

IMS

GLOBAL CHANGE INTERSECTORAL MODELING SYSTEM

Spark: Modeling Battery Storage in MSD Context

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2024 EESM PI Meeting



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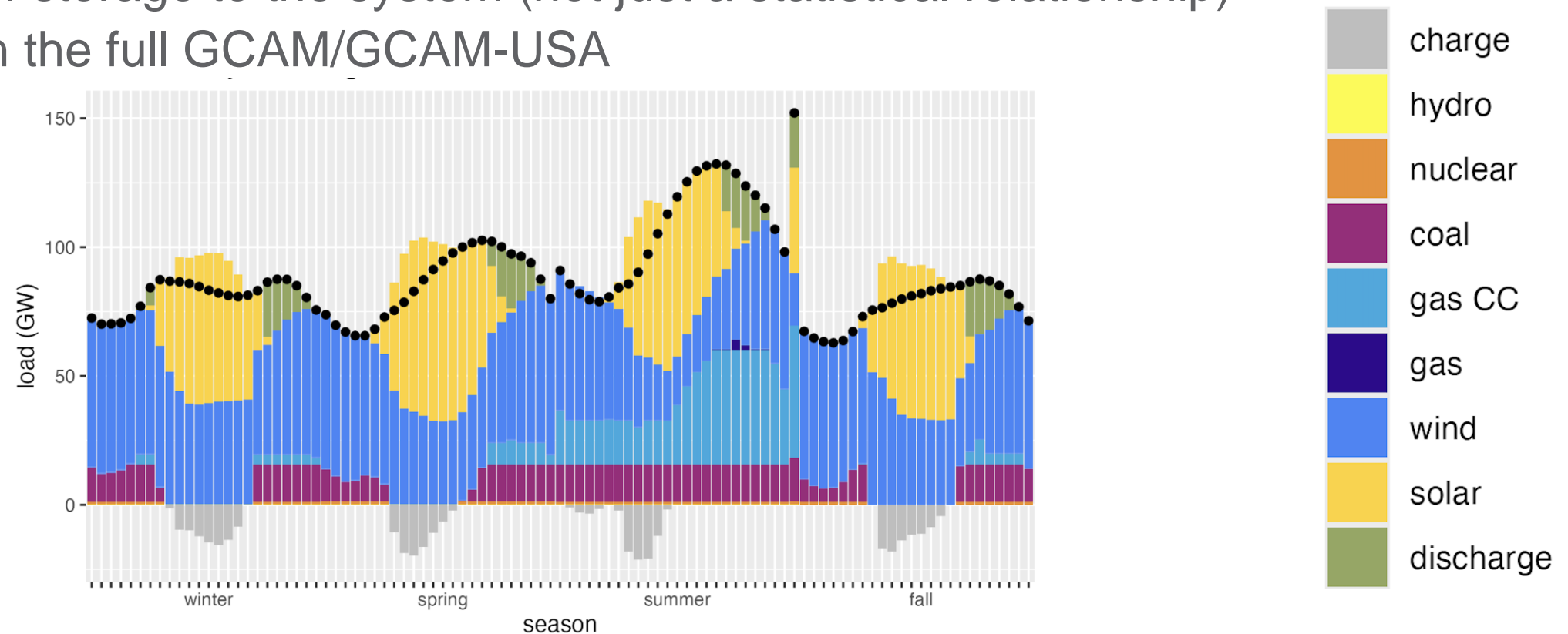
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Ostensibly about grid storage

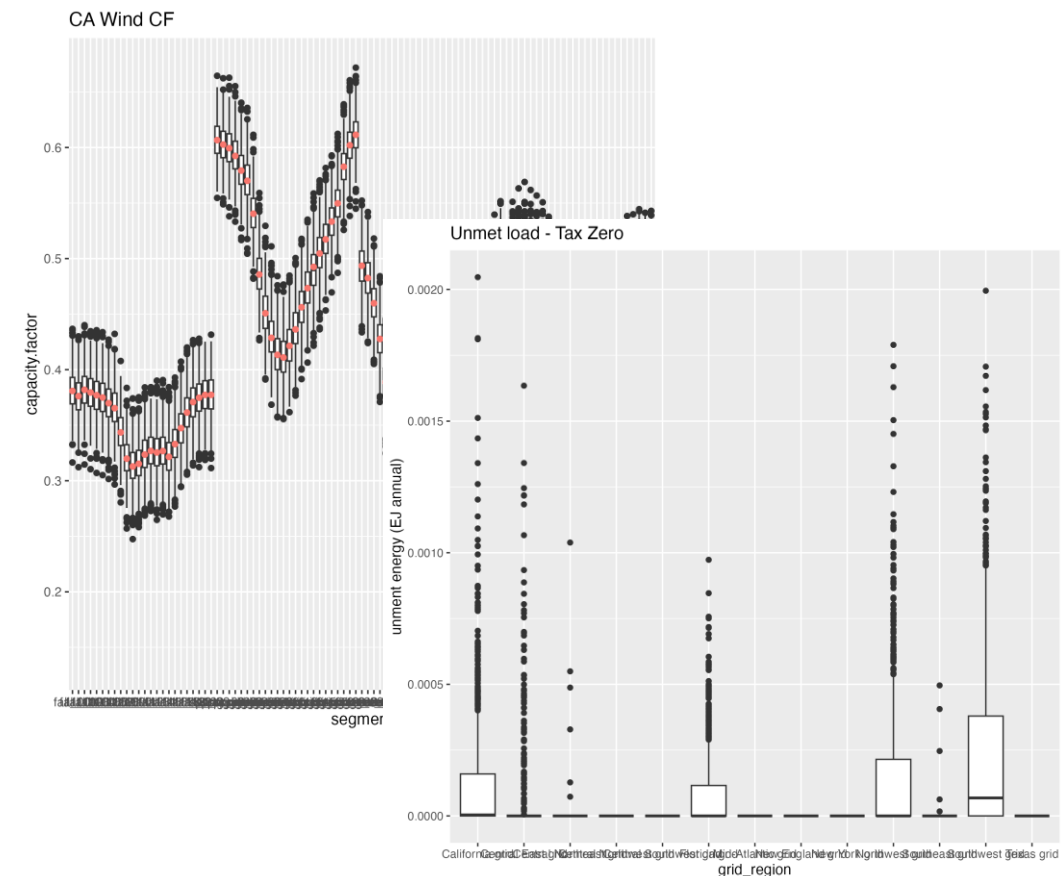
- Explicitly model battery grid storage which provides “load shifting”; more effectively utilize electric capacity
 - Particularly useful in conjunction with Variable Renewable Energy (VRE)
 - Within a *structural* model which includes appropriate dynamics to characterize the benefits of storage to the system (not just a statistical relationship)
 - Still within the full GCAM/GCAM-USA



Really driving towards the overarching science goals

- “How do short-term influences affect long-term dynamics”?
- ”How will investments affect the ability to respond to future influences”?

- **Variability**
- **Extremes**
- **Climate Impacts**



- GCAM will never have all the *details* (resolution, climate, stressors)
 - Collaboration and model coupling are key
 - Speak the same language to ensure we can faithfully include feedbacks to / from coupled systems
- Manage trade off in complexity with science goals
 - Robust methodologies
 - Flexible and nimble data processing
 - We may want to ultimately translate to statistical relationships

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Thank you

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