# Western Resource Adequacy Program

## New Participant Info Session

### October 14

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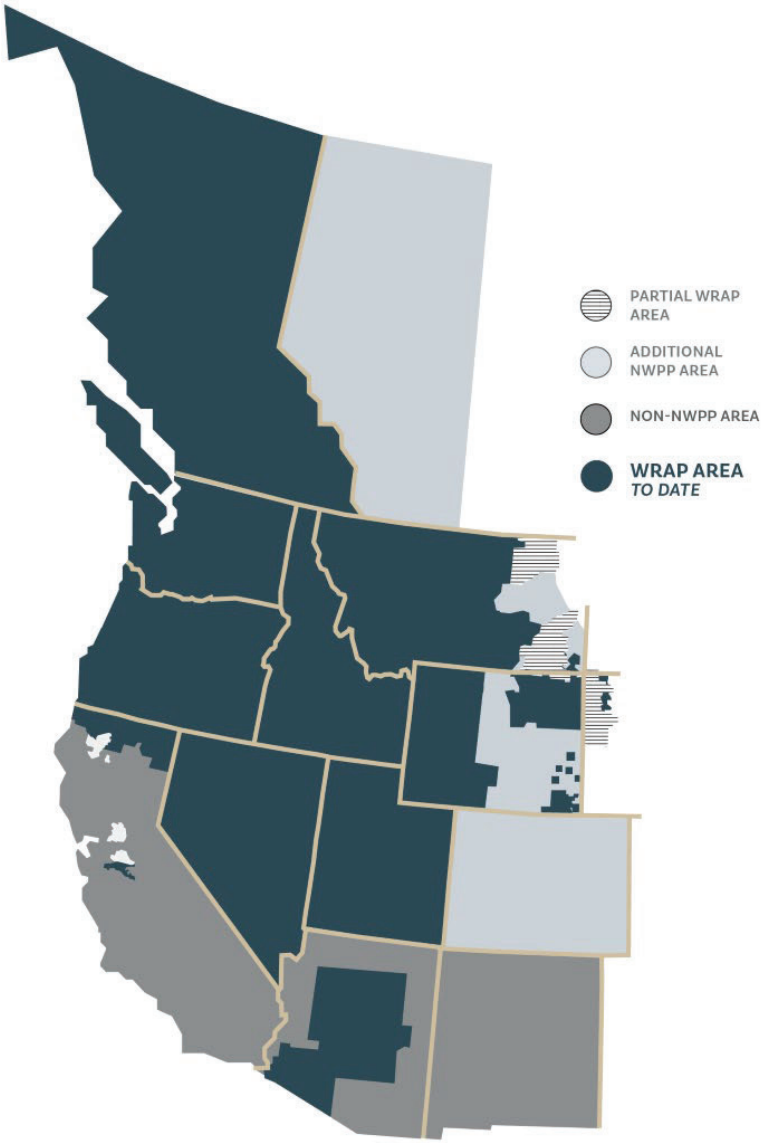
# Before We Begin

- Modeling provided utilizes WRAP program design, assuming full binding implementation of the WRAP as designed
  - Metrics assume diversity benefit and a level of forward procurement on aggregate that is not presently expected without implementation of the WRAP
- Modeling was performed based on the current footprint of participants
  - Changes to WRAP participation in future phases will impact these metrics
  - These assessments cannot account for adequacy needs or activities of non-participating load or resources

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# Performing a Non-Binding Forward Showing

**Approximate QCC Values**

- Utilize ELCC values provided by SPP (in slides to follow)
- Apply WRAP Hydro Methdology
- Establish capacity value of contracts - Joint Contract Accreditation Form

**Populate FS Workbook**

- Calculate P50 load, apply appropriate PRM (provided in following slides
- List all resources and contracts (and approximate QCC values)
- List all available transmission; map to associated resources
- Summary tab tallies 'RA Position"

**Supporting Documents**

- Joint Contract Accreditation Forms
- Supporting transmission information
- Transmission Exceptions
- Attestations (in future)

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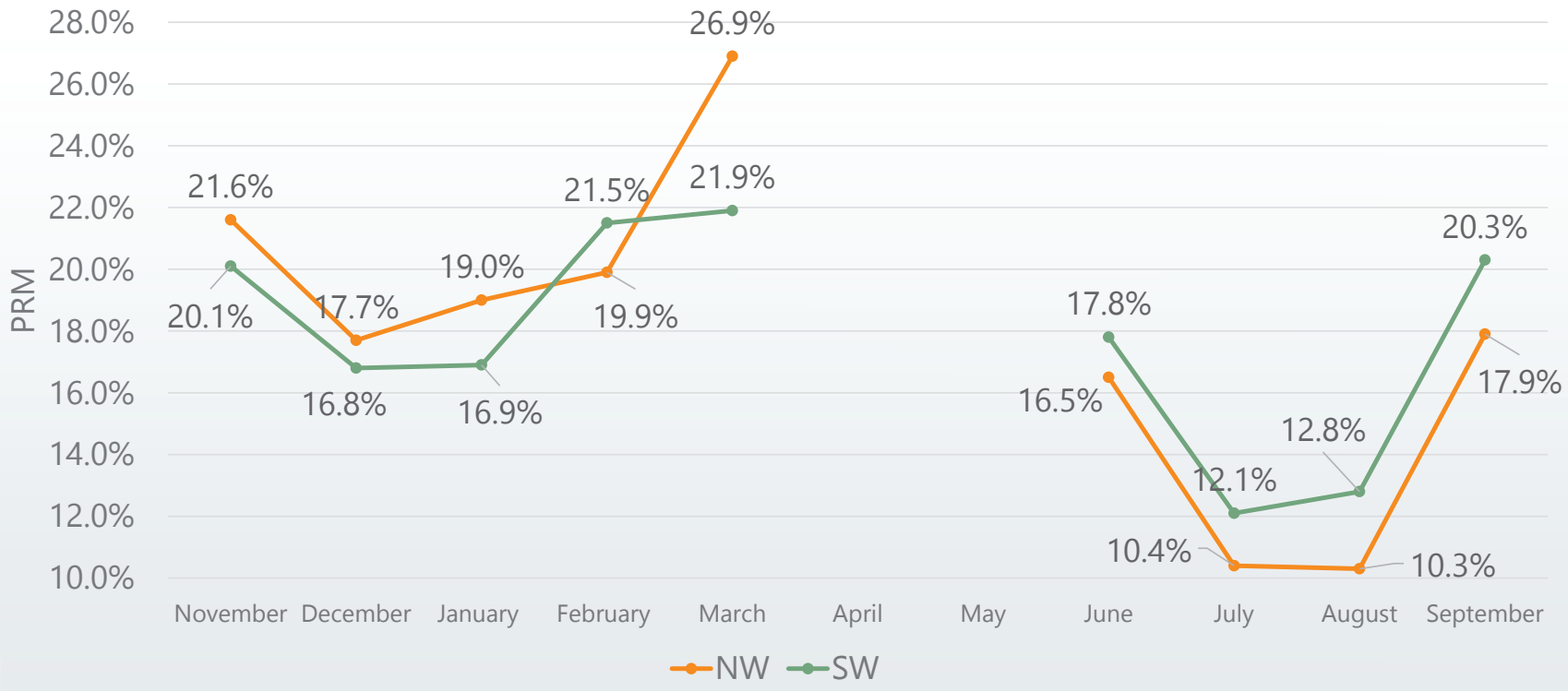
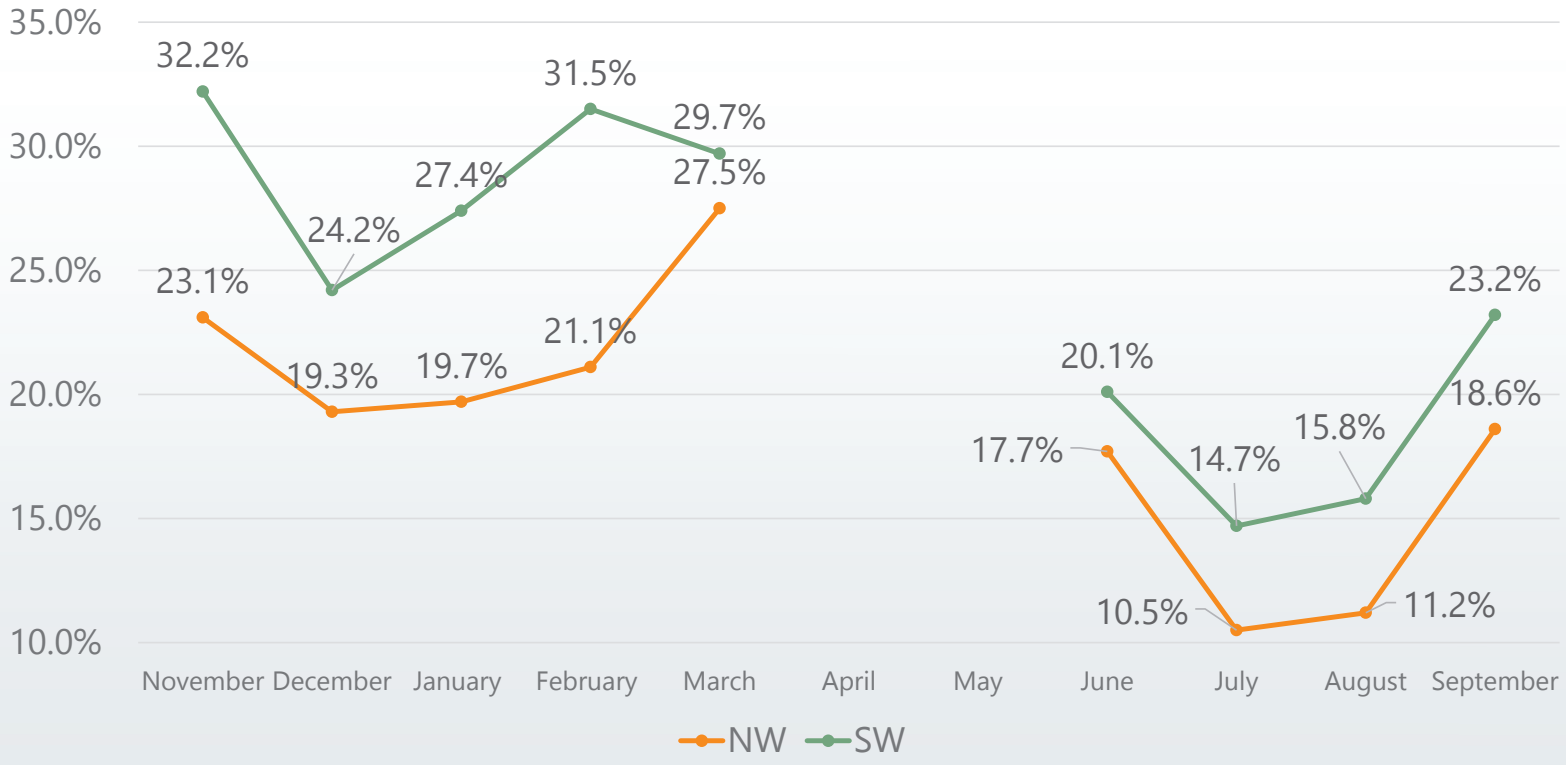
# PRM Considerations

- Attempting to maintain 0.1 LOLE across the season
- Allow up to 0.01 LOLE in each individual month
- NCP load for a given month a significant factor in calculation of PRM (lower load months will have higher PRM value)

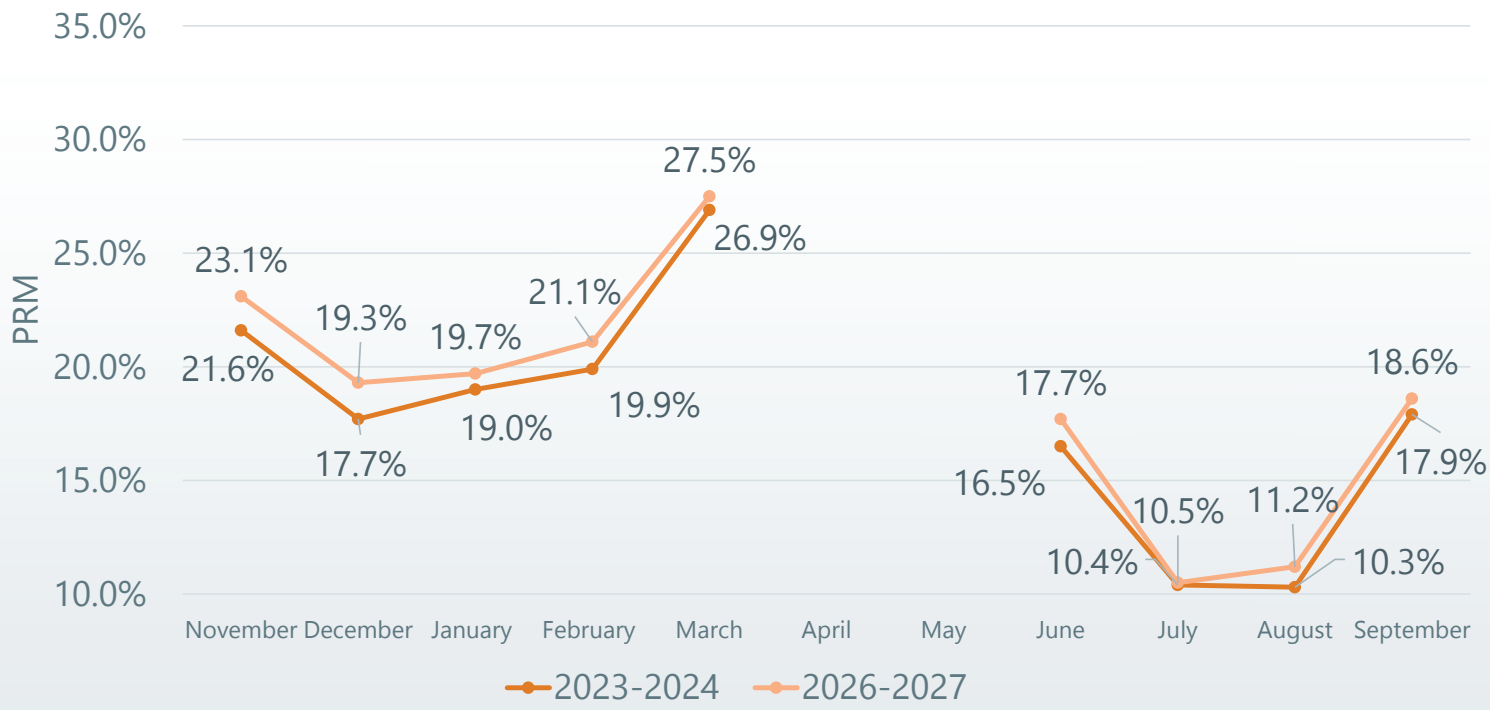
# PRM – 2023-2024 (UCAP)



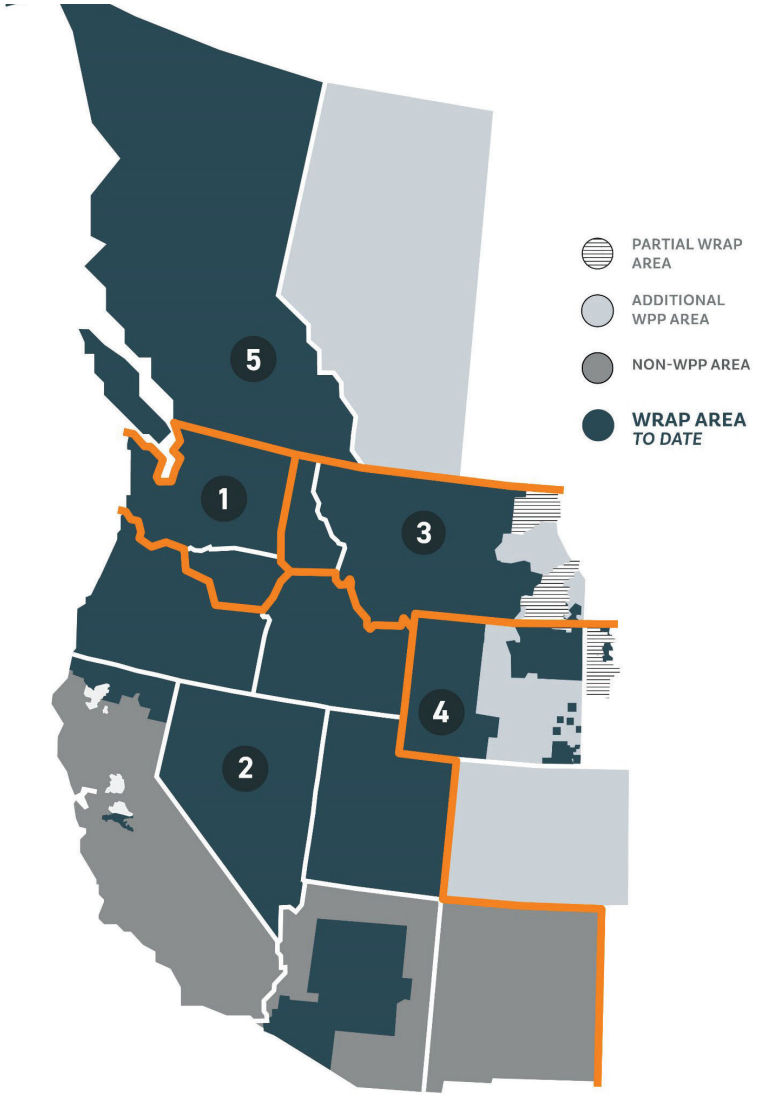
# PRM – 2026-2027 (UCAP)



# PRM – Northwest (UCAP)



# PRM – Southwest (UCAP)




# WIND ZONES

| Zone | # of Plants | Nameplate Capacity (MW) |
|---|---|---|
| Wind VER1 | 54 | 5,734 |
| Wind VER2 | 44 | 2,400 |
| Wind VER3 | 23 | 1,378 |
| Wind VER4 | 24 | 2,429 |
| Wind VER5 | Aggregate | 747 |
| **Total** | **146** | **12,688** |

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# SOLAR ZONES

| Zone | # of Plants | Nameplate Capacity (MW) |
|---|---|---|
| Solar VER1 | 159 | 2,138 |
| Solar VER2 | 108 | 9,024 |
| **Total** | **267** | **11,162** |

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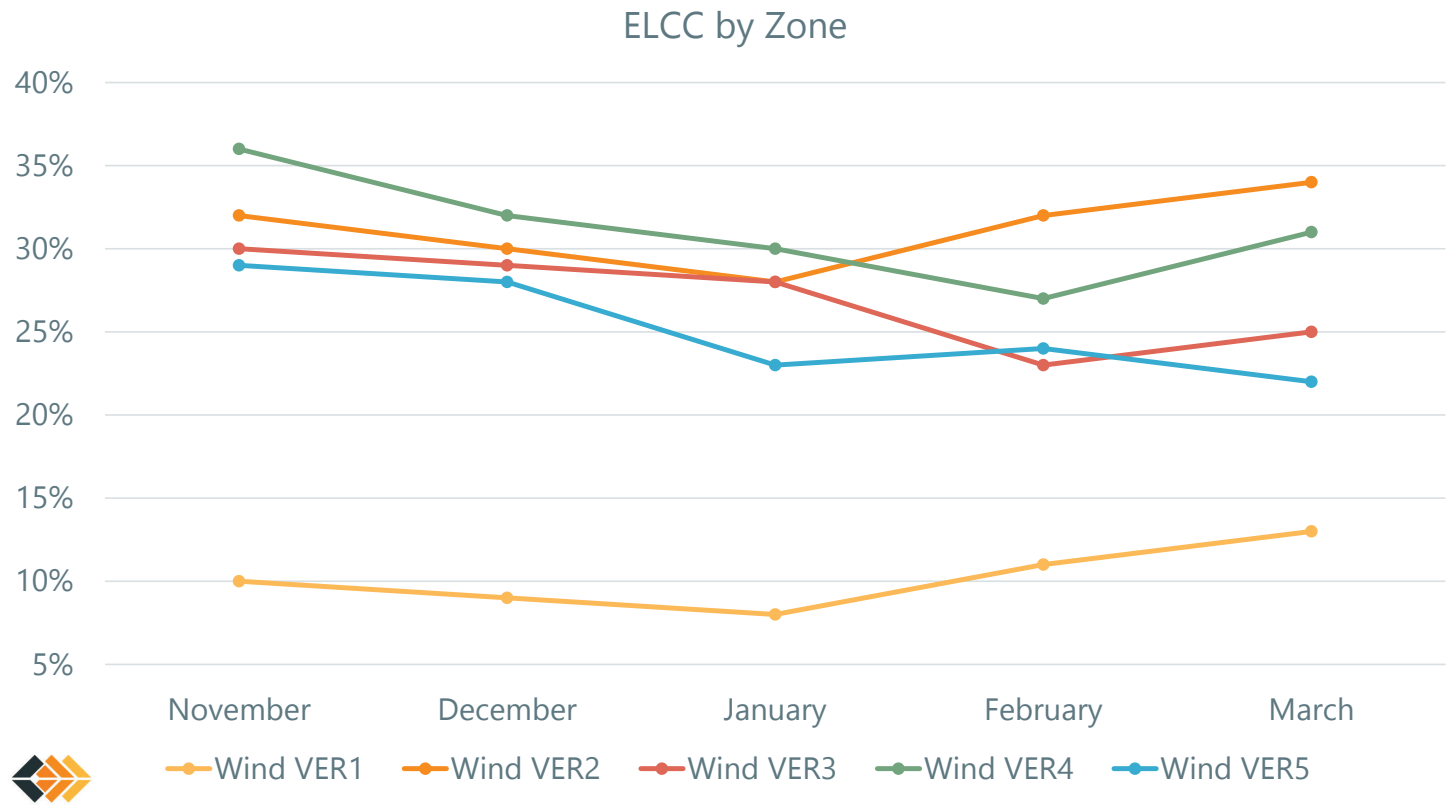
# Wind ELCC - Winter





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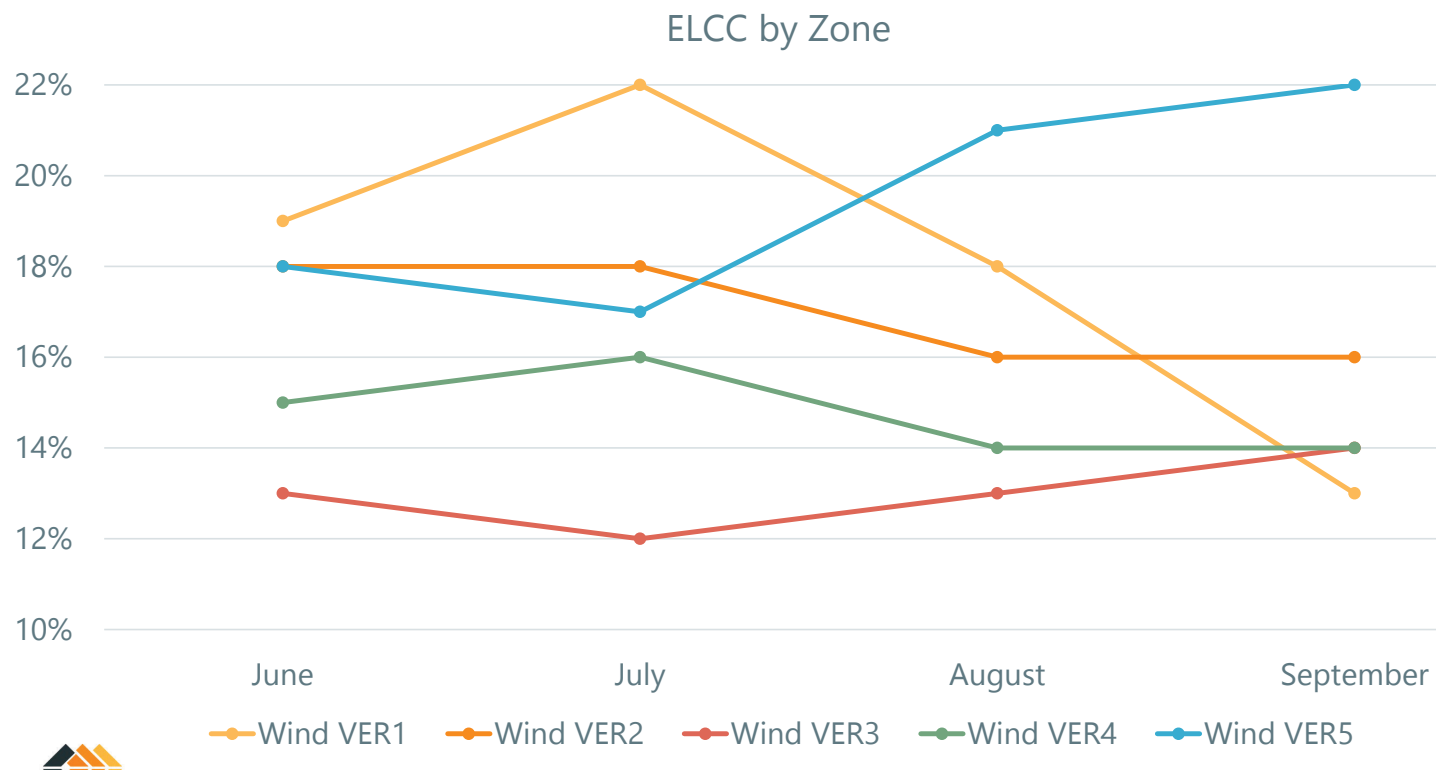
# Wind ELCC - Summer





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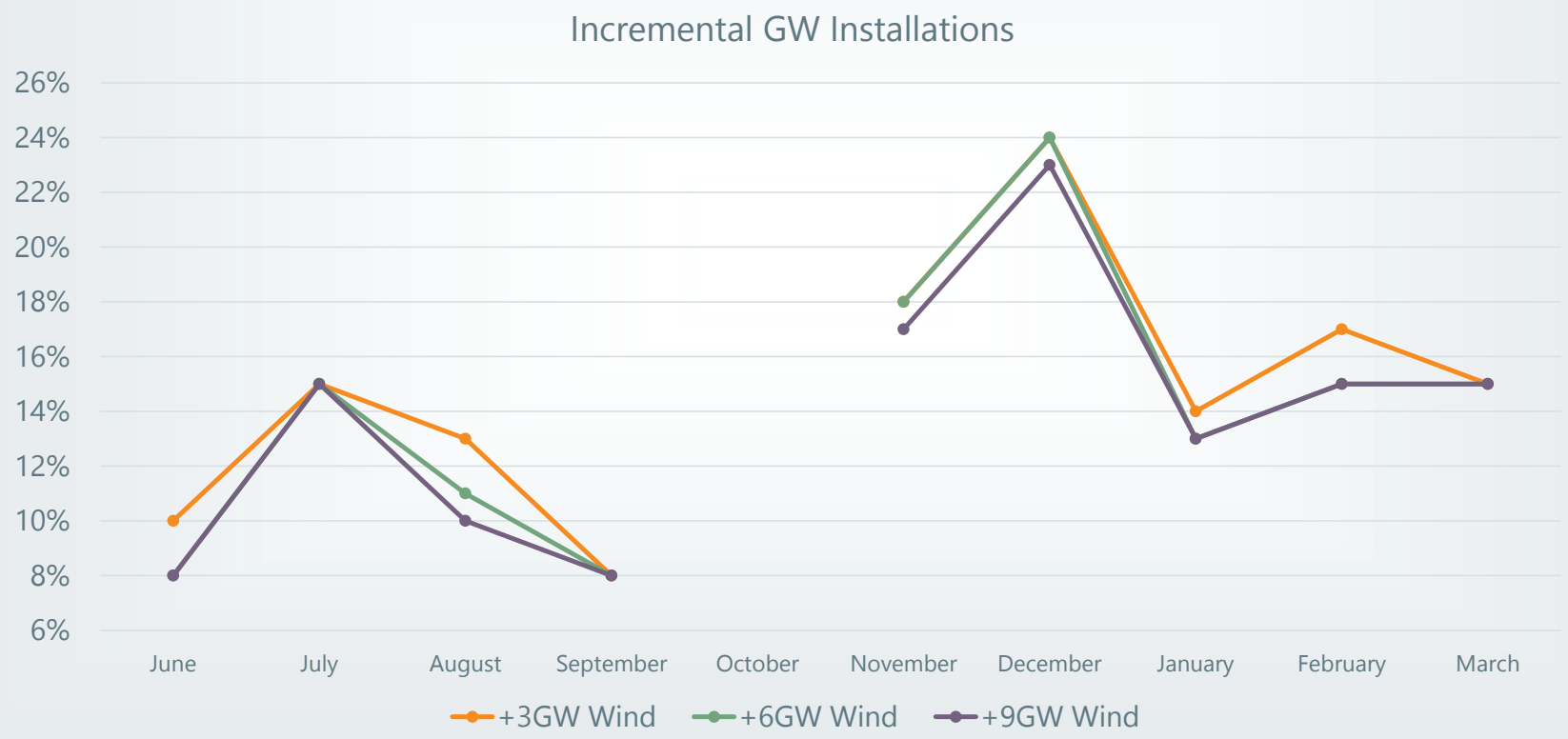
# Wind ELCC – *Wind at Incremental GW Installations*

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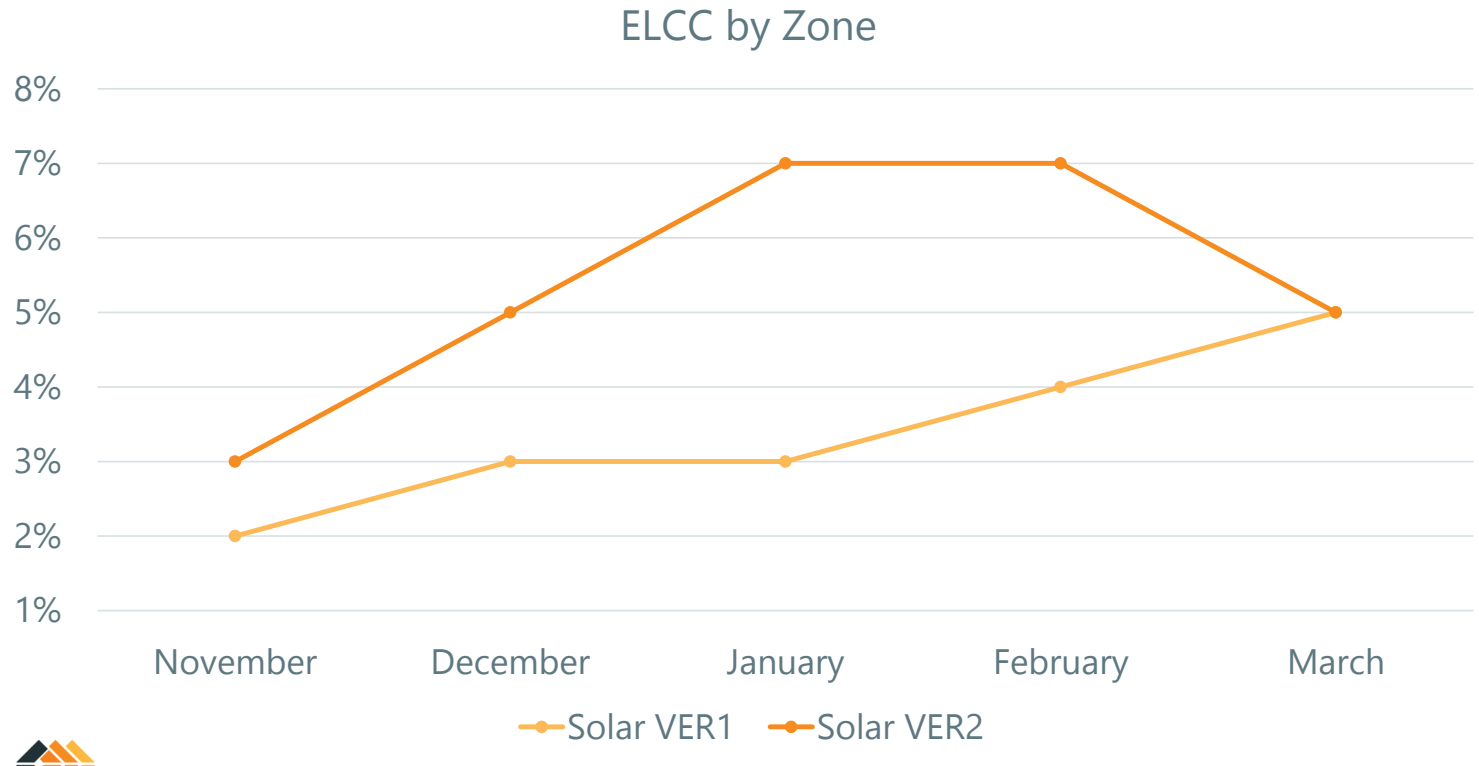
# SOLAR ELCC - WINTER





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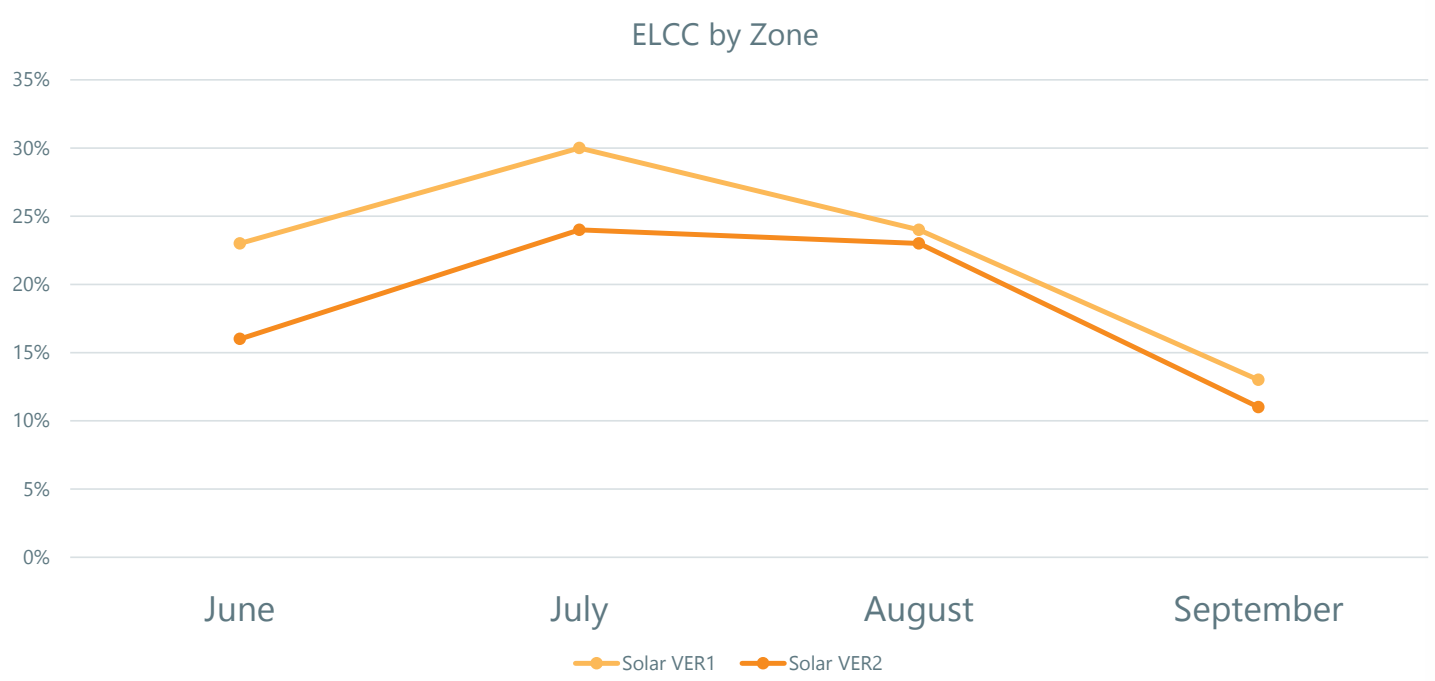
# SOLAR ELCC - SUMMER





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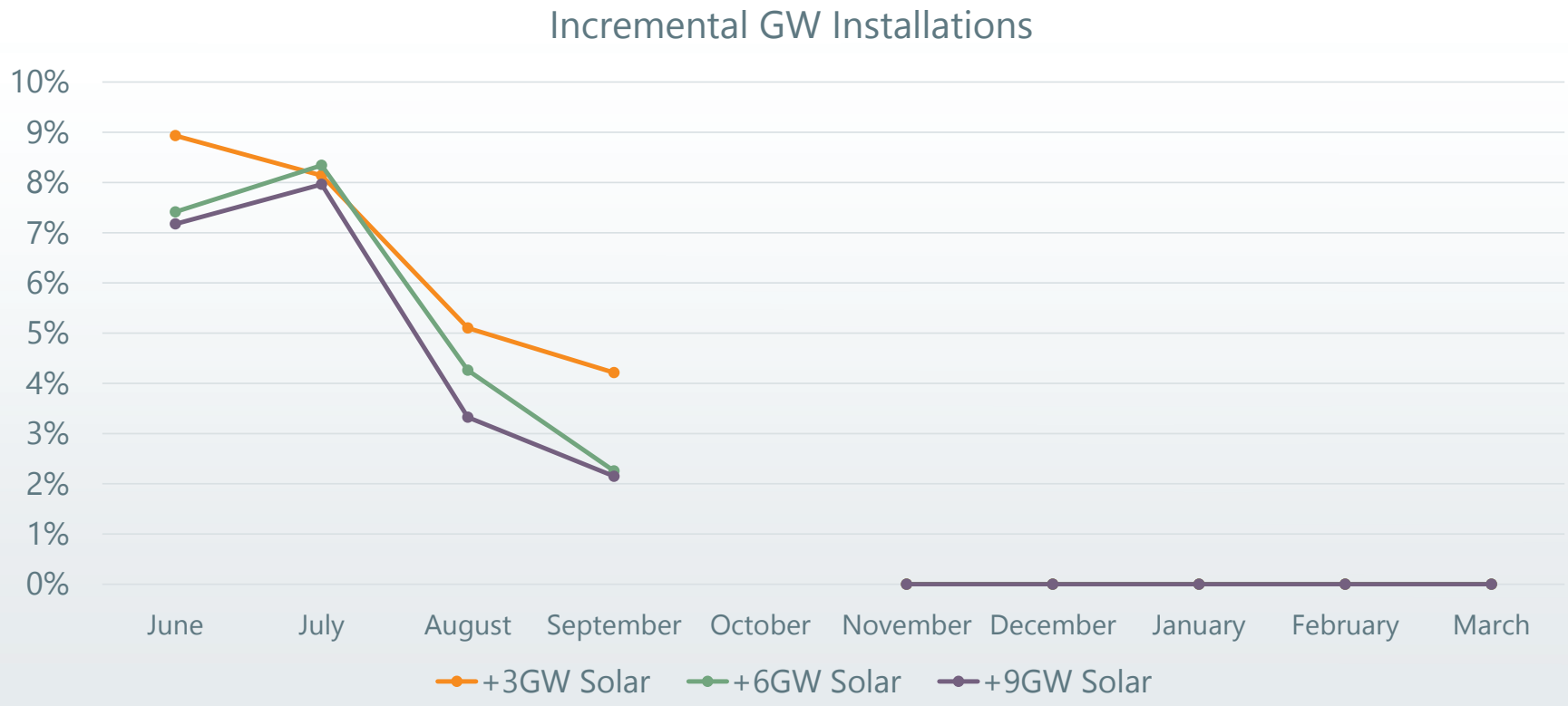
# Solar ELCC –
## *Solar at Incremental GW Installations*



# FORWARD SHOWING WORKBOOK

Charles Hendrix

# Materials Available in Folder

- Recording of Forward Showing Info Session
- Forward Showing Workbook
- Forward Showing Manual
- Joint Contract Accreditation Form (JCAF)
- Storage Hydro QCC Methodology
- Transmission Exception Form

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# Calculating Costs

- Costs for WRAP are split into Load based or Participant based
  - Load based costs will be split by %P50 Load
  - Participant based costs will be split equally by each participant
- One-time cash working capital charged at sign-on
- Calculating your P50 Load
  - New Participants will forecast monthly P50 loads for Winter 2023-2024 and Summer 2024
  - Take the median of all 9 months (Nov, Dec, Jan, Feb, Mar, Jun, Jul, Aug, and Sep)

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# CALCULATING 2023 COST ESTIMATES

| | Max Rate | More Hopeful Estimate | Notes |
|---|---|---|---|
| Cash Working Capital – one-time payment | $67 per MW | $52 per MW | Invoiced immediately upon sign up in December 2022 |
| Load Based – annual | $199 per MW | $156 per MW | Invoiced monthly as costs are accrued |
| Participant Based – annual | $59, 000 per Participant | $48,000 per Participant | Invoiced monthly as costs are accrued |
| Your estimate | $67*__P50__ = cash working capital<br><br>$199*__P50__ + $59,000 = annual cost | $52*__P50__ = cash working capital<br><br>$156*__P50__ + $48,000 = annual cost | |

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# THANK YOU

*For general inquiries or to be added to our mailing list:*
*wrap@westernpowerpool.org*

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