WRAP
POWERED BY WPP

WESTERN RESOURCE ADEQUACY PROGRAM

Review of preliminary, non-binding WRAP regional data for the current participating footprint for the Summer 2026 and advisory data for the Summer 2029 season

December 12, 2024

Today's Objectives

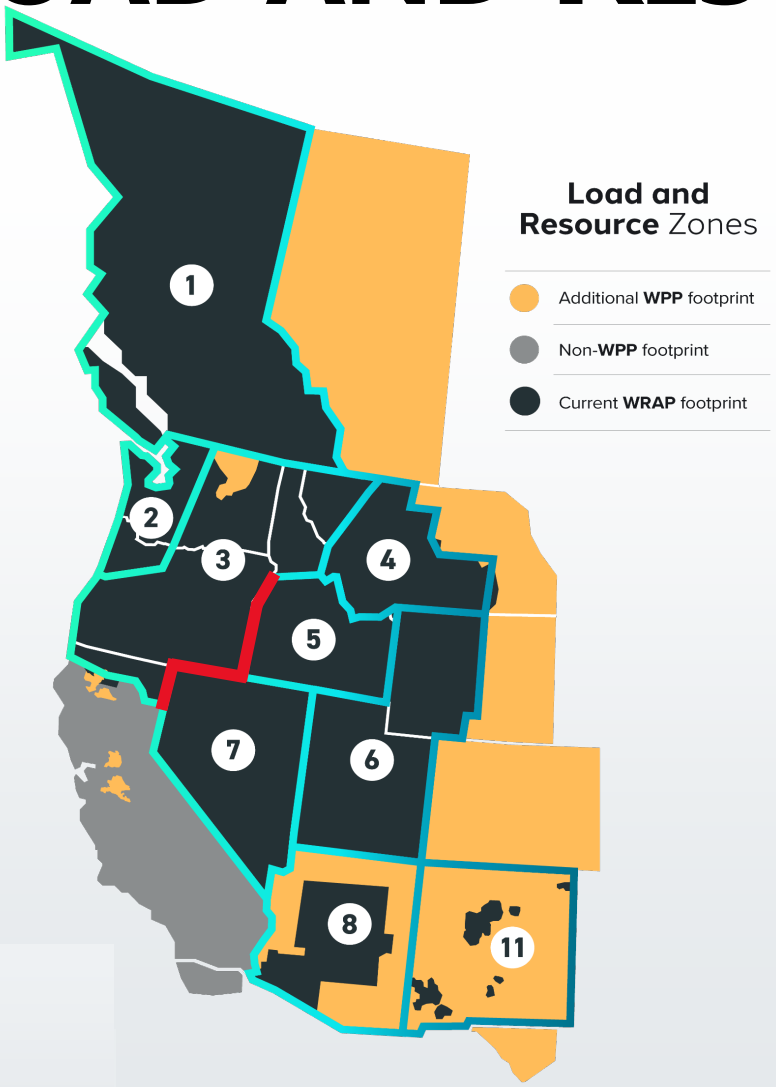
- Provide an overview of the loads and resources in the WRAP footprint
- Provide an overview of installations and nameplate for wind and solar
- Provide an overview of the Qualifying Capacity Contributions (QCC) and Effective Load Carrying Capability (ELCC) values for each resource class
- Provide an overview of Planning Reserve Margin values (PRM)

Before We Begin

- Modeling provided utilizes WRAP program design, assuming full binding implementation of the WRAP as designed
- Modeling was performed based on the WRAP footprint as of 2024
  - Included all twenty-two WRAP Participants
  - Changes to WRAP participation may impact these metrics
  - These assessments cannot account for adequacy needs or activities of non-participating load or resources
- Be aware of the limits of drawing regional conclusions from aggregate information
  - Information is best applied at individual LREs; WRAP's scope does not include matching LREs in need of additional forward procurement with available resources
  - It cannot be assumed that all resources modeled in the loss of load expectation study will be available to the WRAP footprint
  - Planned outages are not considered; they will be managed by LREs from their surplus

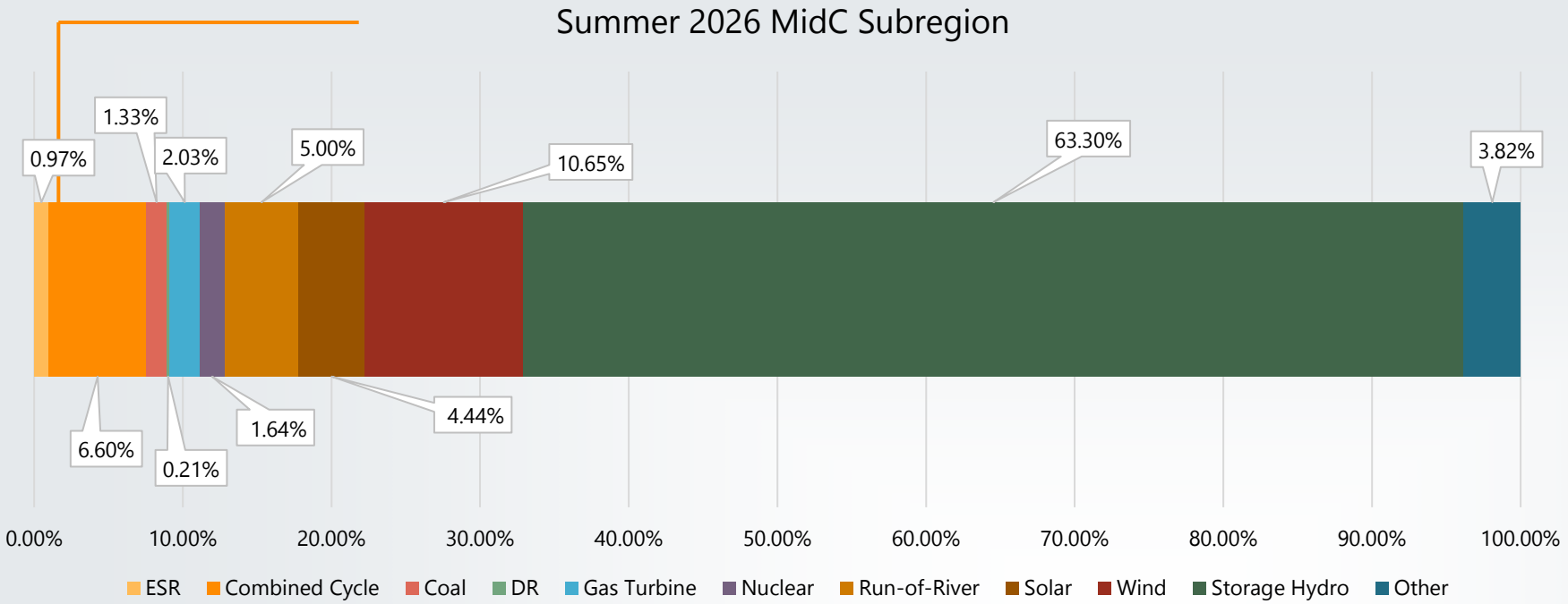
WRAP
POWERED BY WPP

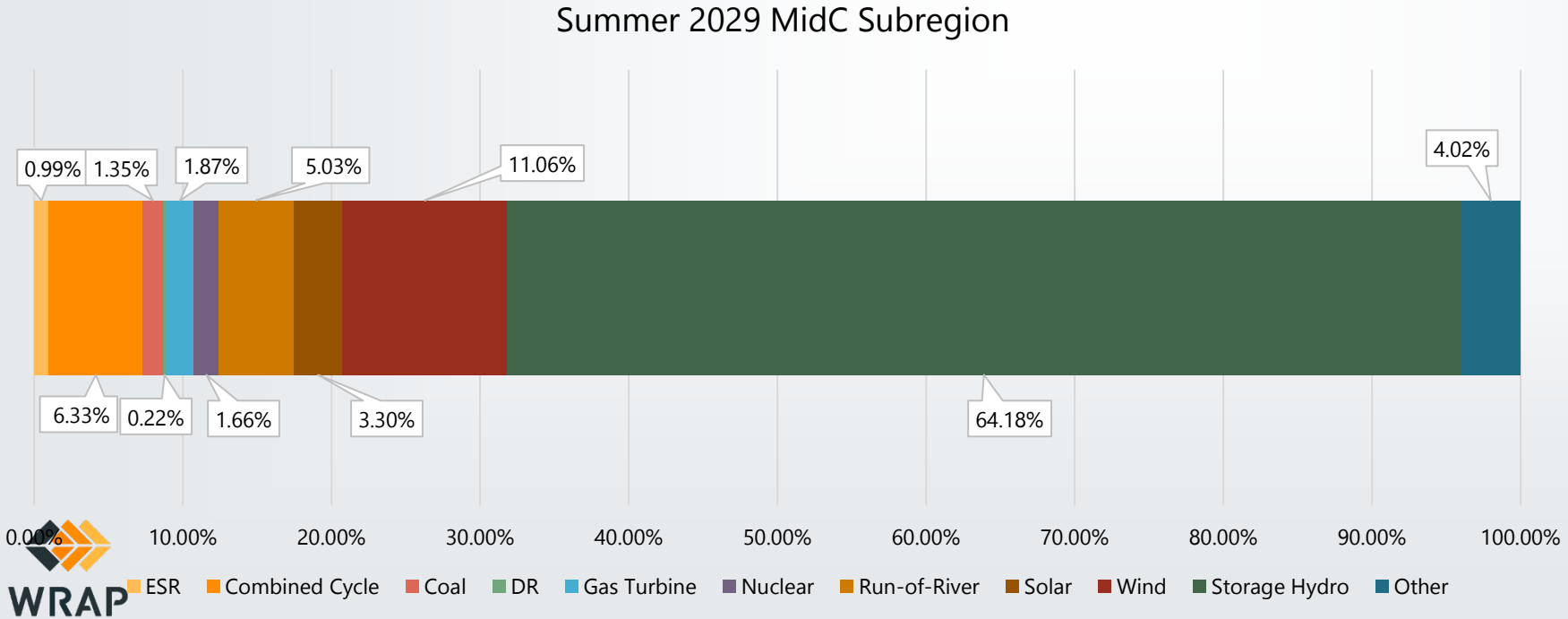
Load and Resource Zones



Subregion	Zone	Geographical Description
MidC	Zone 1	British Columbia
	Zone 2	West of Cascades
	Zone 3	East of Cascades
	Zone 4	NorthWestern
SWEDE	Zone 5	Idaho Power
	Zone 6	PacifiCorp East
	Zone 7	Nevada
	Zone 8	Arizona
	Zone 11	New Mexico

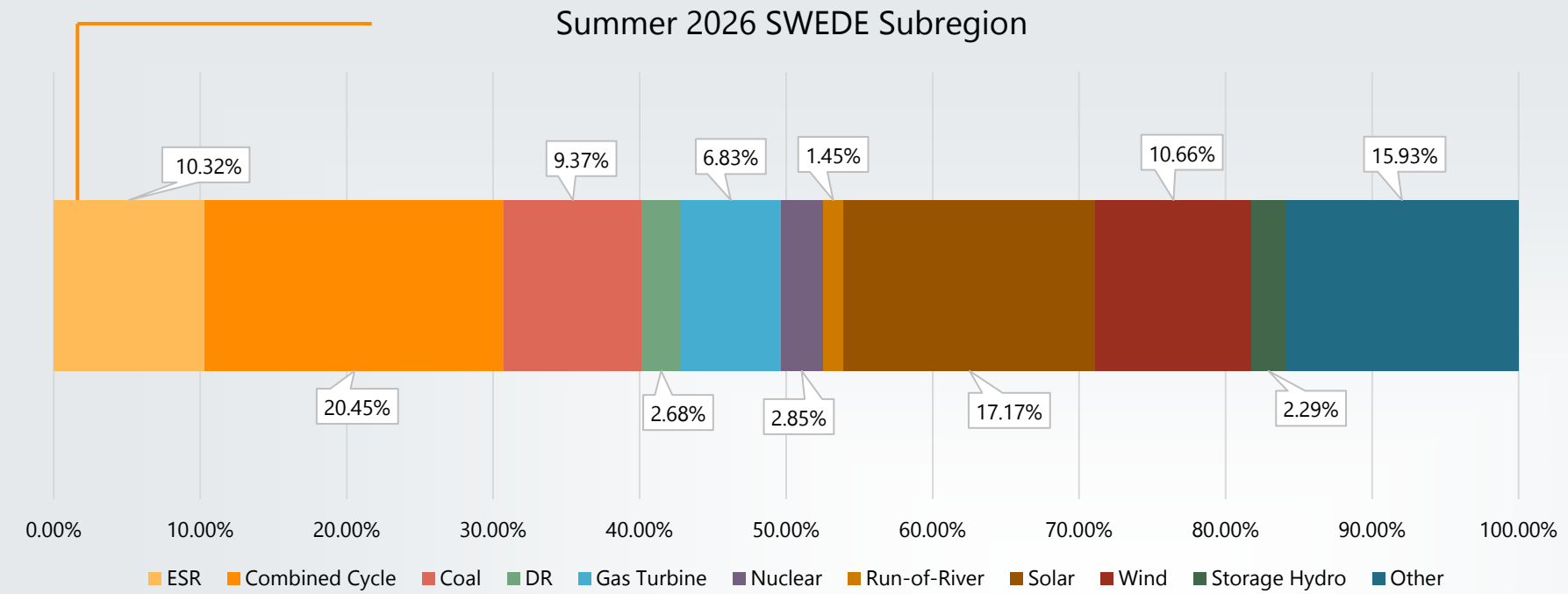
WRAP
POWERED BY WPP

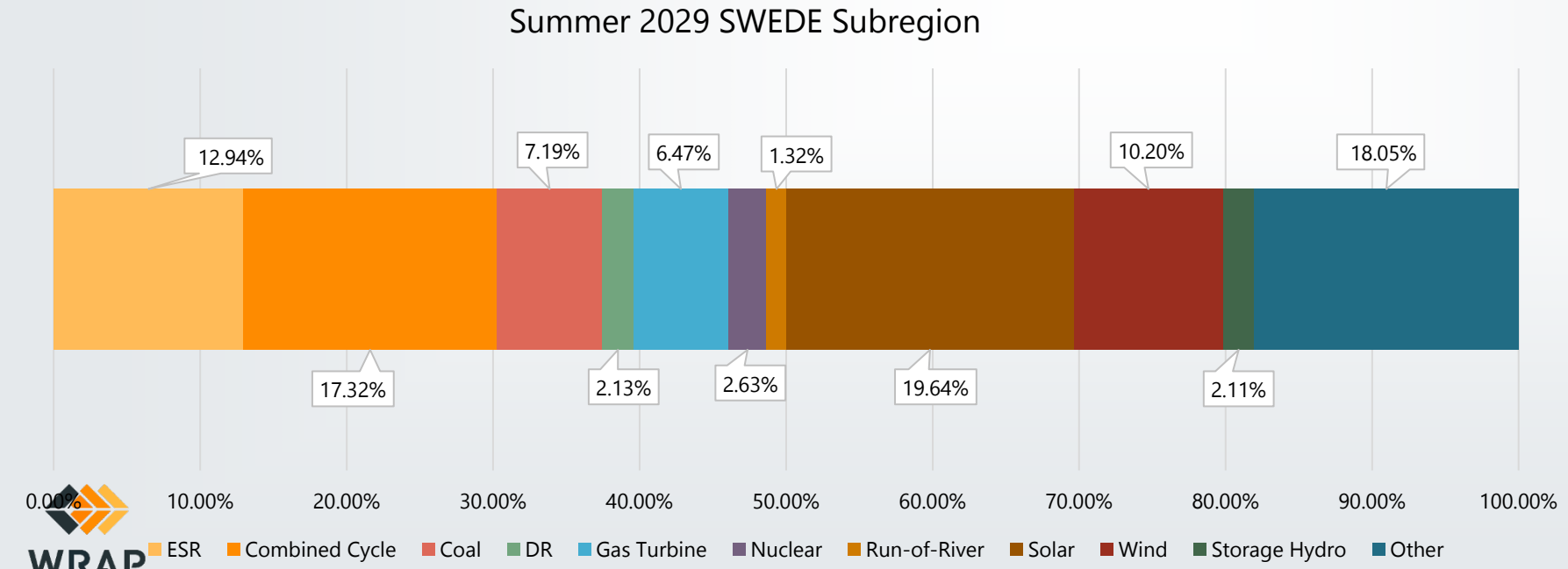




MidC Subregion Summers

Percentage





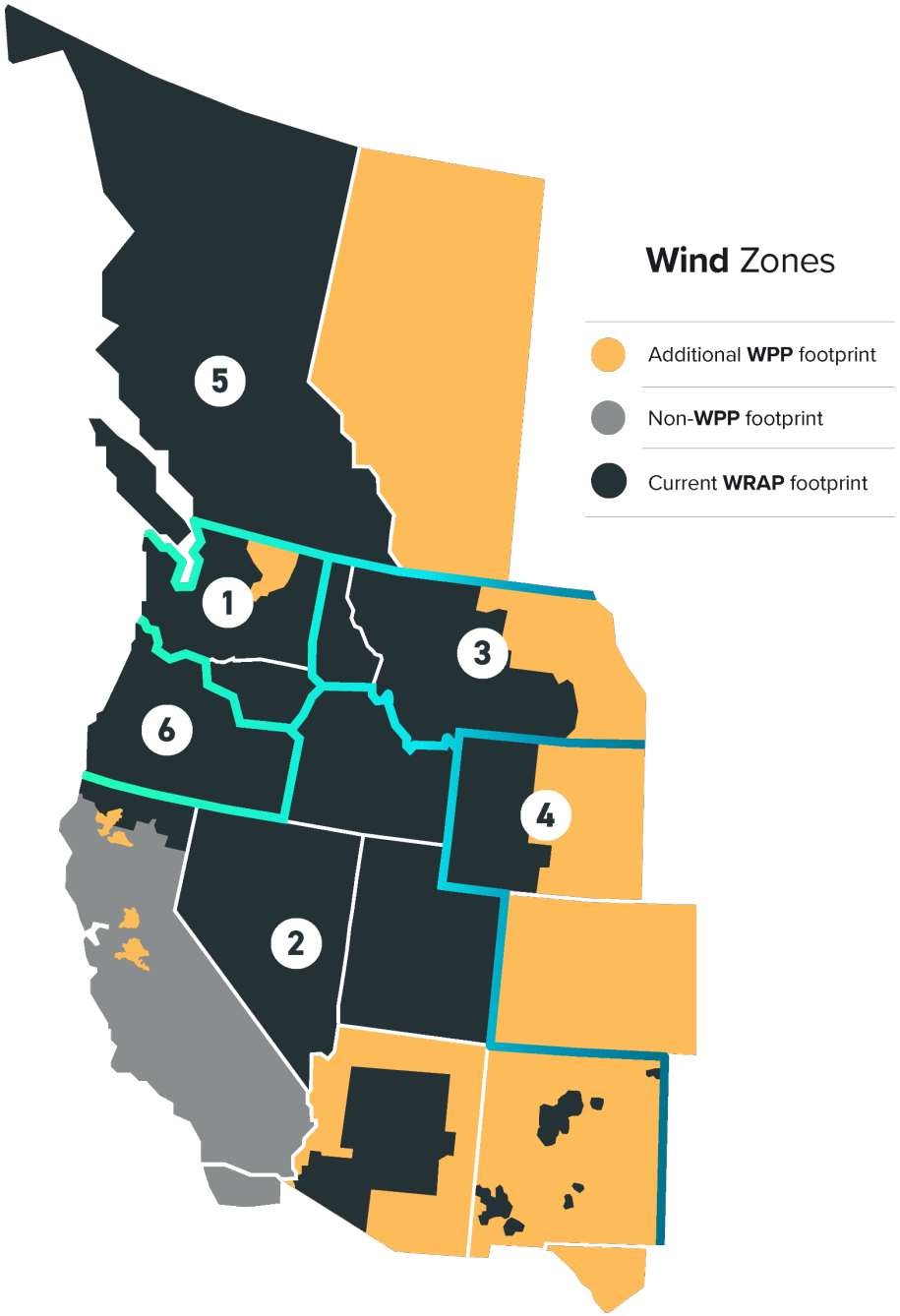
SWEDE SUBREGION SUMMERS

Percentage

Key Reminders

- Not all resources shown in the preceding slides can be assumed to be available to the WRAP footprint for resource adequacy purposes
  - Planned outages are not considered; they will be managed by LREs from their surplus
  - Does not account for activities and needs of neighboring, non-participating regions or entities
  - Based on information and projections provided by participants
- Aggregate information does not give insight into whether individual participants have enough supply
  - WRAP motivates participants to acquire the necessary capacity
  - Cannot assume this has yet happened or will happen without binding implementation of WRAP

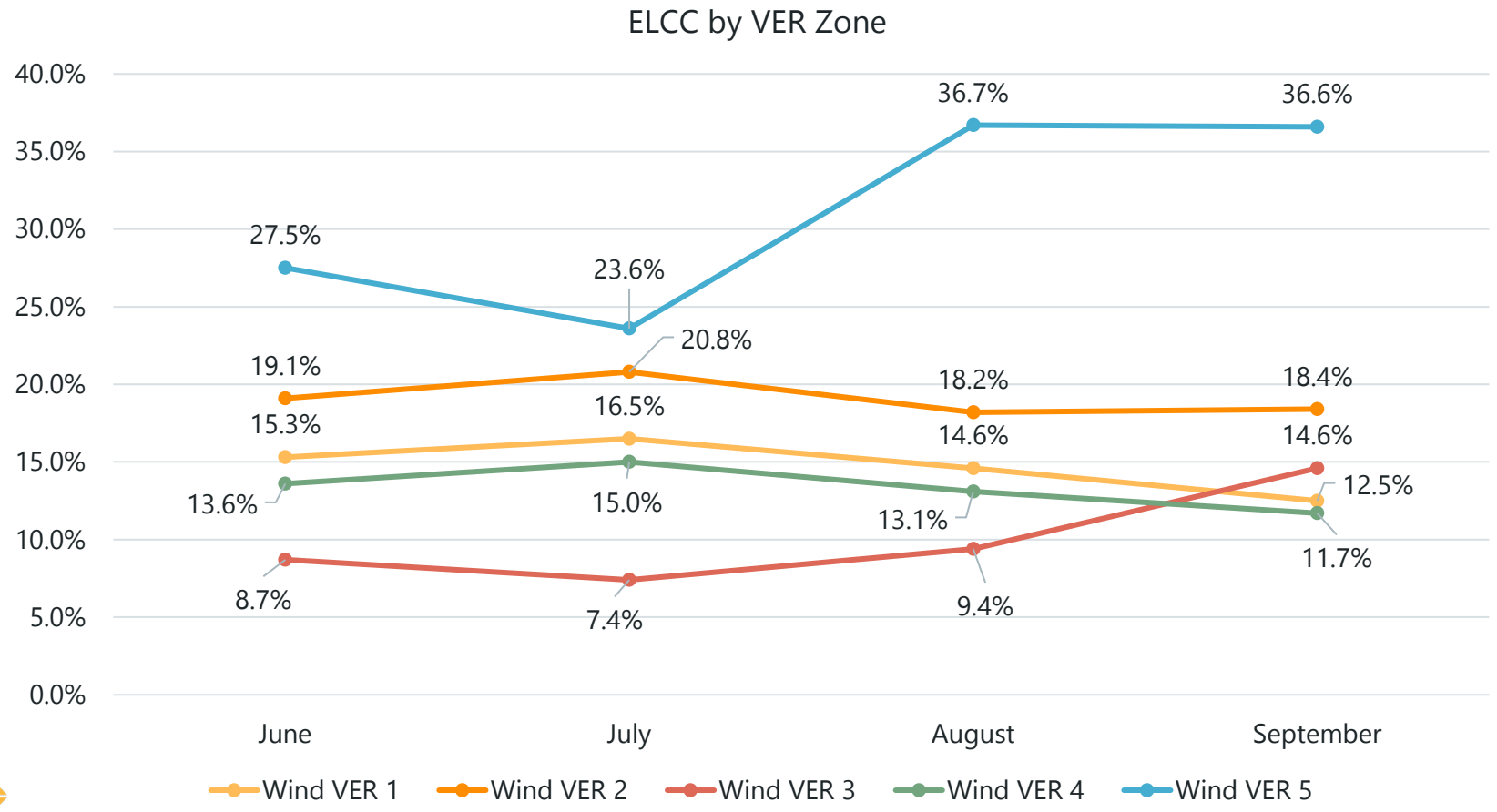
Wind Zones

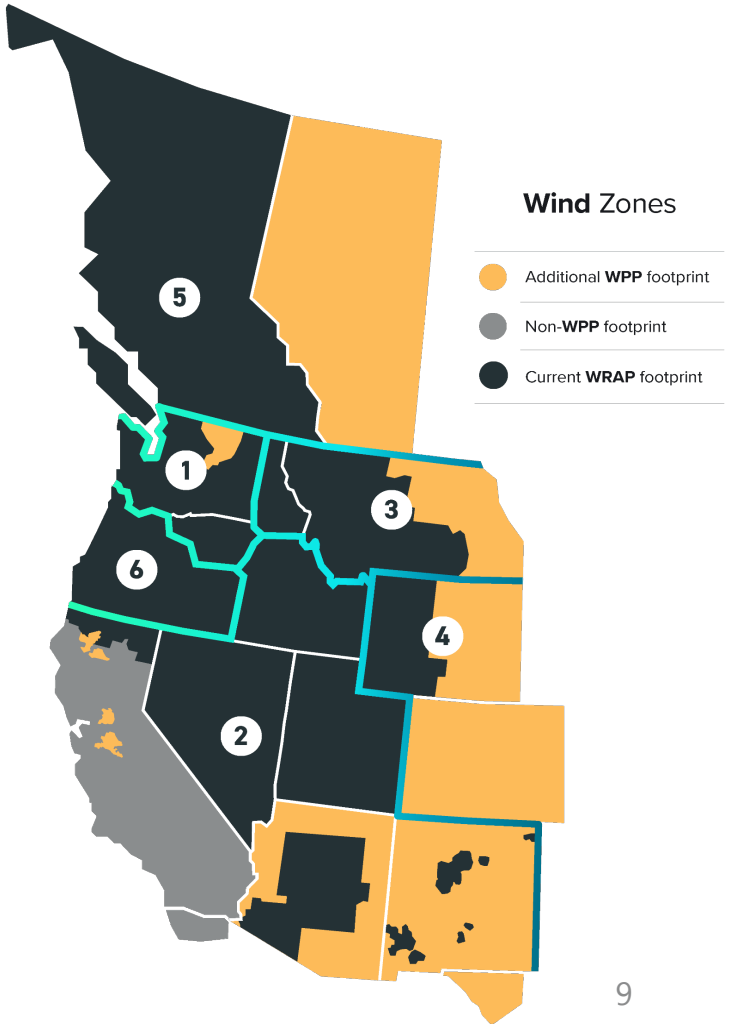


Zone	Nameplate Capacity (MW)
Wind VER1	**4,938**
Wind VER2	**3,488**
Wind VER3	**1,658**
Wind VER4	**4,478**
Wind VER5	**747**
Wind VER6	No wind
Total	**15,309**

WRAP
POWERED BY WPP

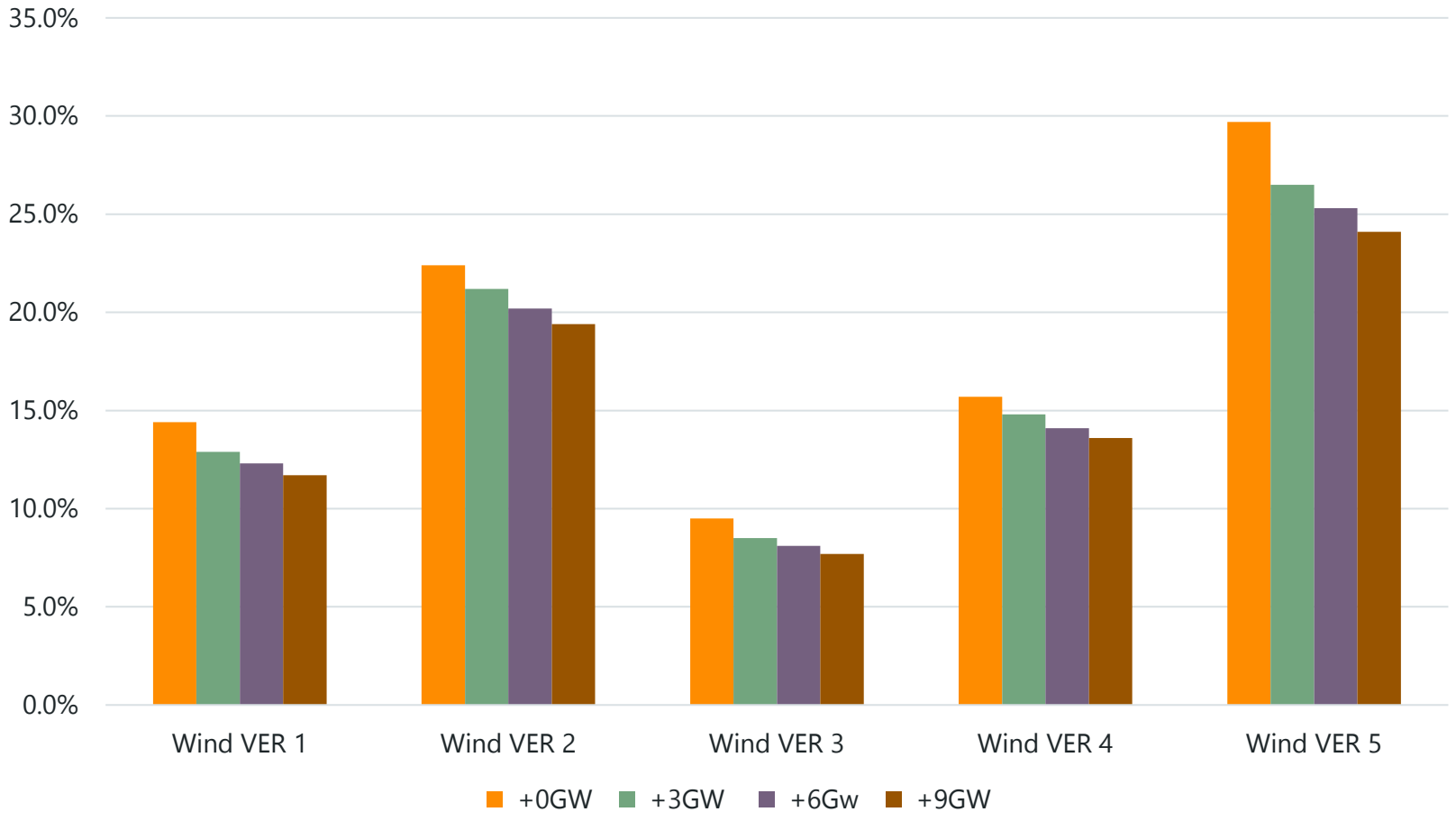
Wind ELCC - Summer

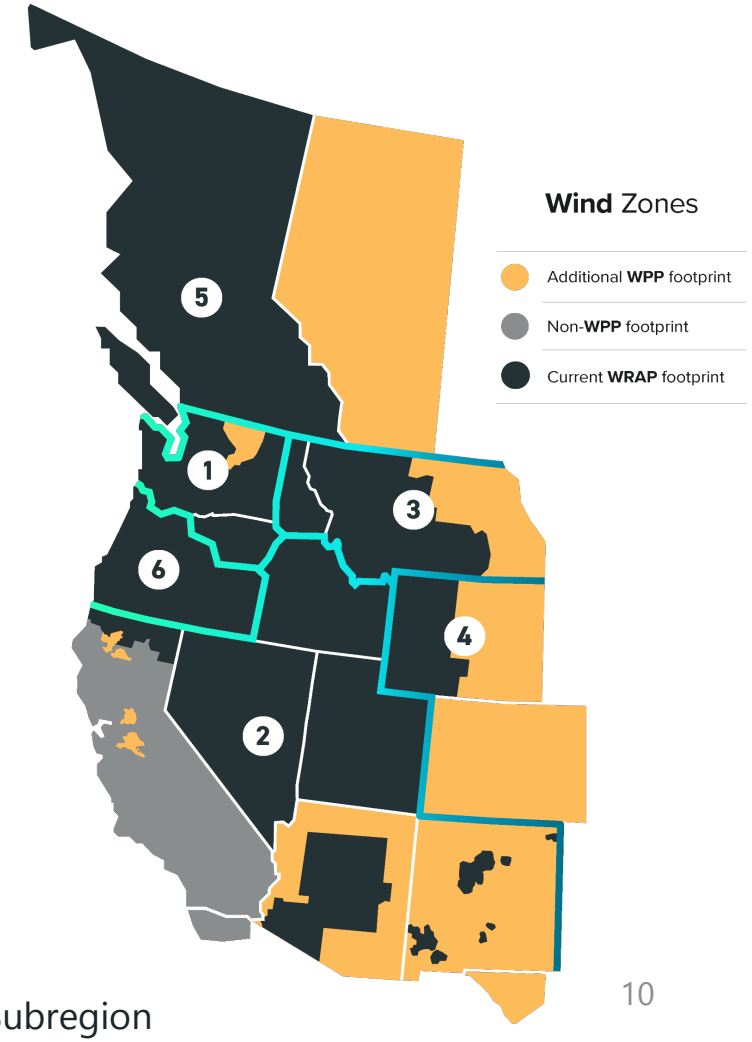




Wind ELCC

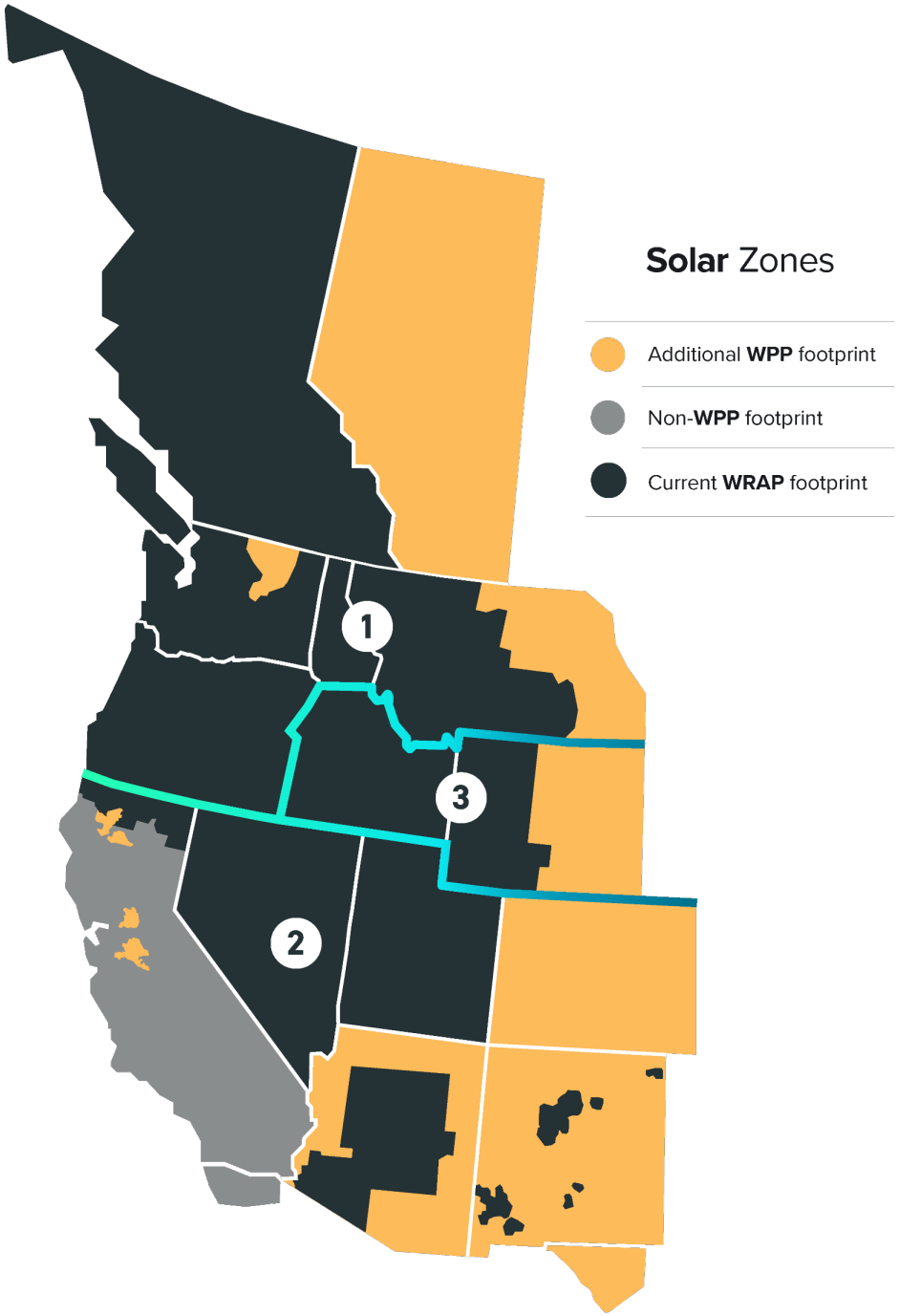
Wind at Incremental GW Installations





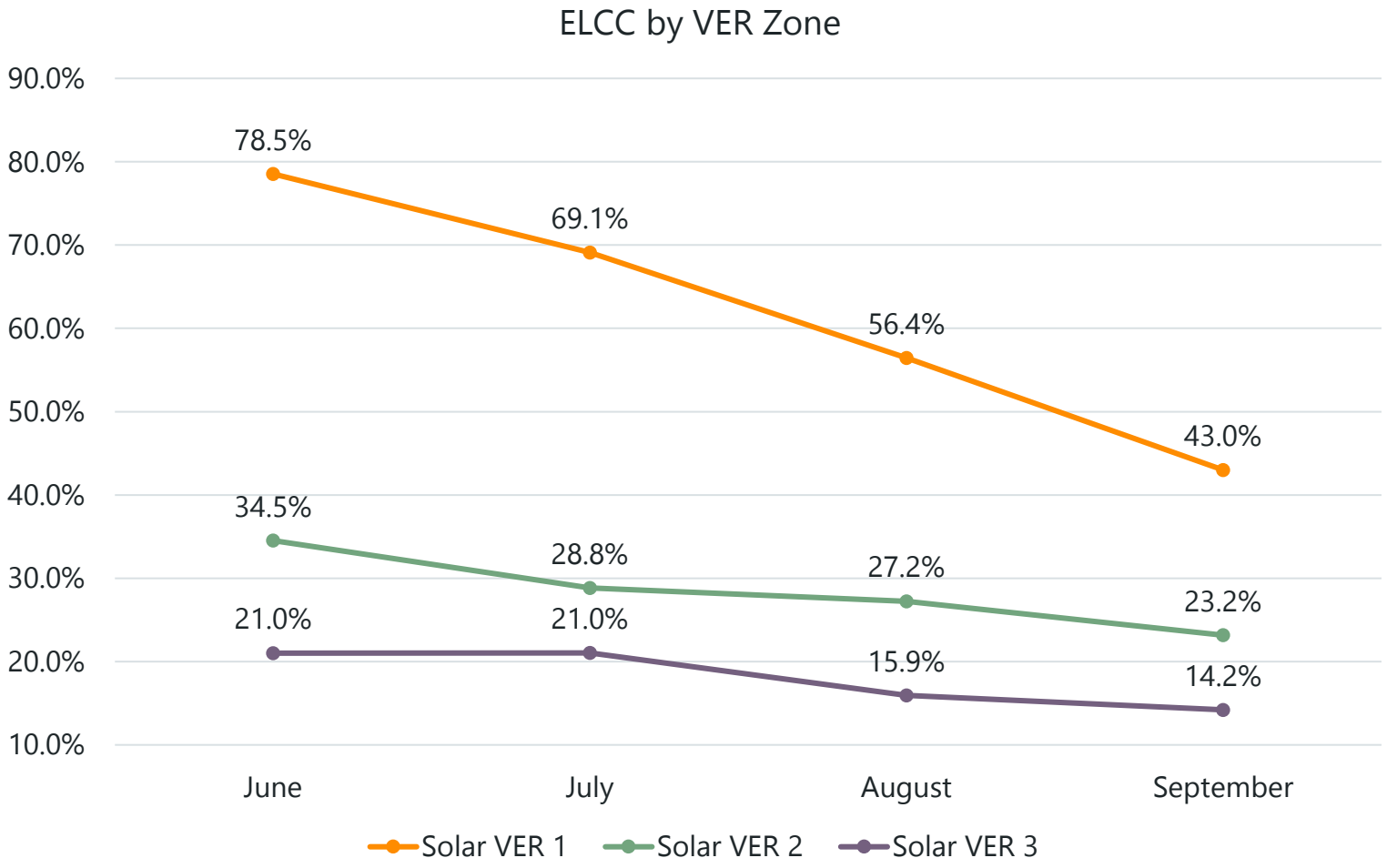
+3, +6, and +9 GW added to both SWEDE and MidC, split between VER Zones in that Subregion

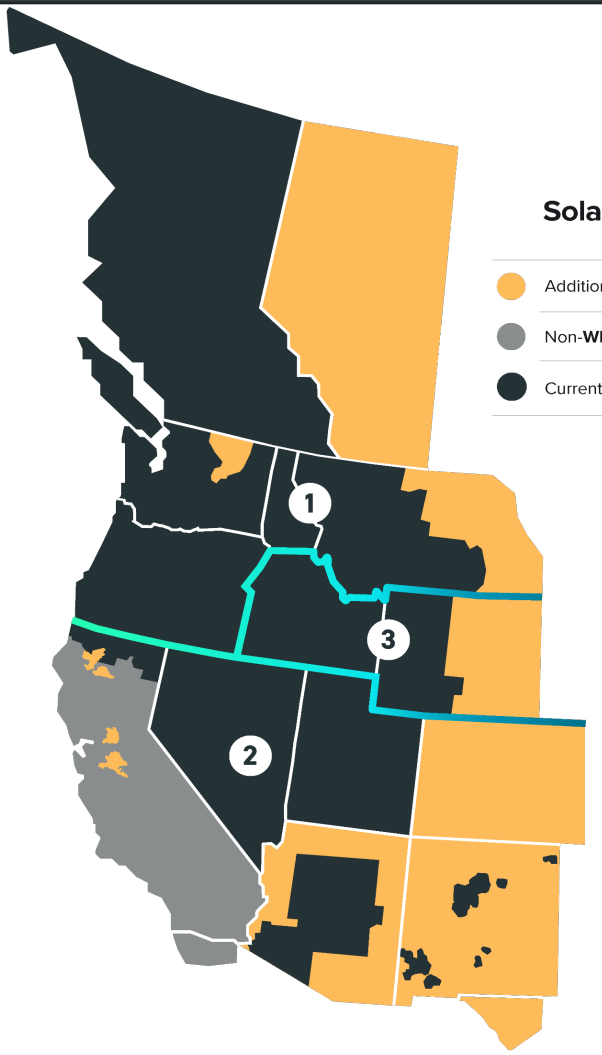
SOLAR ZONES



Zone	Nameplate Capacity (MW)
Solar VER1	**2,140**
Solar VER2	**12,829**
Solar VER3	**919**
Total	**15,888**

Solar ELCC - Summer

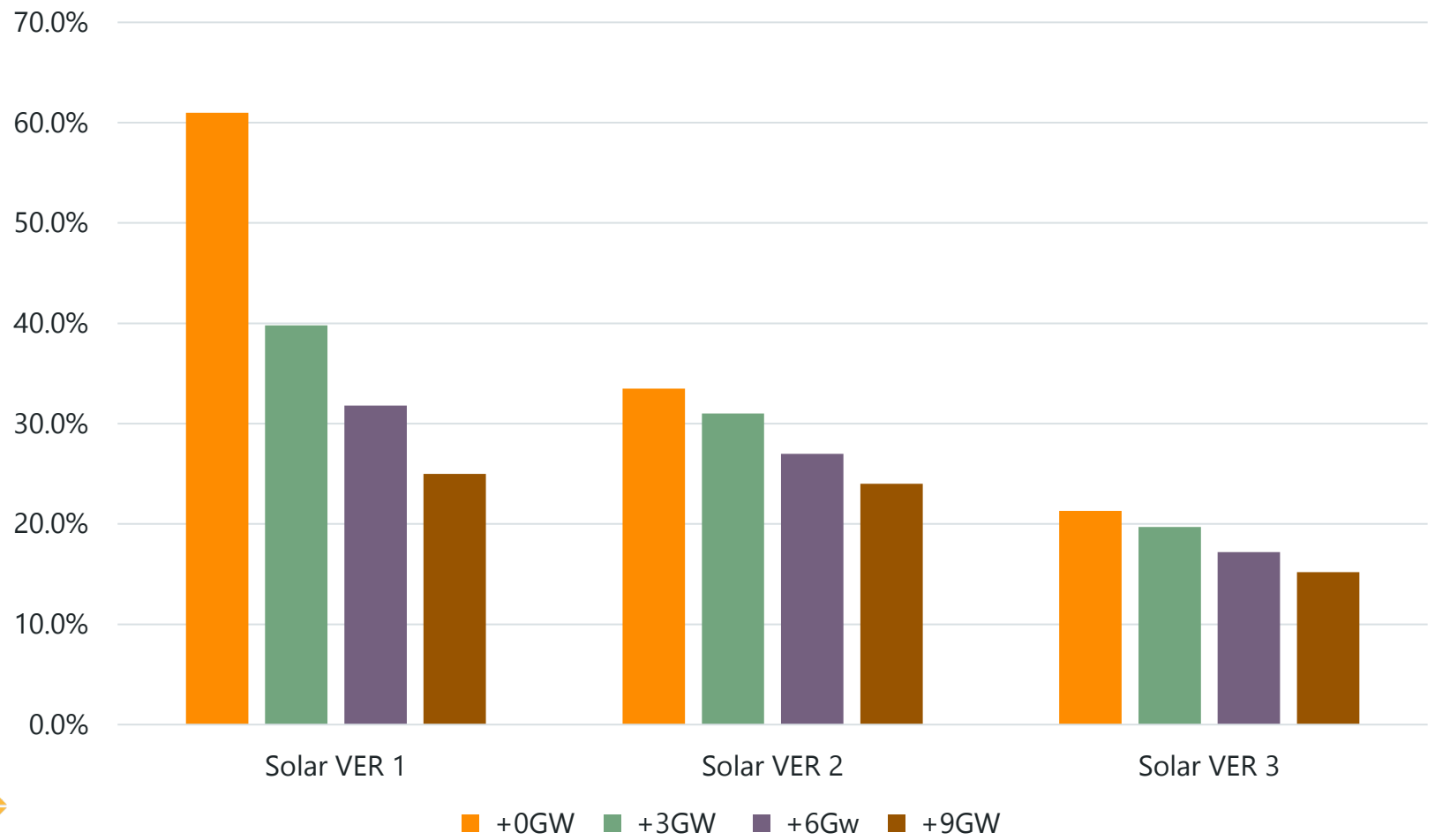


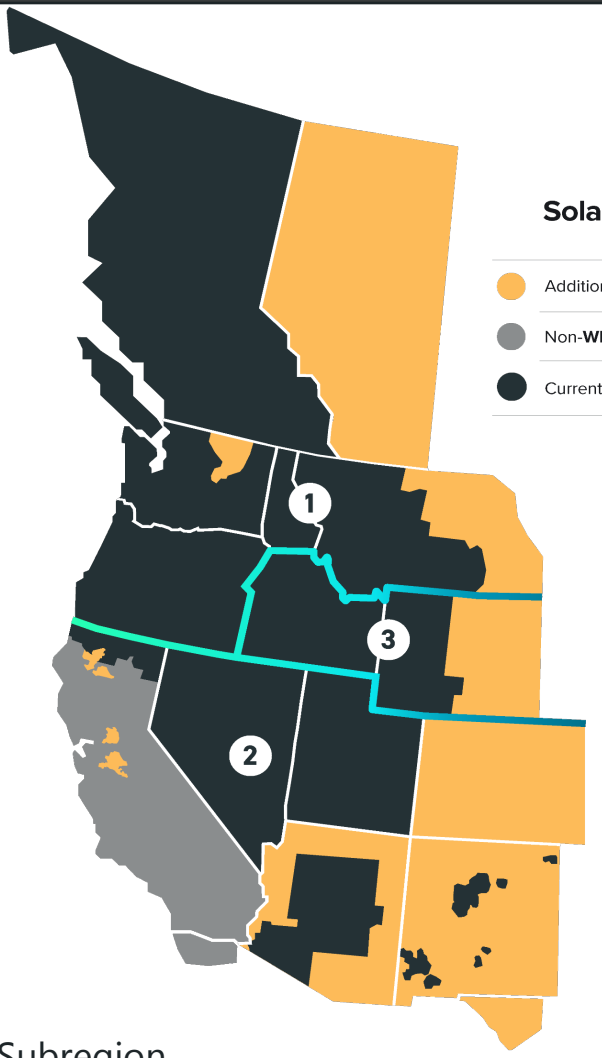


WRAP
POWERED BY WPP

Solar ELCC

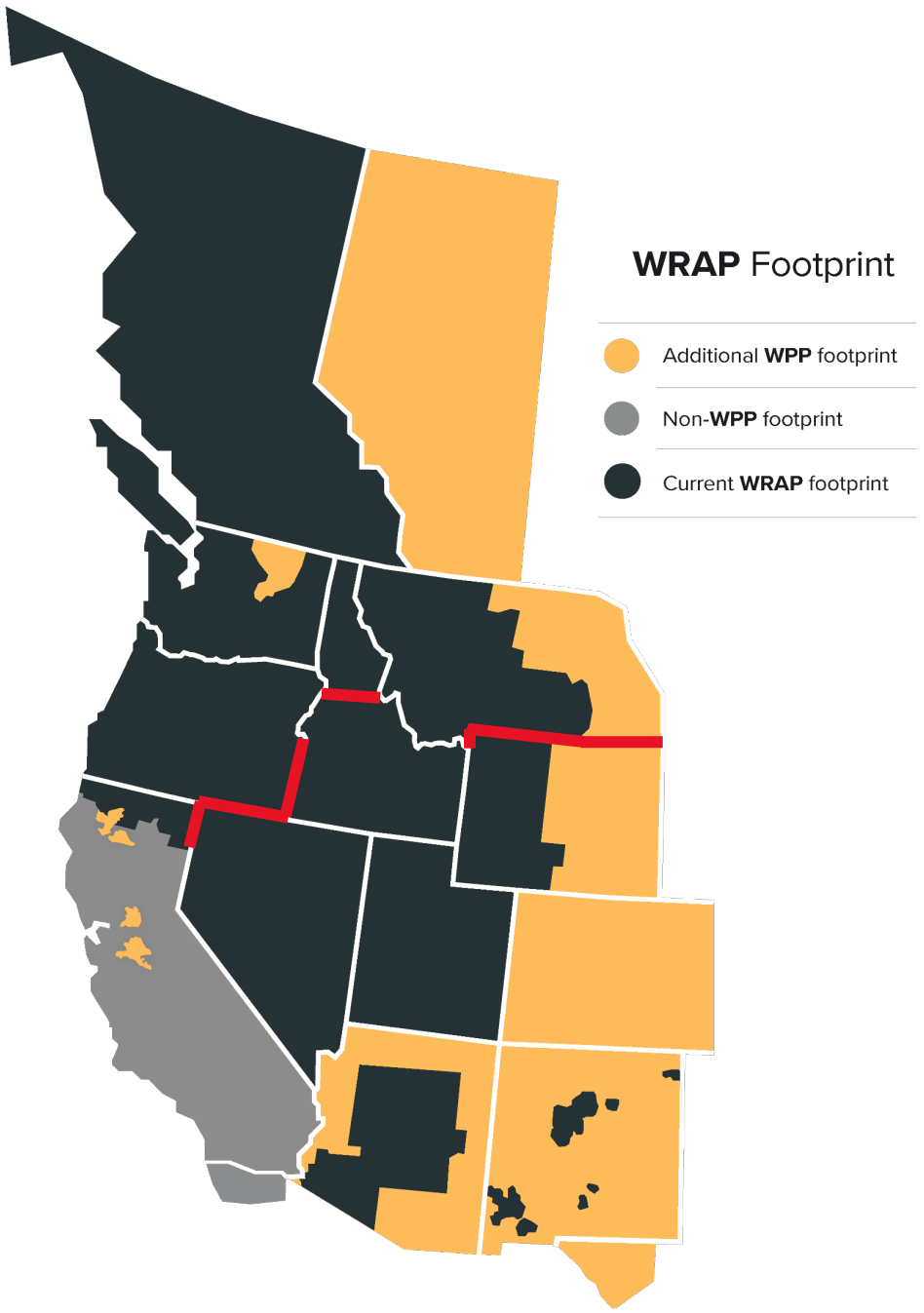
Solar at Incremental GW Installations





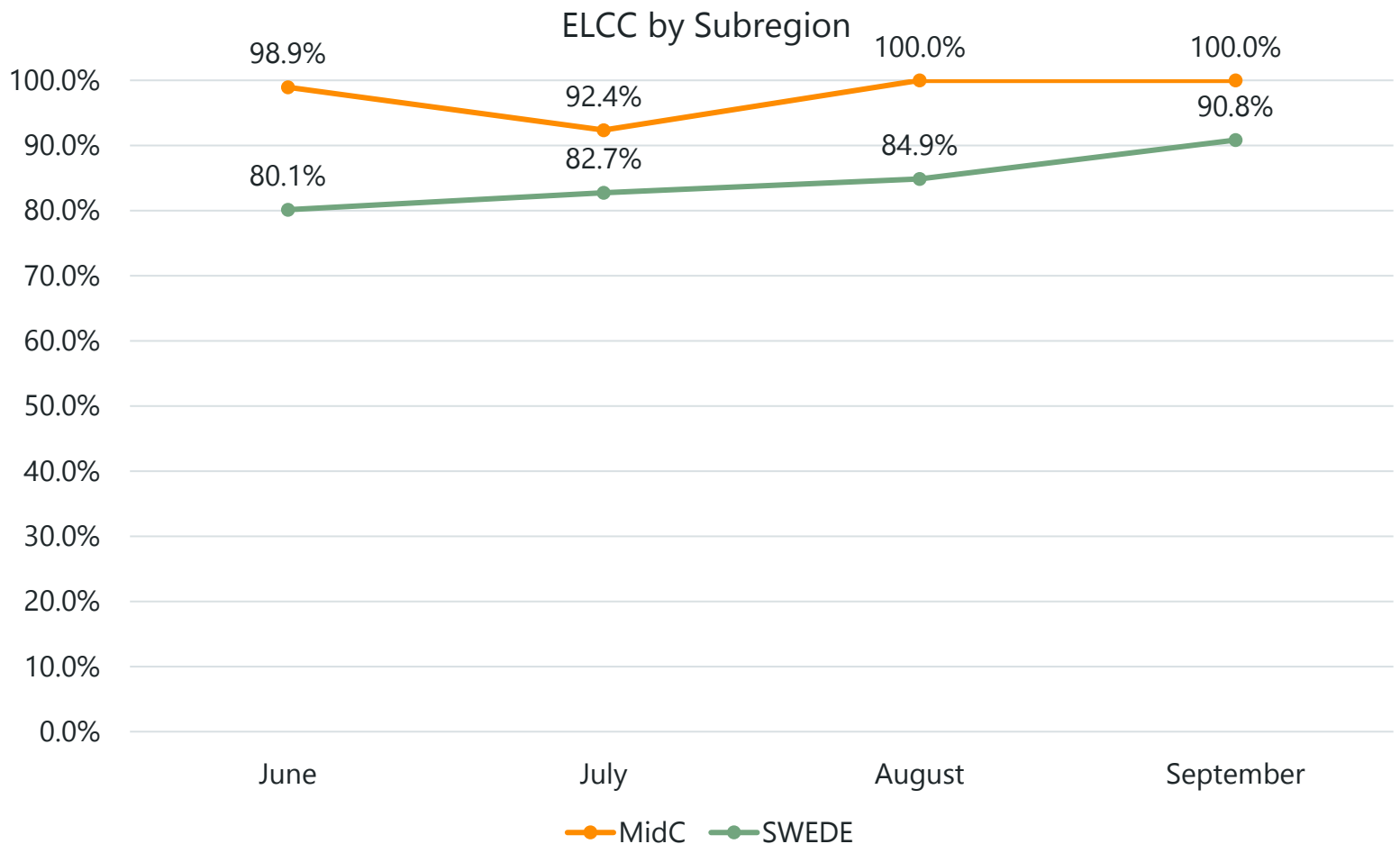
+3, +6, and +9 GW added to both SWEDE and MidC, split between VER Zones in that Subregion

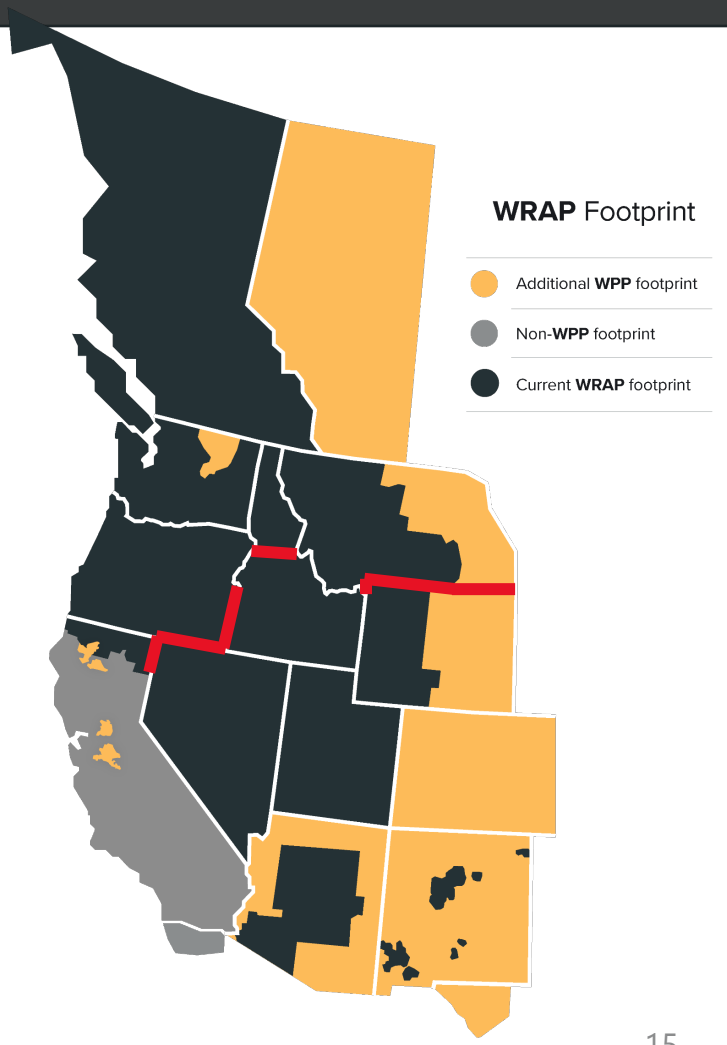
Energy Storage Resource (ESR) Zones



Subregion	Nameplate Capacity (MW)
MidC	**670**
SWEDE	**7,705**
Total	**8,375**

ESR ELCC - Summer

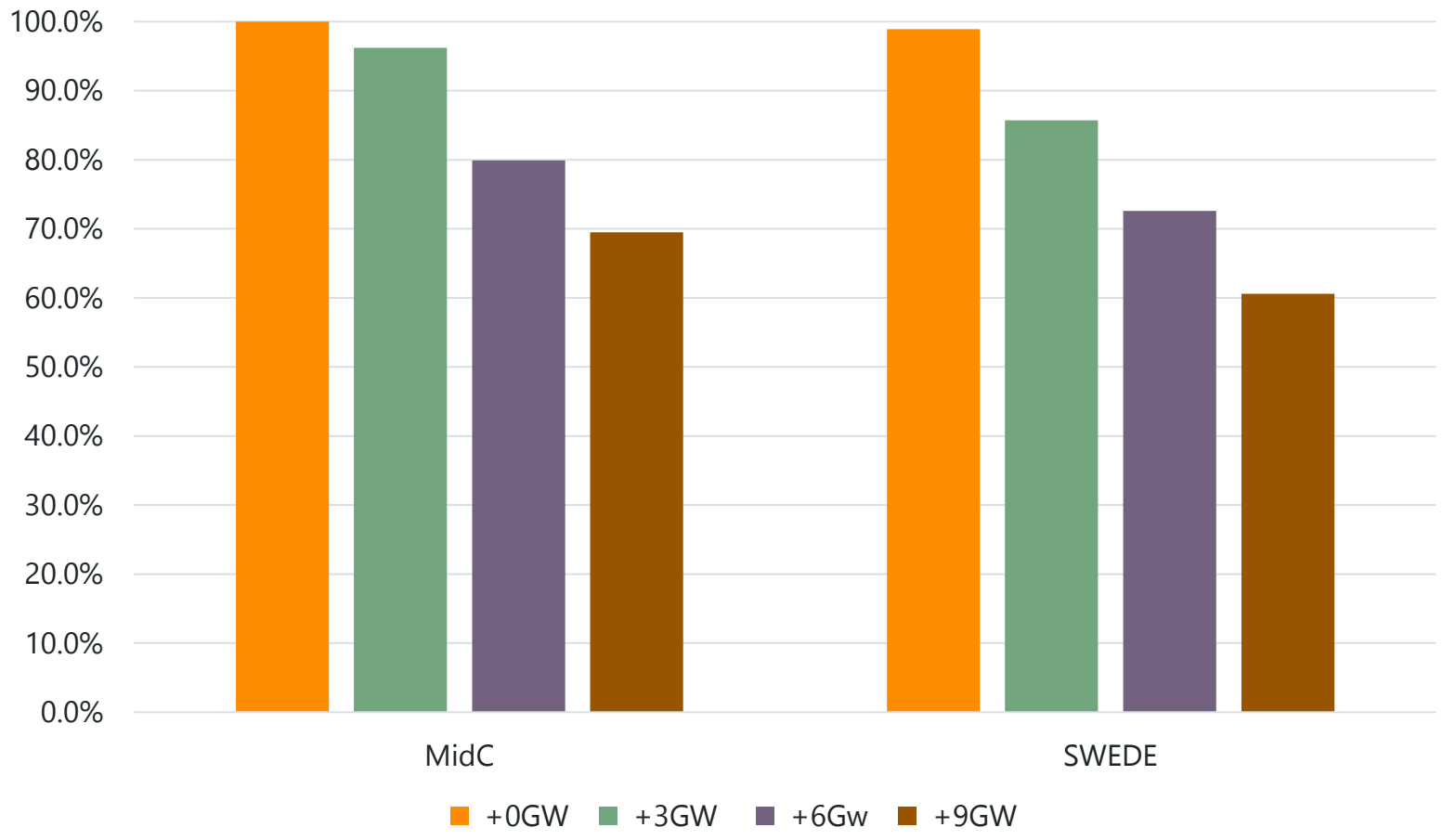




WRAP
POWERED BY WPP

ESR ELCC

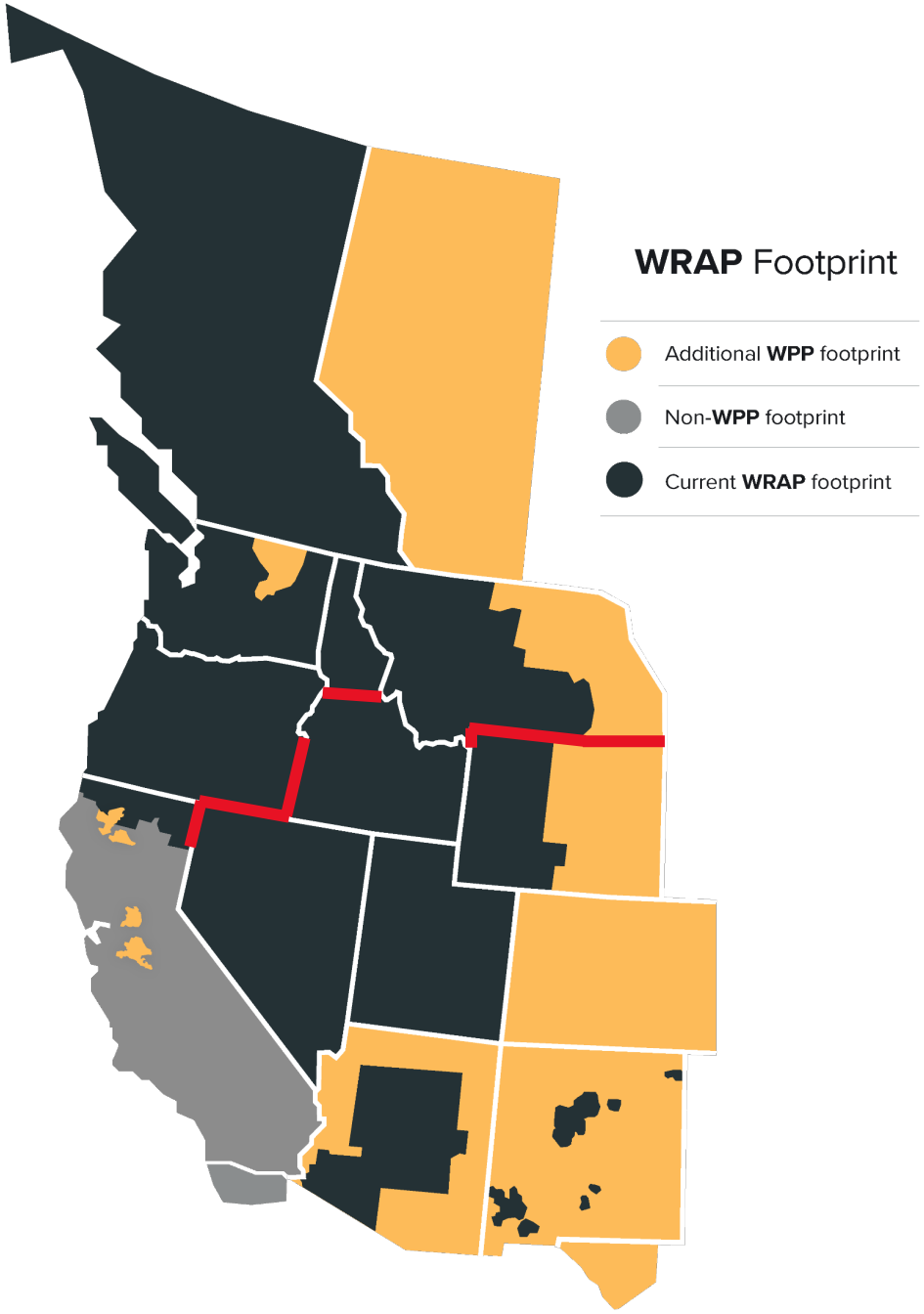
ESR at Incremental GW Installations



+3, +6, and +9 GW added to both SWEDE and MidC Subregions

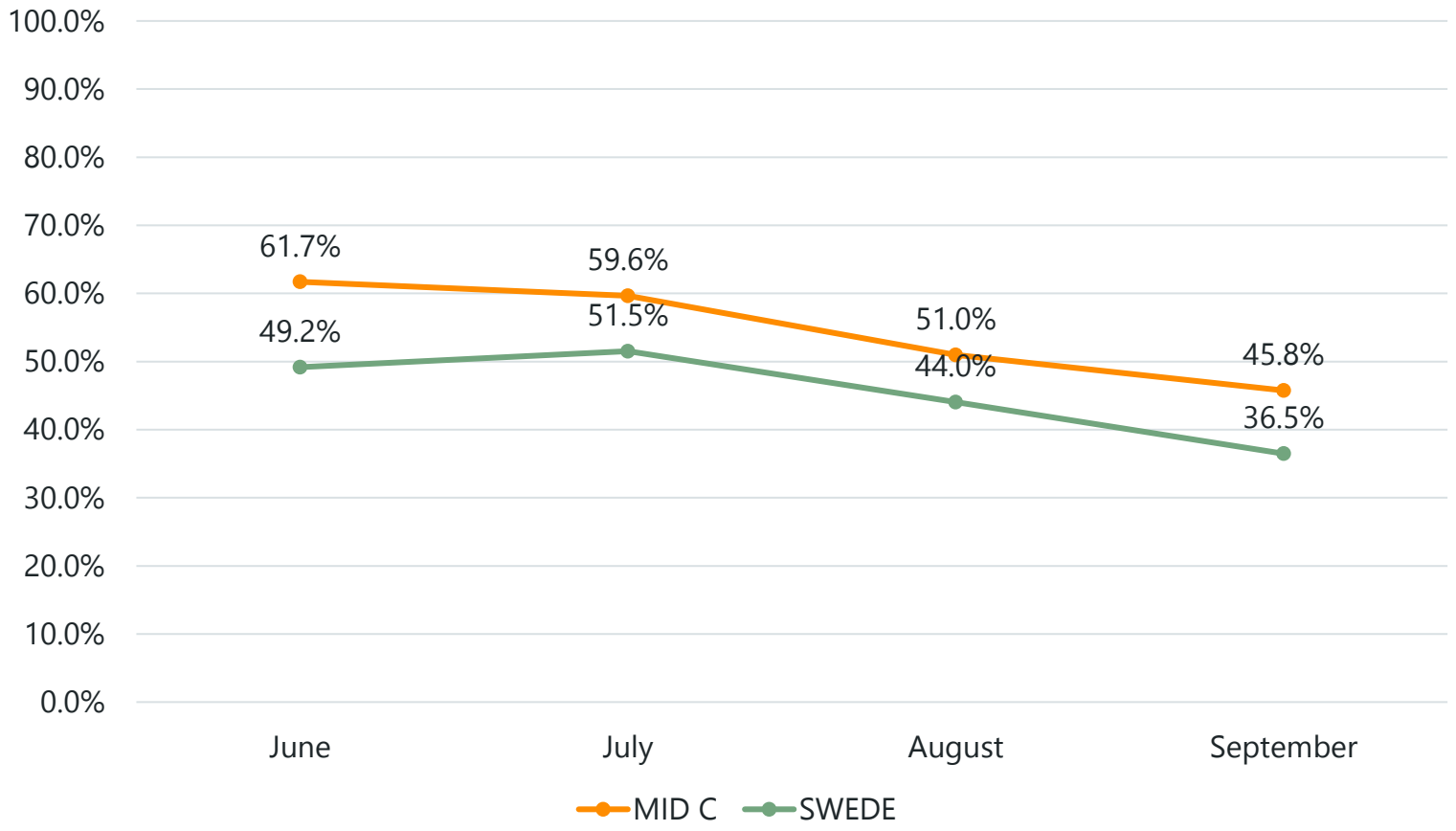
WRAP
POWERED BY WPP

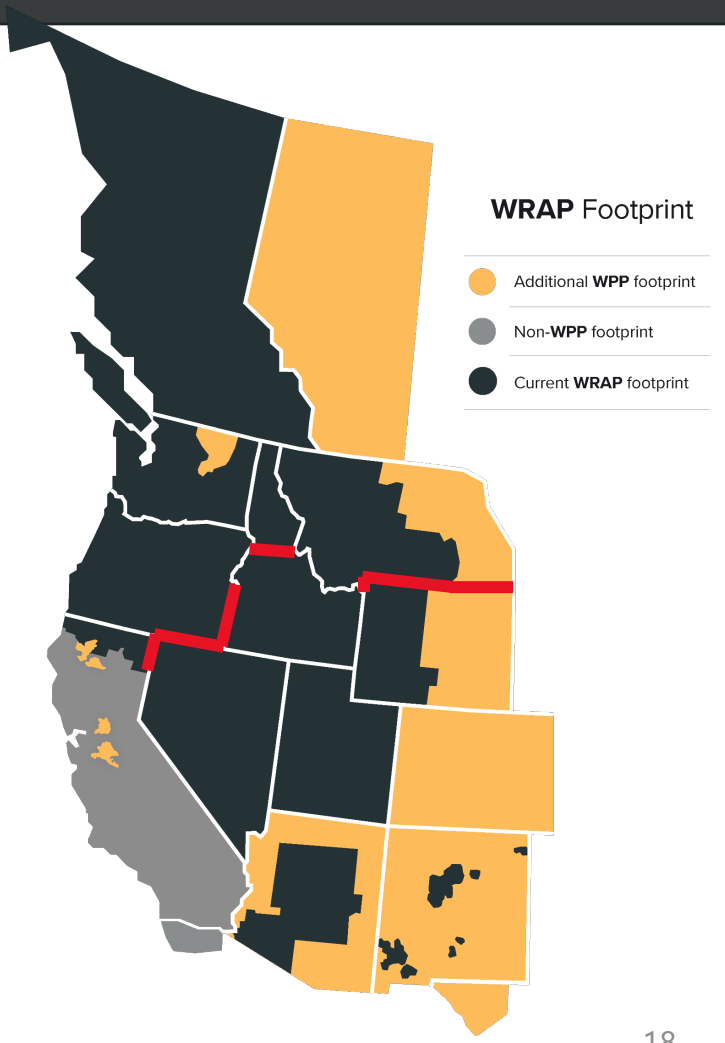
Run of River (RoR) Zones



Subregion	Nameplate Capacity (MW)
MidC	**3,449**
SWEDE	**1,080**
Total	**4,529**

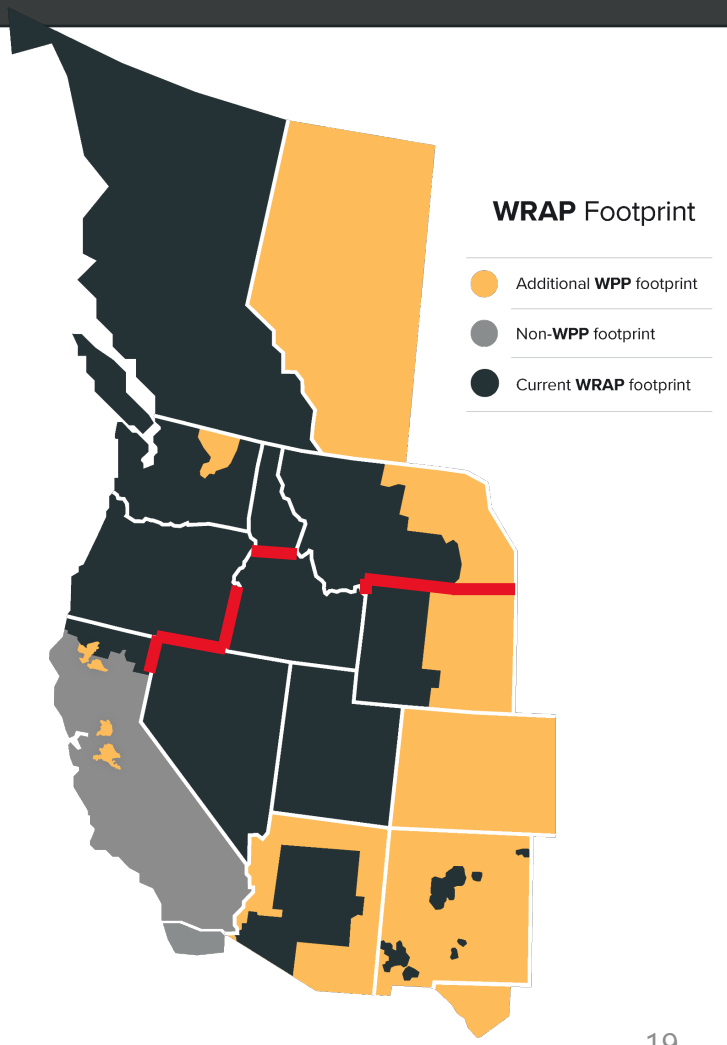
RoR QCC - Summer





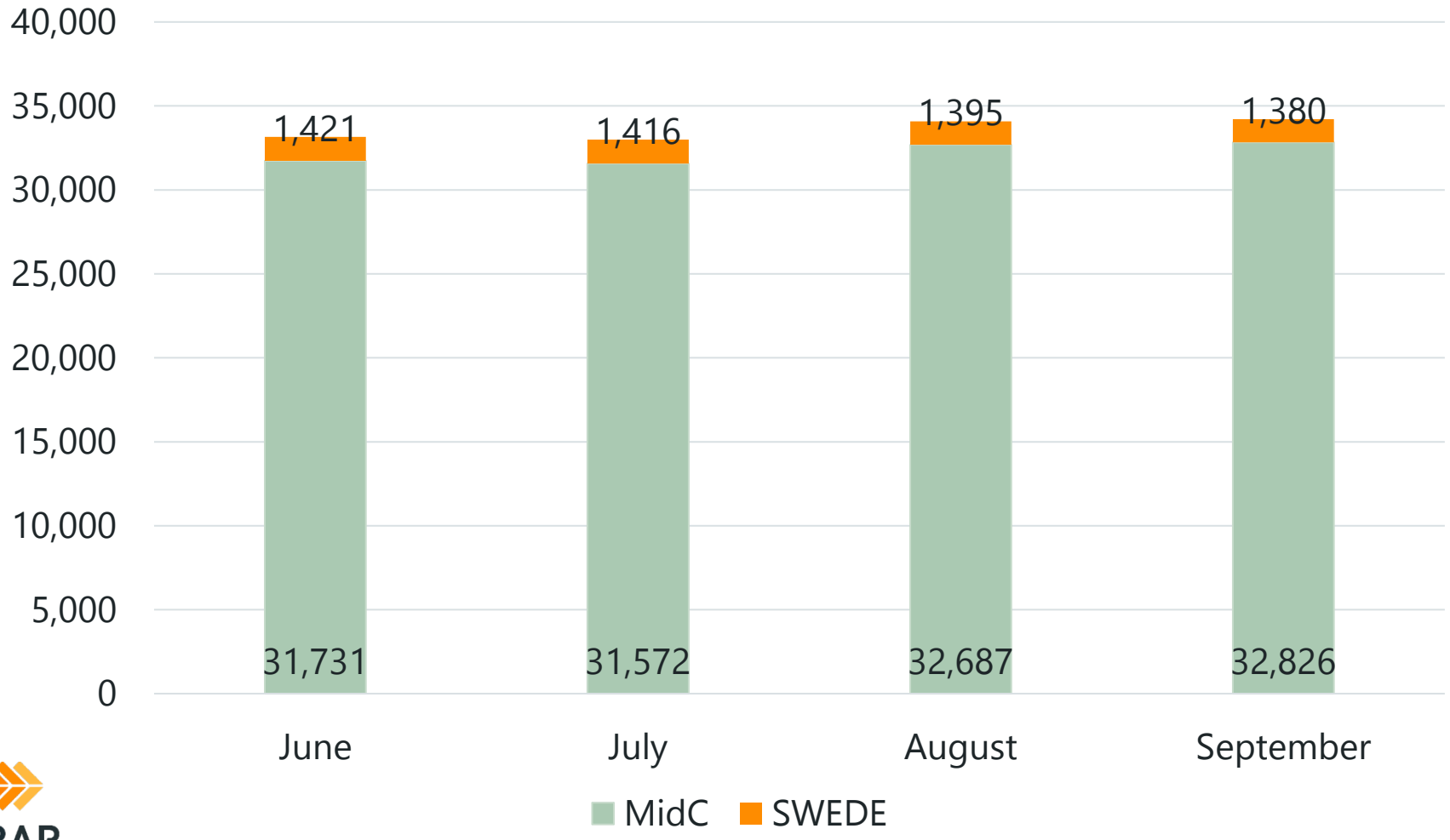
WRAP
POWERED BY WPP

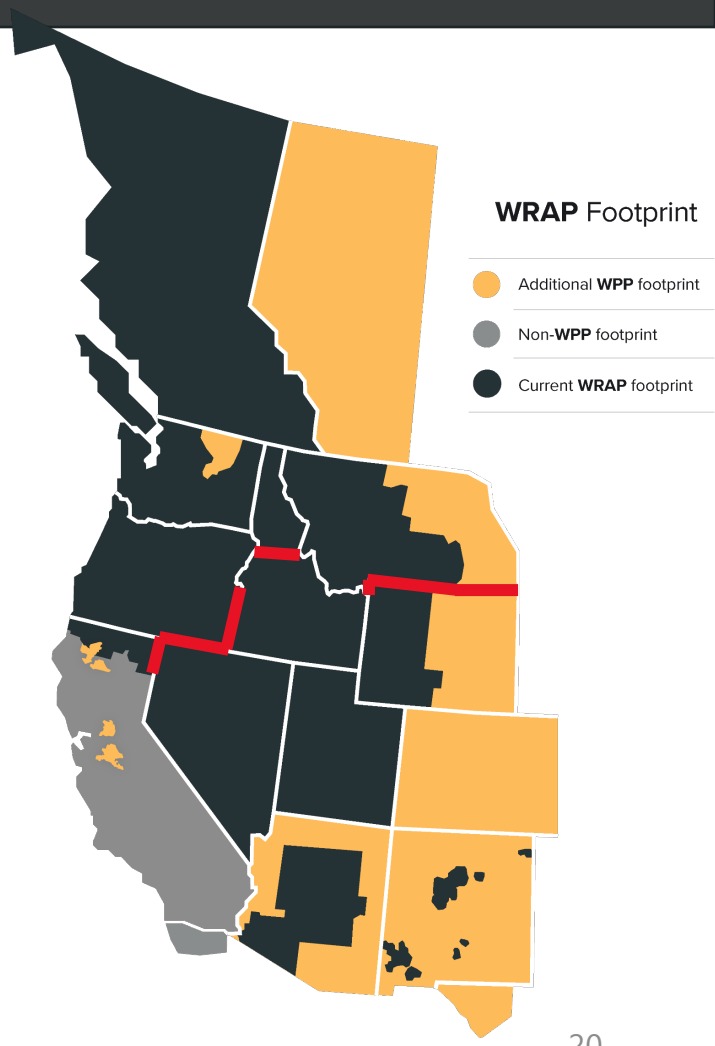
Thermal QCC



WRAP
POWERED BY WPP

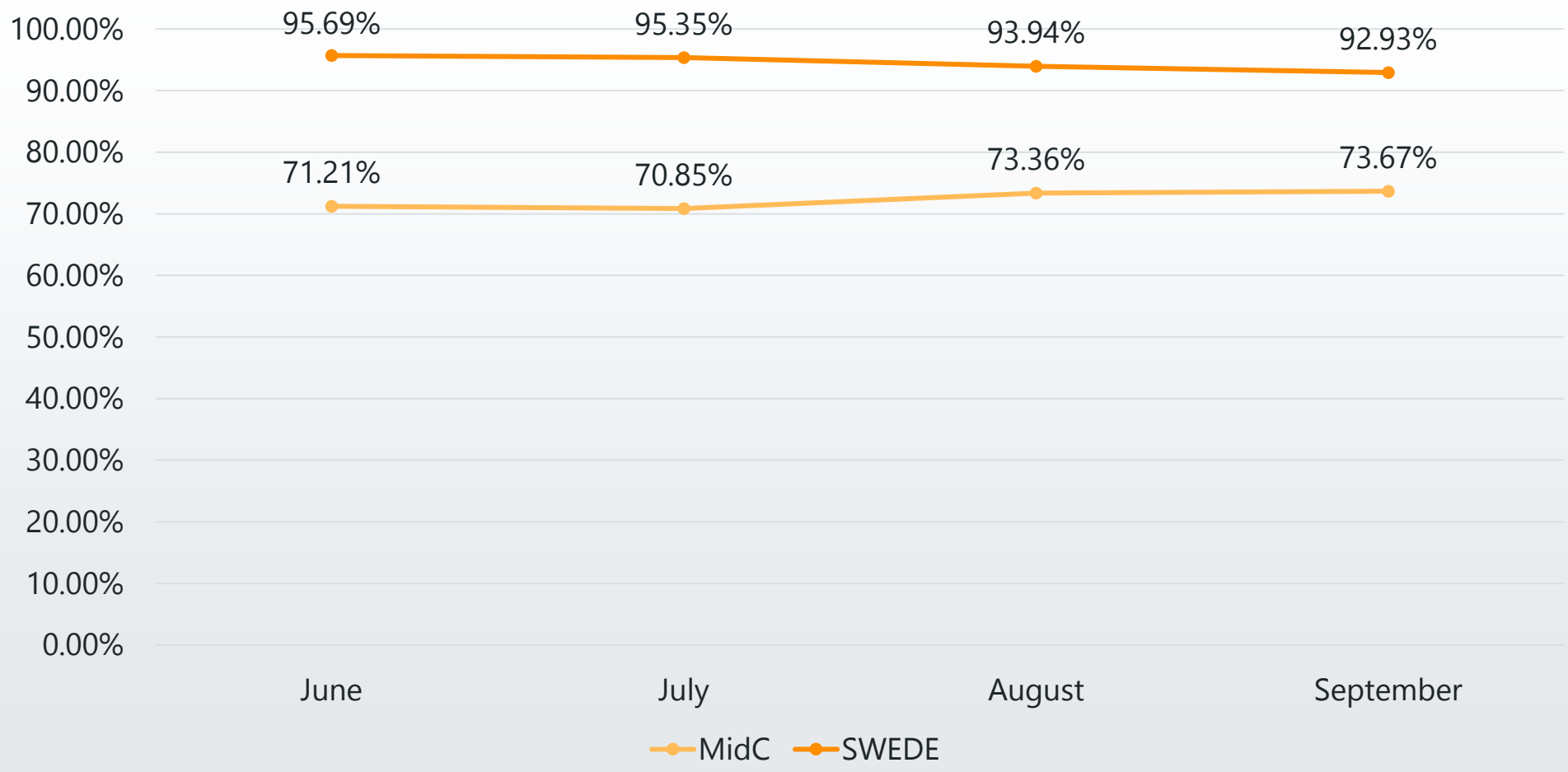
Storage Hydro QCC MW



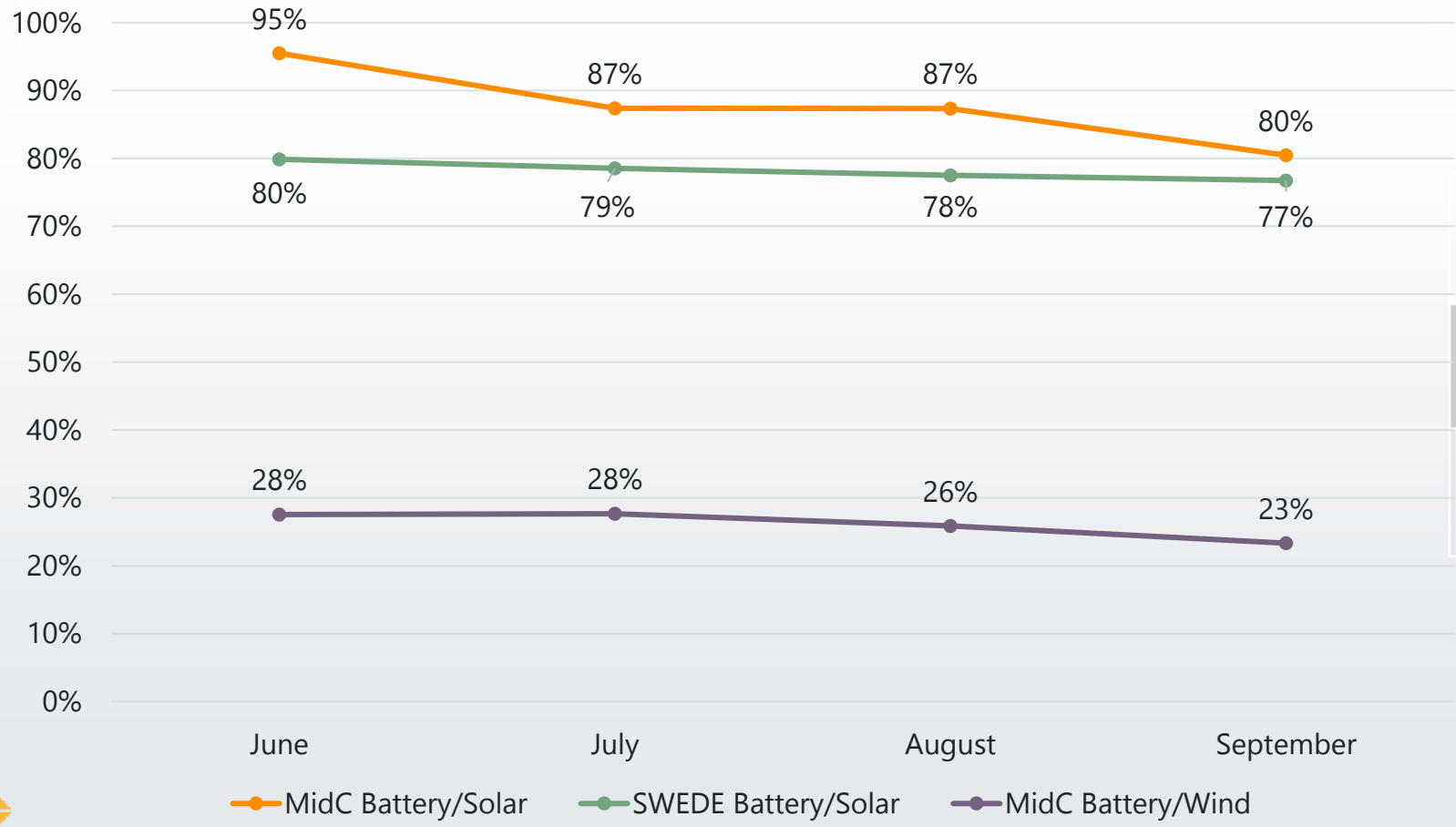


WRAP
POWERED BY WPP

AVERAGE STORAGE HYDRO QCC



Hybrid Resource QCC



Number of installed pairings

	MidC	SWEDE
Battery/ Solar	4	51
Battery/ Wind	2	0

PRM Considerations

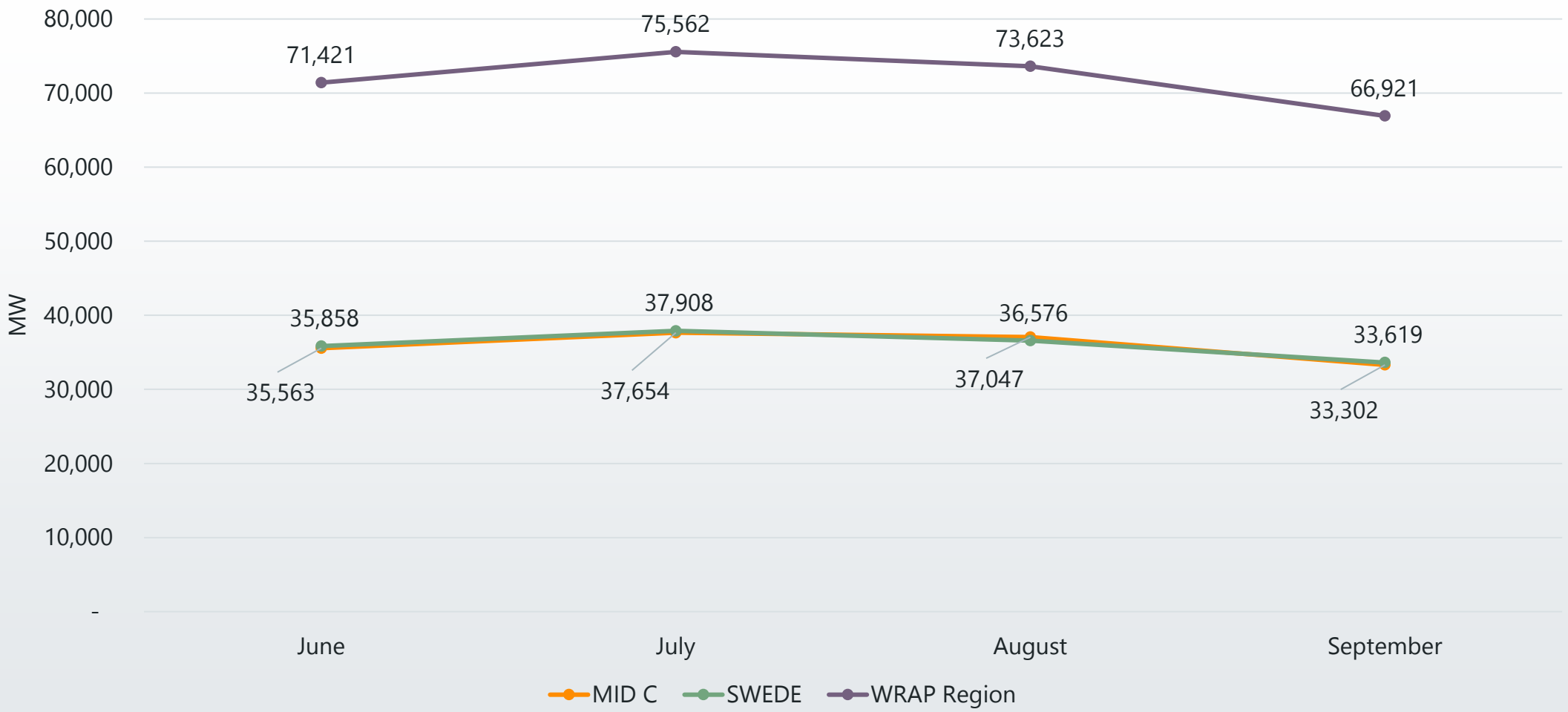
PRM Methodology

- Maintain 0.1 LOLE across the season
- Minimum of 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)

New in Summer 2026 based on Revised Transition Plan approved by Board Sept 19, 2024

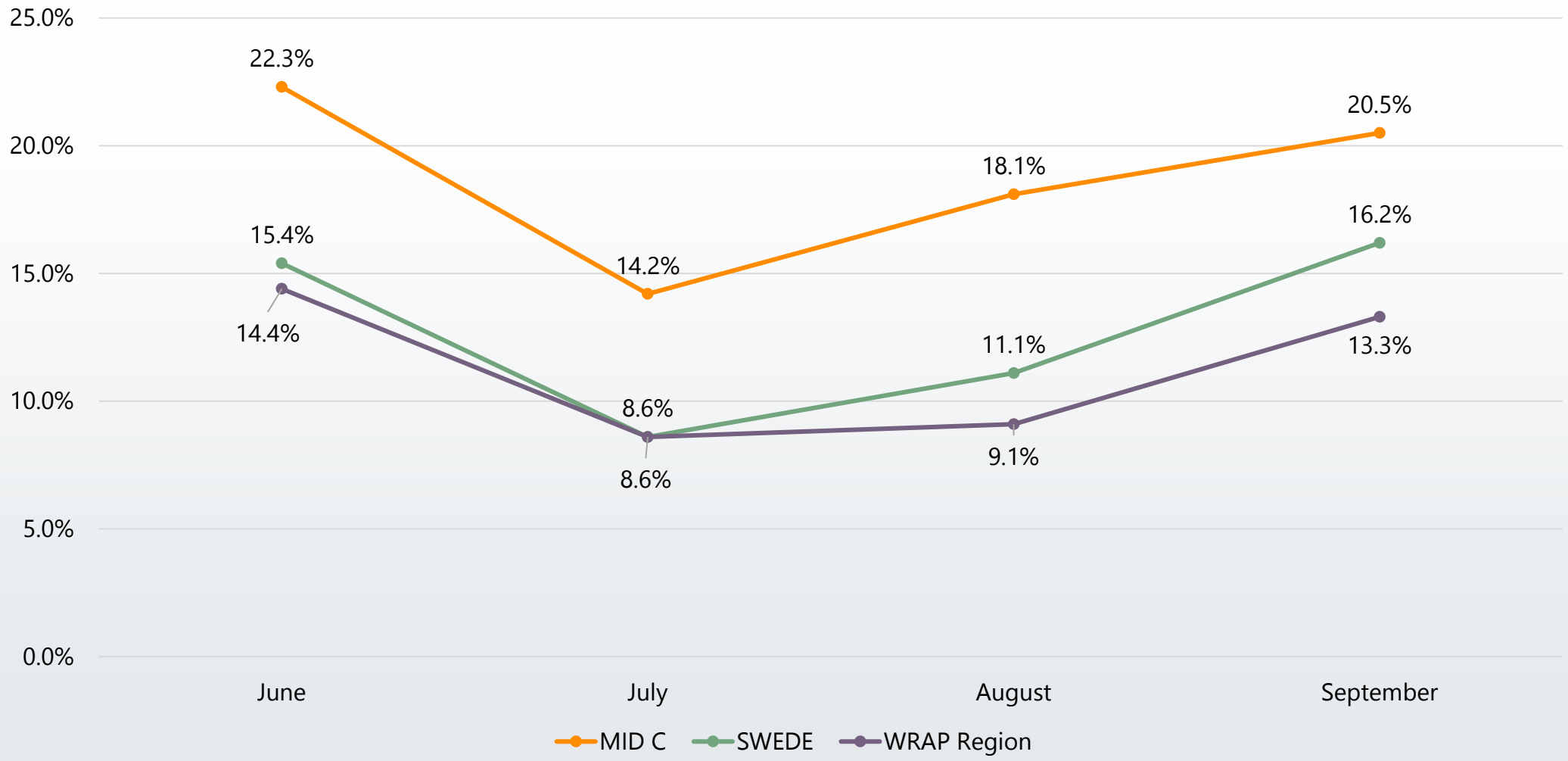
- PRM calculation includes 500 MW of diversity sharing between Subregions **benefitting SW in Summer** *(NW in Winter)*

Peak Load



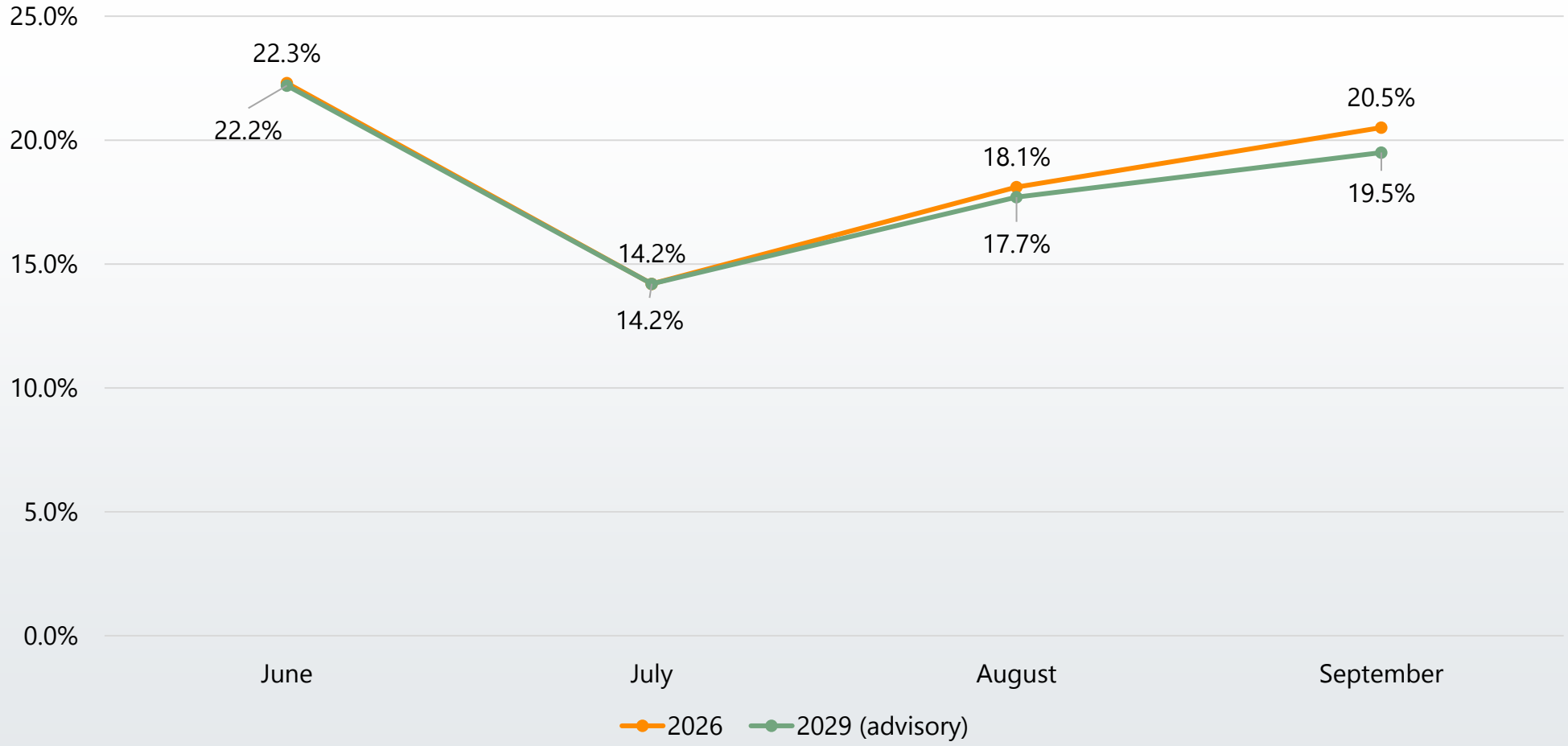
MidC data labels are below the line, SWEDE data labels are above the line

PRM – Summer 2026



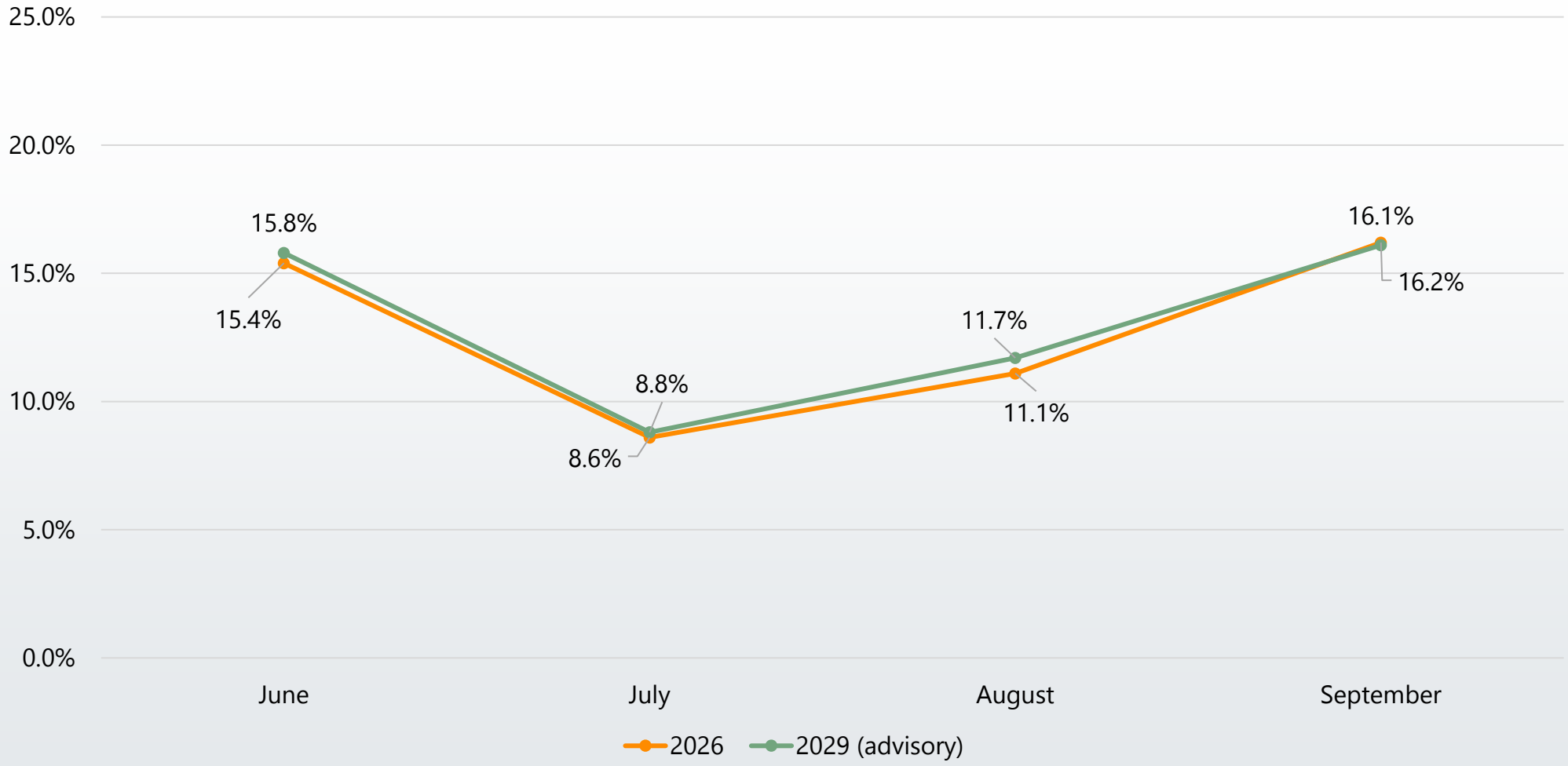
PRM – MidC Summer

2026 and 2029



PRM – SWEDE SUMMER

2026 AND 2029

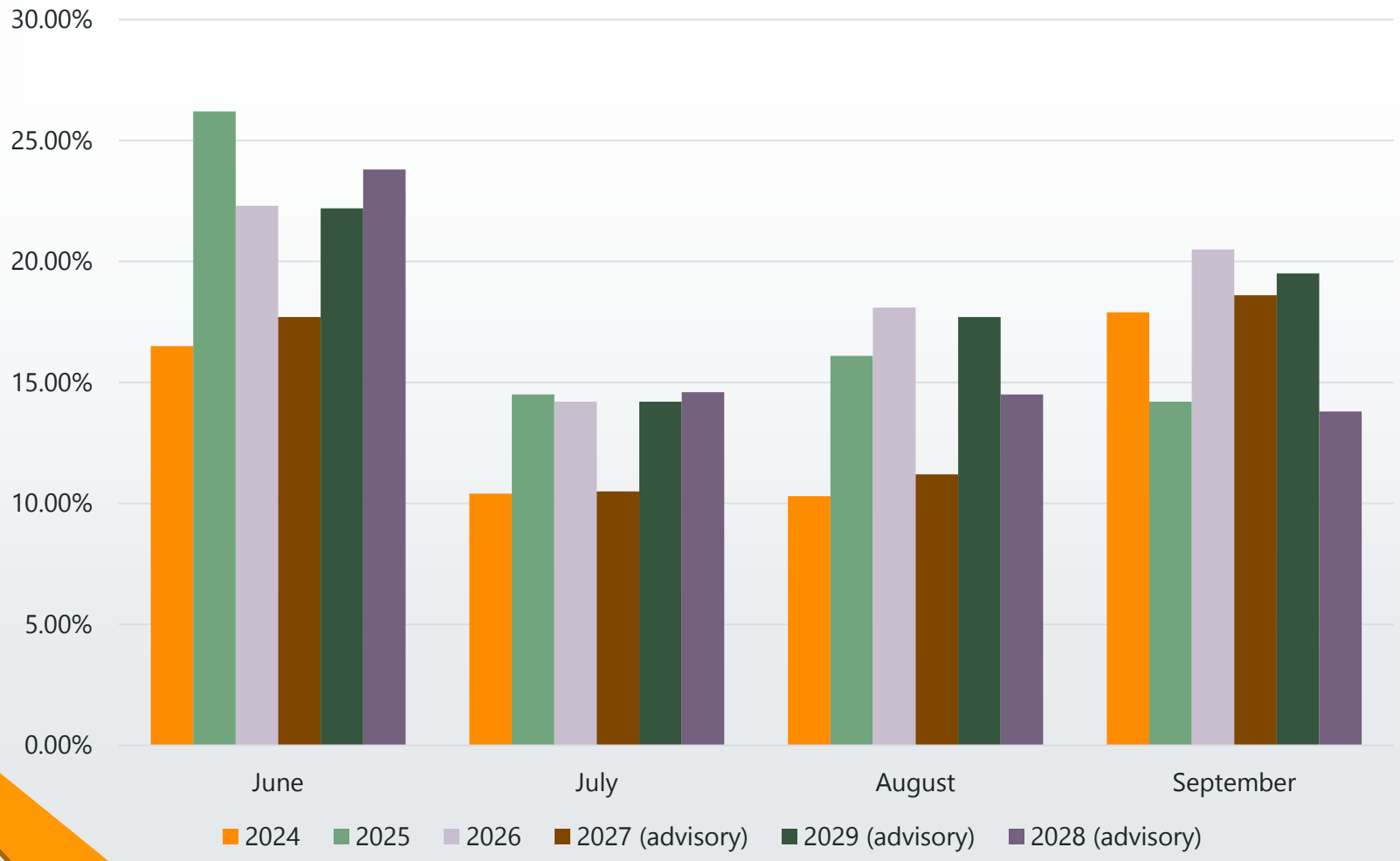


Thank You

For general inquiries: wrap@westernpowerpool.org

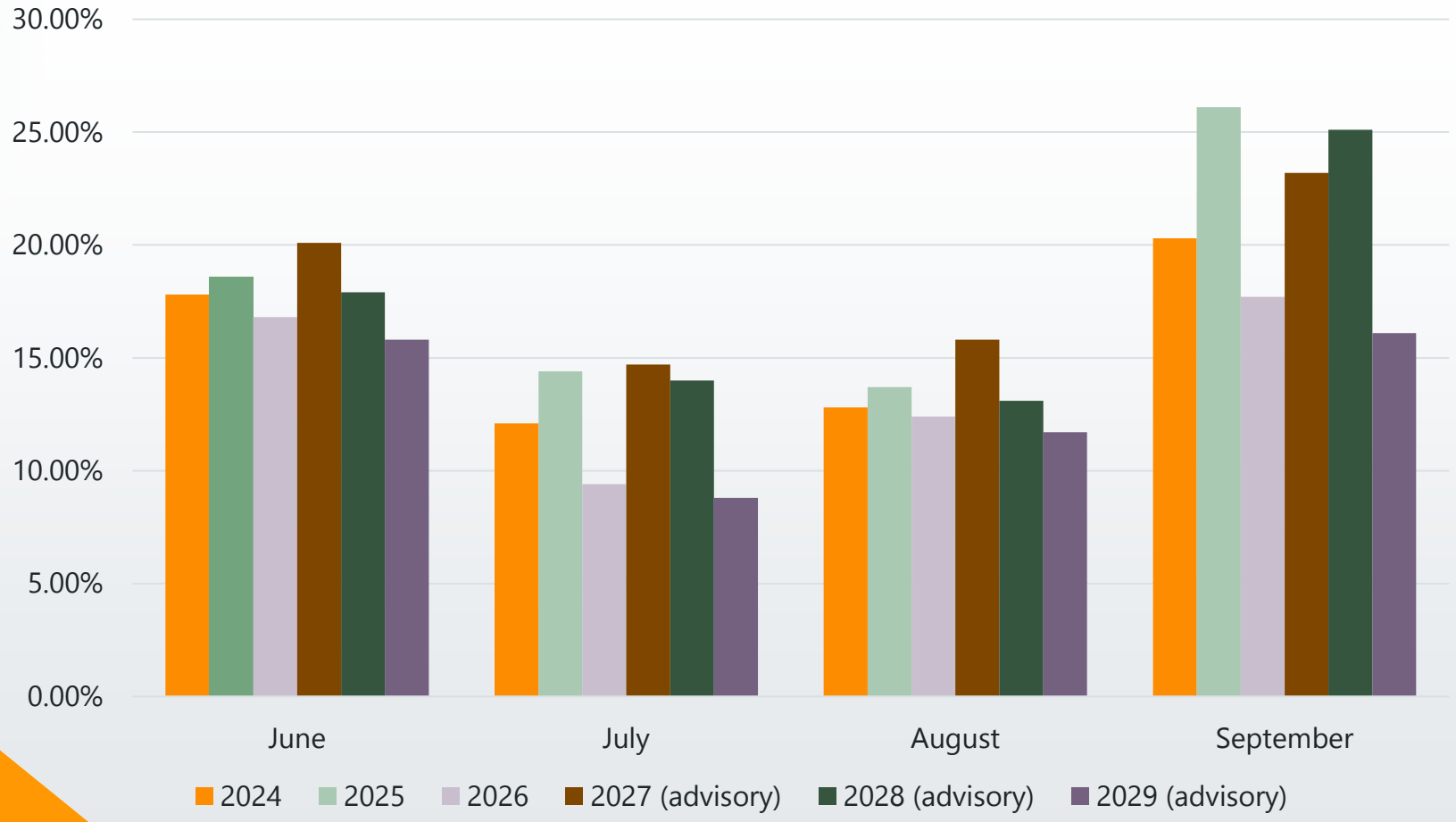
PRM from Additional Summer Seasons

PRMs – MidC Subregion



2024 and 2027 studies were done in 2022 with a slightly different footprint and different methodology

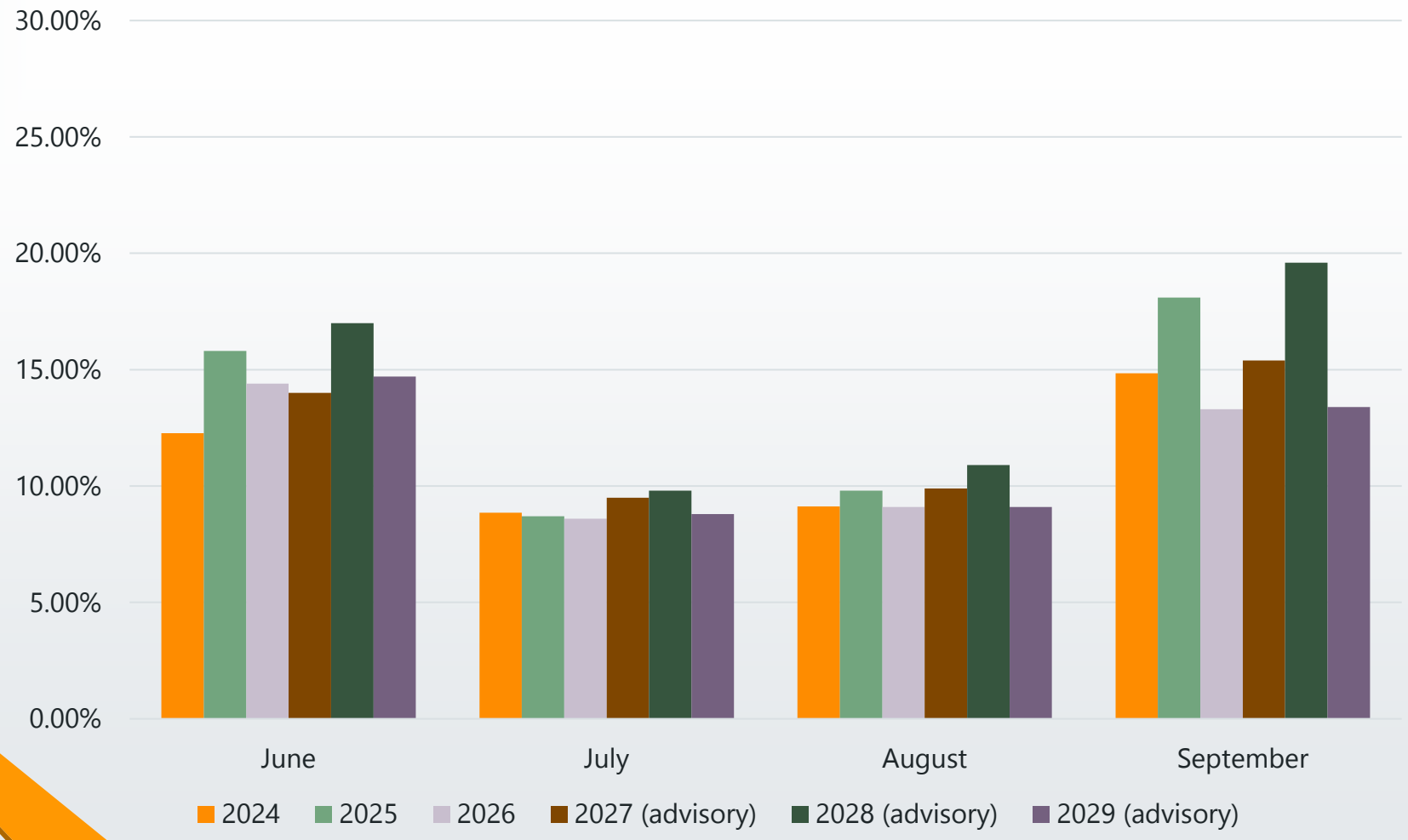
PRMs – SWEDE Subregion



- 2024 and 2027 studies were done in 2022 with a slightly different footprint and different methodology
- 2026 and 2029 included 500MW of assumed diversity sharing

WRAP
POWERED BY WPP

PRMs – WRAP Region



2024 and 2027 studies were done in 2022 with a slightly different footprint and different methodology