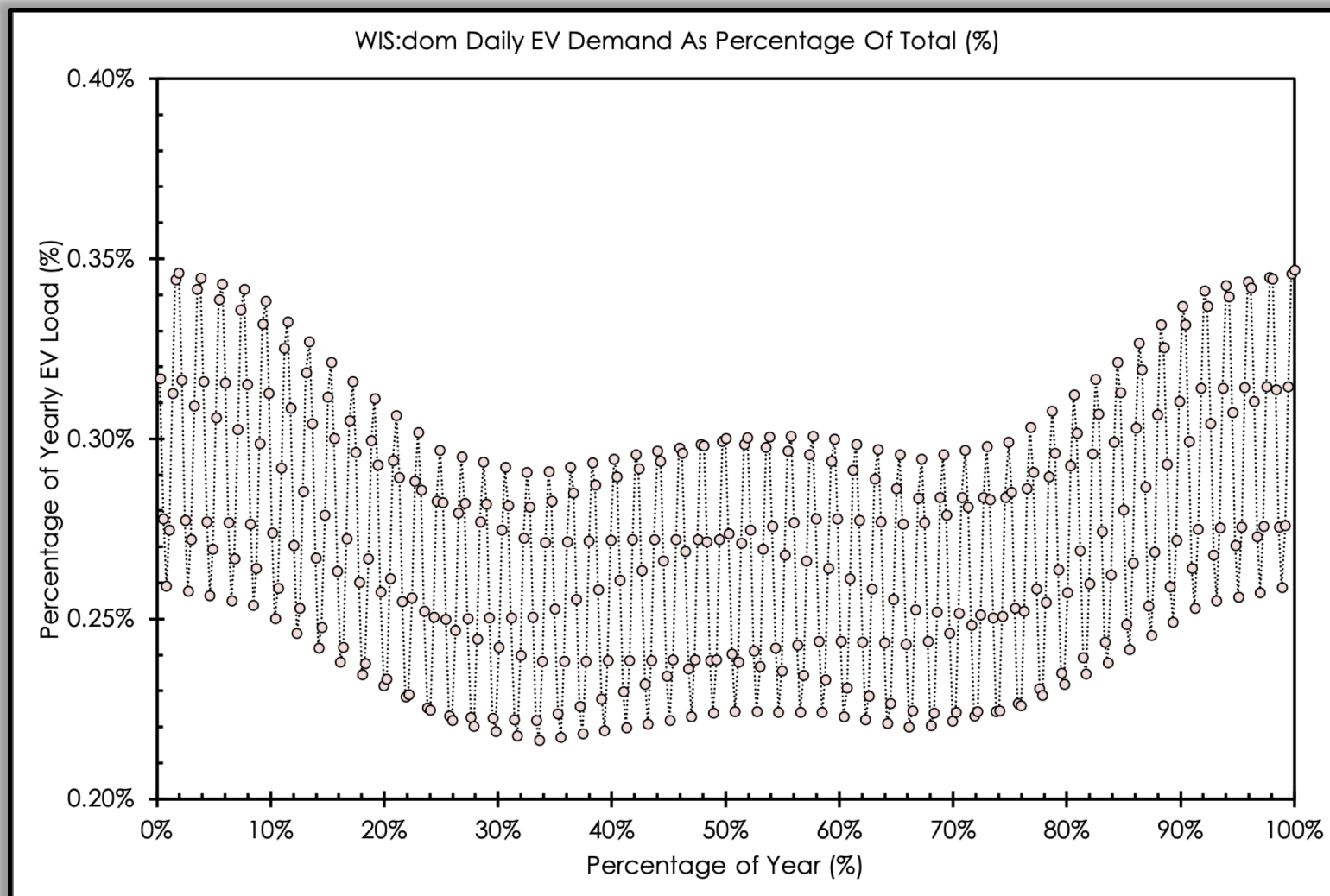
Electrification Changes Electricity Needs



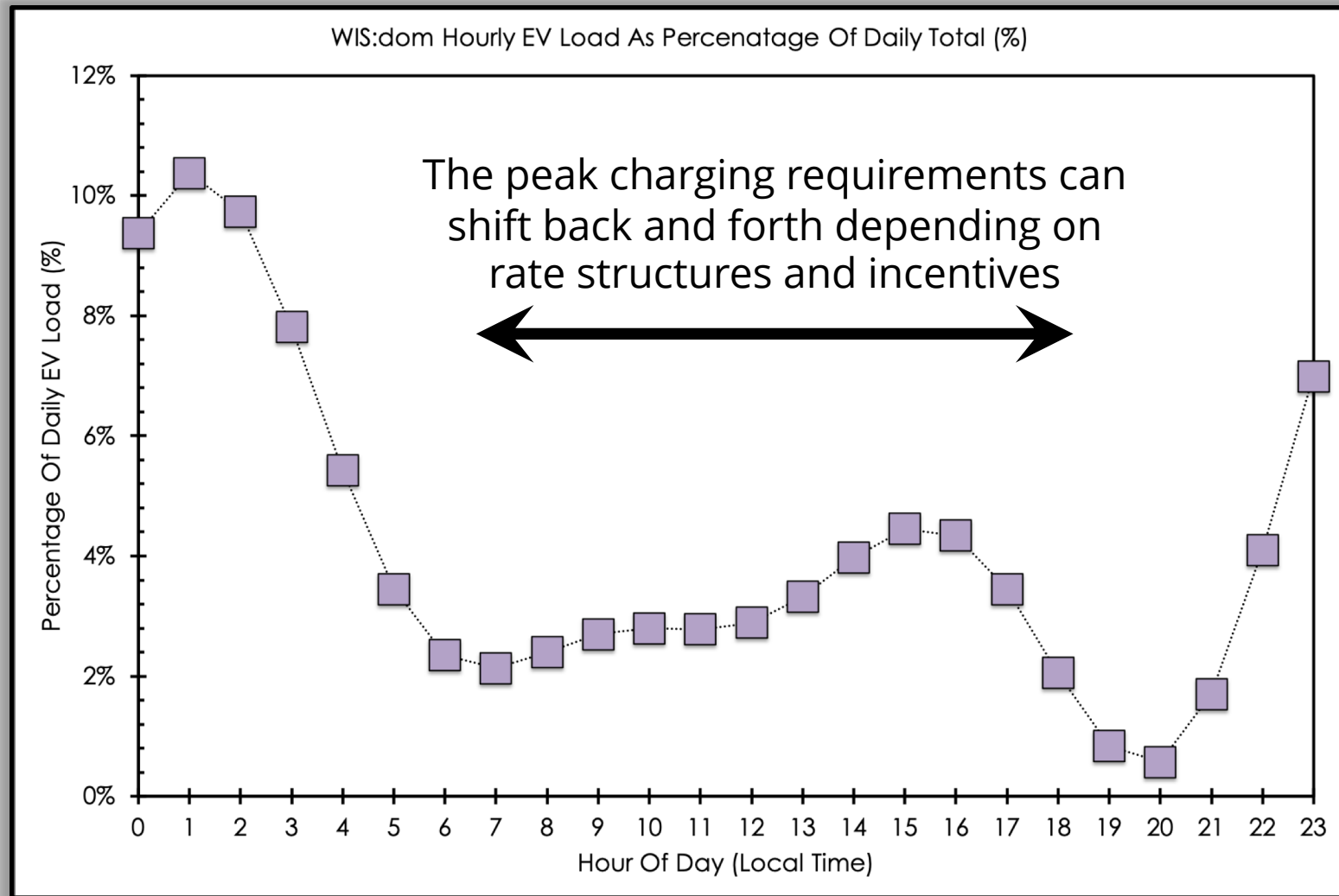
Electrification Changes Electricity Needs



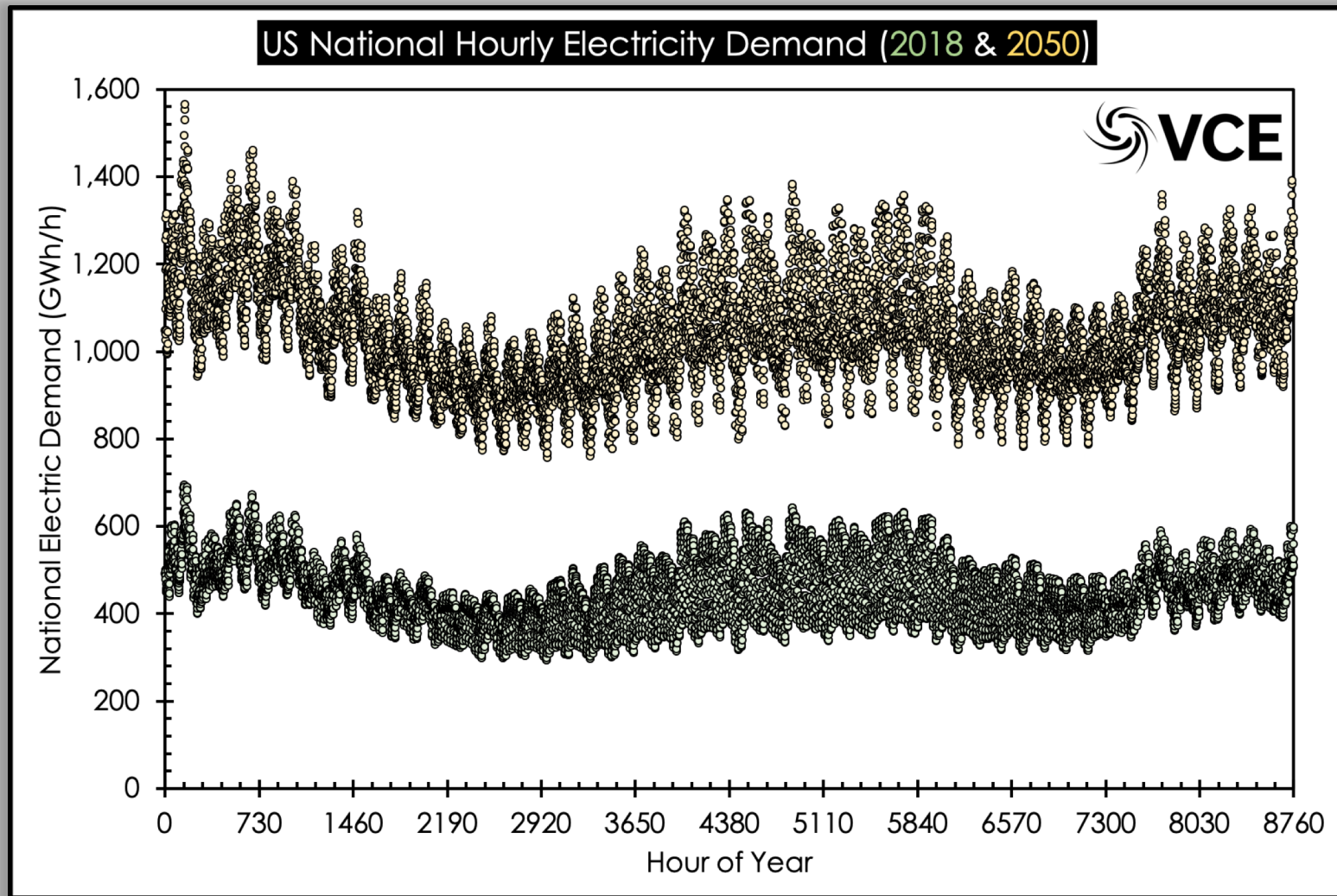
Seasonal EV charging will likely come from existing driving patterns (unless AVs take over)



EV diurnal patterns may be different depending on rates

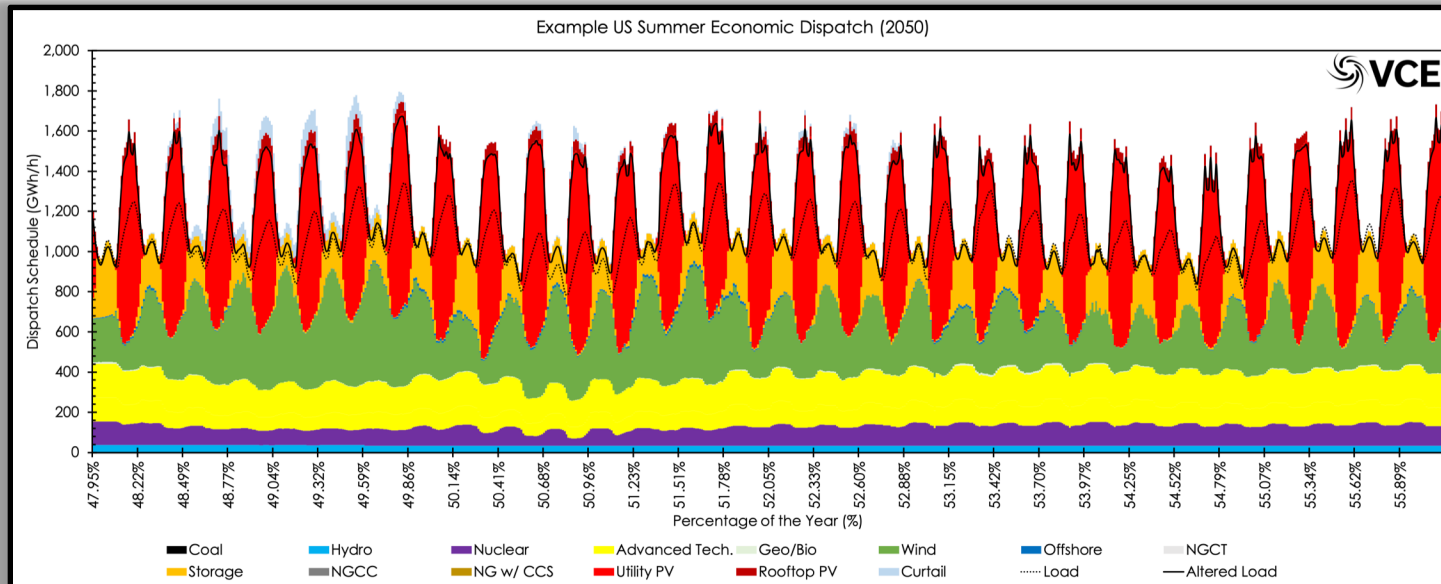
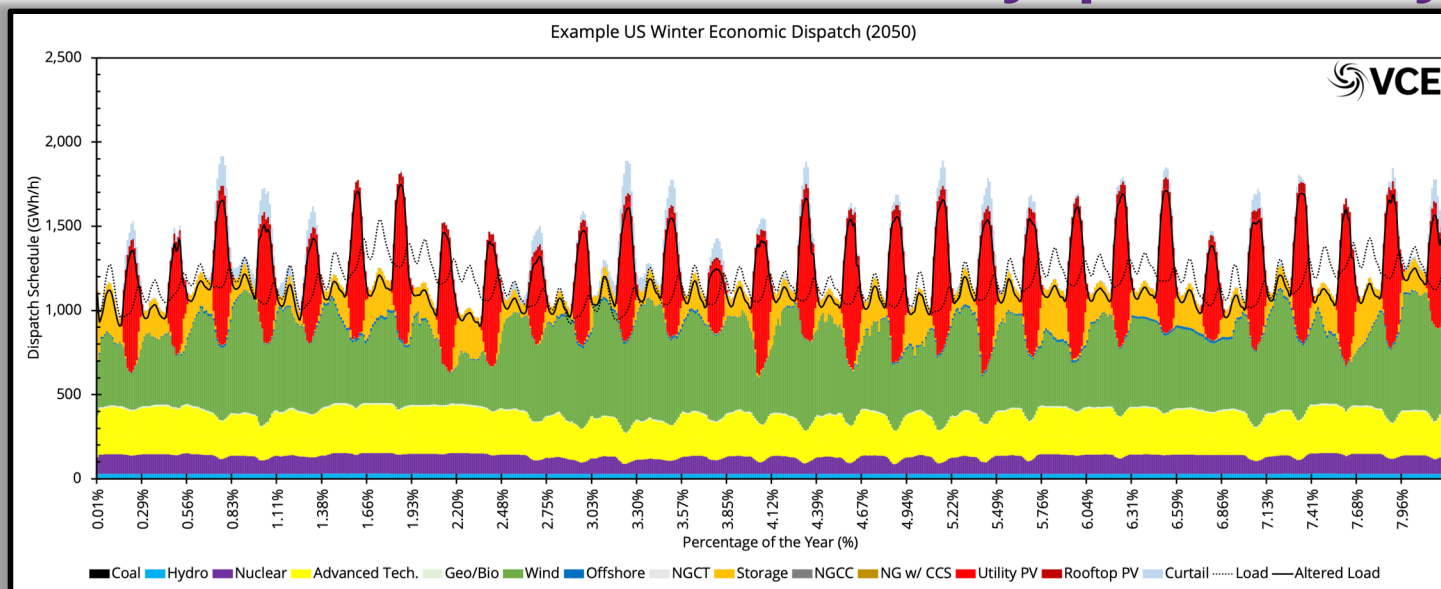


Electrification Changes Electricity Needs

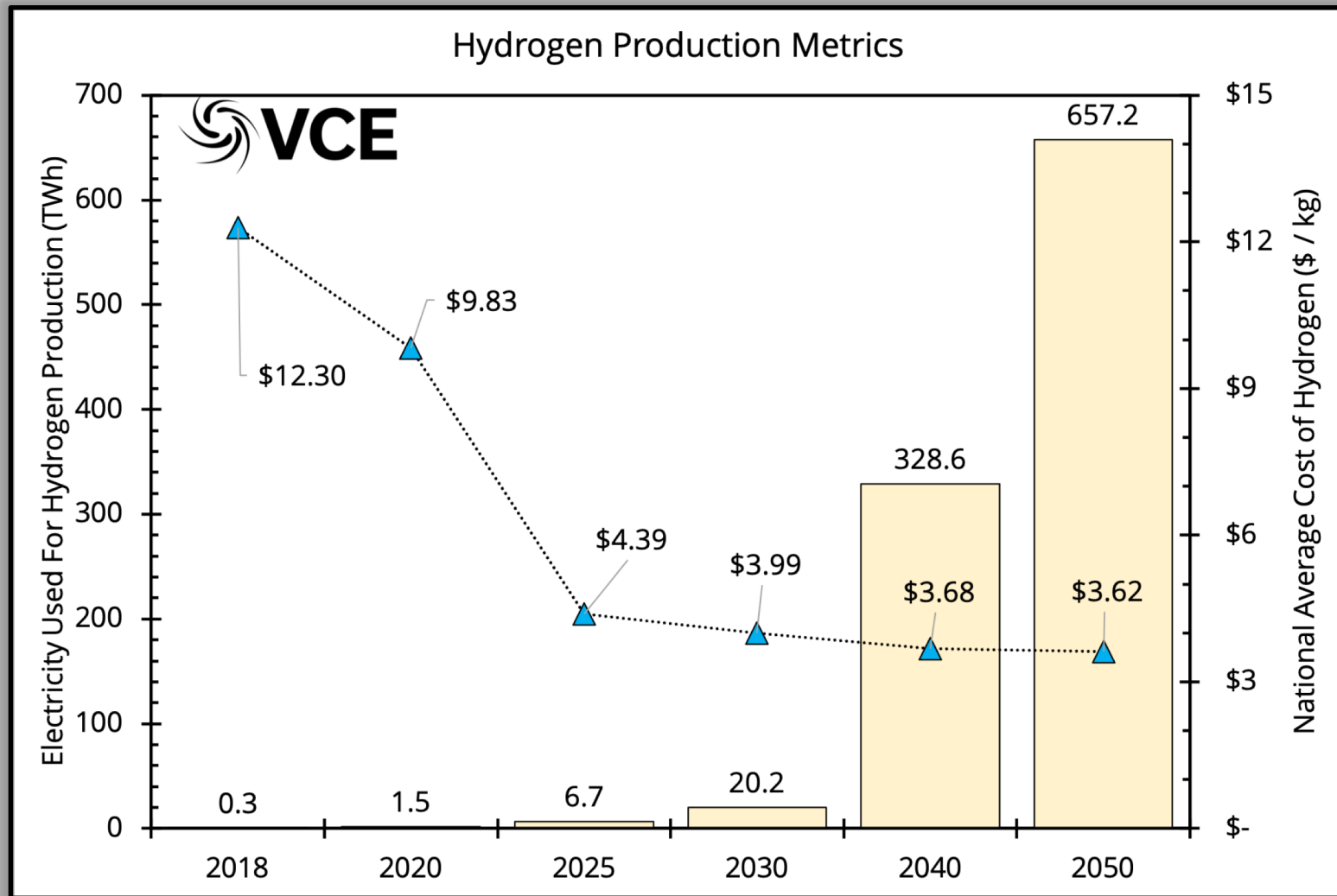


Where loads are concentrated can change dramatically with the addition of EVs

Electrification allows more flexibility (particularly EVs)



Hydrogen becomes an essential tool for transport



Thank You

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