

10-Year High DSM/DG Case Proposed Energy Efficiency Savings Assumptions

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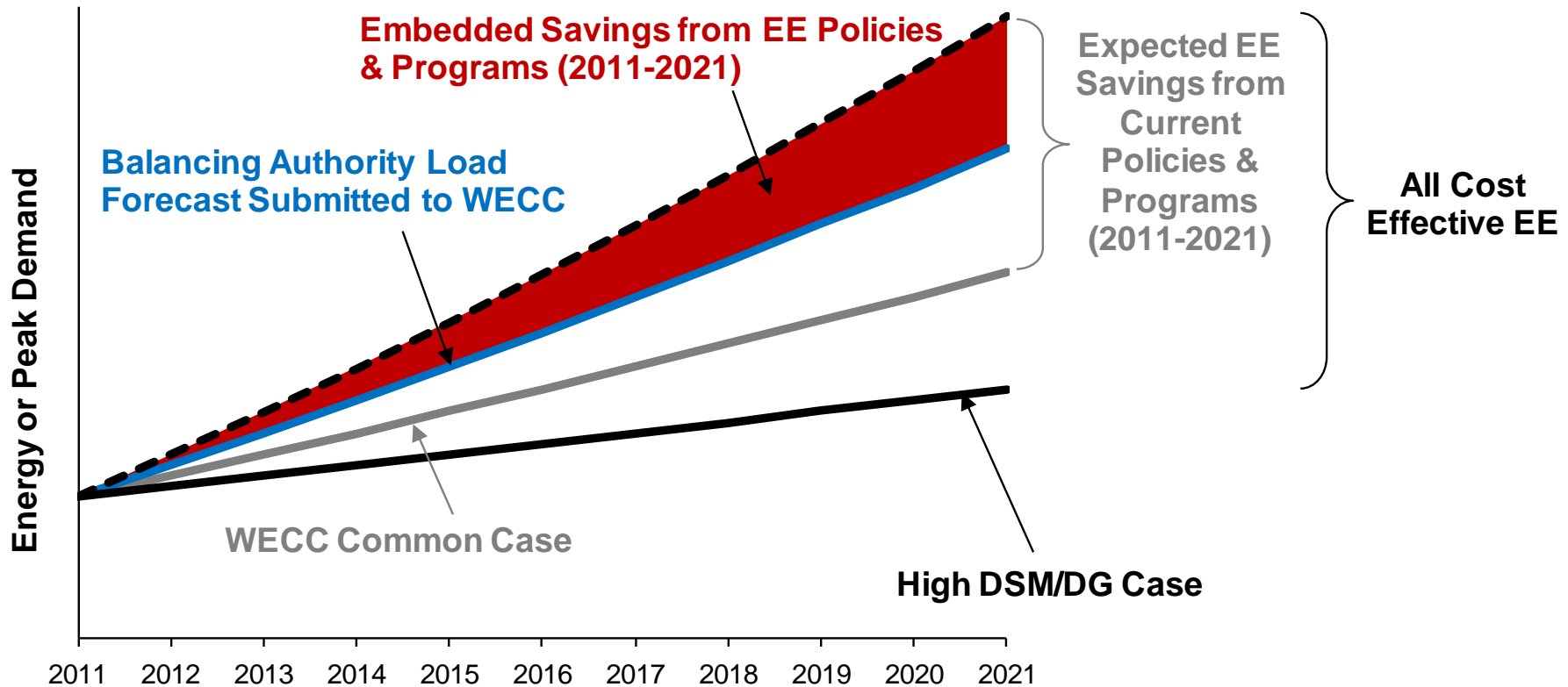
(Update to initial results presented on November 18 SPSC DSM Work
Group Conference Call)



Overview

- **Same basic approach as last year, but updated**
- **Starting point: Assume “all cost-effective EE potential” is achieved throughout the West**
 - Intended as a “boundary case”
 - Agnostic about what types of policies are used to get there (codes, standards, customer-funded programs, etc.)
- **Rely on recent existing EE potential studies to estimate potential for individual utilities/regions**
 - Extrapolate to regions for which recent potential studies are unavailable
- **Adjust balancing authority load forecasts downward, accounting for already-embedded energy efficiency**

Incremental EE Potential is Decrementated from Initial BA Load Forecasts



EE Potential Studies Used for the High DSM/DG Case

Region	Utility	Studies
Mountain	PSCo	KEMA. 2010. <i>Colorado DSM Market Potential Assessment: Final Report</i> . Prepared for Xcel Energy.
	Tri-State	Nexant. 2010. <i>System Wide Electric Energy Efficiency Potential Study</i>
	Colorado Springs	Summit Blue Consulting. 2010. <i>Colorado Springs Utilities Demand-Side Management Potential Study and Plans</i> .
	Alberta	Canadian Manufacturers and Exporters Association. 2010. <i>Improving Energy Efficiency for Alberta's Industrial and Manufacturing Sectors</i> .
Pacific Northwest	N/A (region-wide)	Northwest Power and Conservation Council. 2010. <i>6th Power Plan</i> .
	BC Hydro	Marbek & Associates. 2007. <i>BC Hydro 2007 Conservation Potential Review</i> .
	Idaho Power	Nexant. 2009. <i>Idaho Power Demand Side Management Potential Study</i> .
	Northwestern	Nexant. 2010. <i>NorthWestern Energy Assessment of Energy Efficiency Potentials (2010-2029)</i> .
	Pacific Power	Quantec. 2007. <i>PacifiCorp Assessment of Long-Term, System-Wide Potential for Demand-Side and Other Supplemental Resource</i> Cadmus. 2011. <i>Assessment of Long-Term System-wide Potential for Demand-Side and Other Supplemental Resources</i> .
Southwest	Rocky Mountain Power	See Pacific Power
	Arizona Public Service	ICF. 2007. <i>Arizona Public Service Energy Efficiency Potential Study</i> .
	Public Service New Mexico	Itron. 2006. <i>Public Service New Mexico Electric Energy Efficiency Potential Study</i> .
	Salt River Project	Cadmus. 2010. <i>Salt River Project 2012-2017 Energy Efficiency Plan, Final Report</i> .
California	Investor-owned utilities	California Energy Commission. 2010. <i>Incremental Impacts of Energy Efficiency Policy Initiatives Relative to the 2009 Integrated Energy Policy Report Adopted Demand Forecast</i> . Itron. 2008. <i>California Energy Efficiency Potential Study</i> .

WECC-Wide EE Impacts

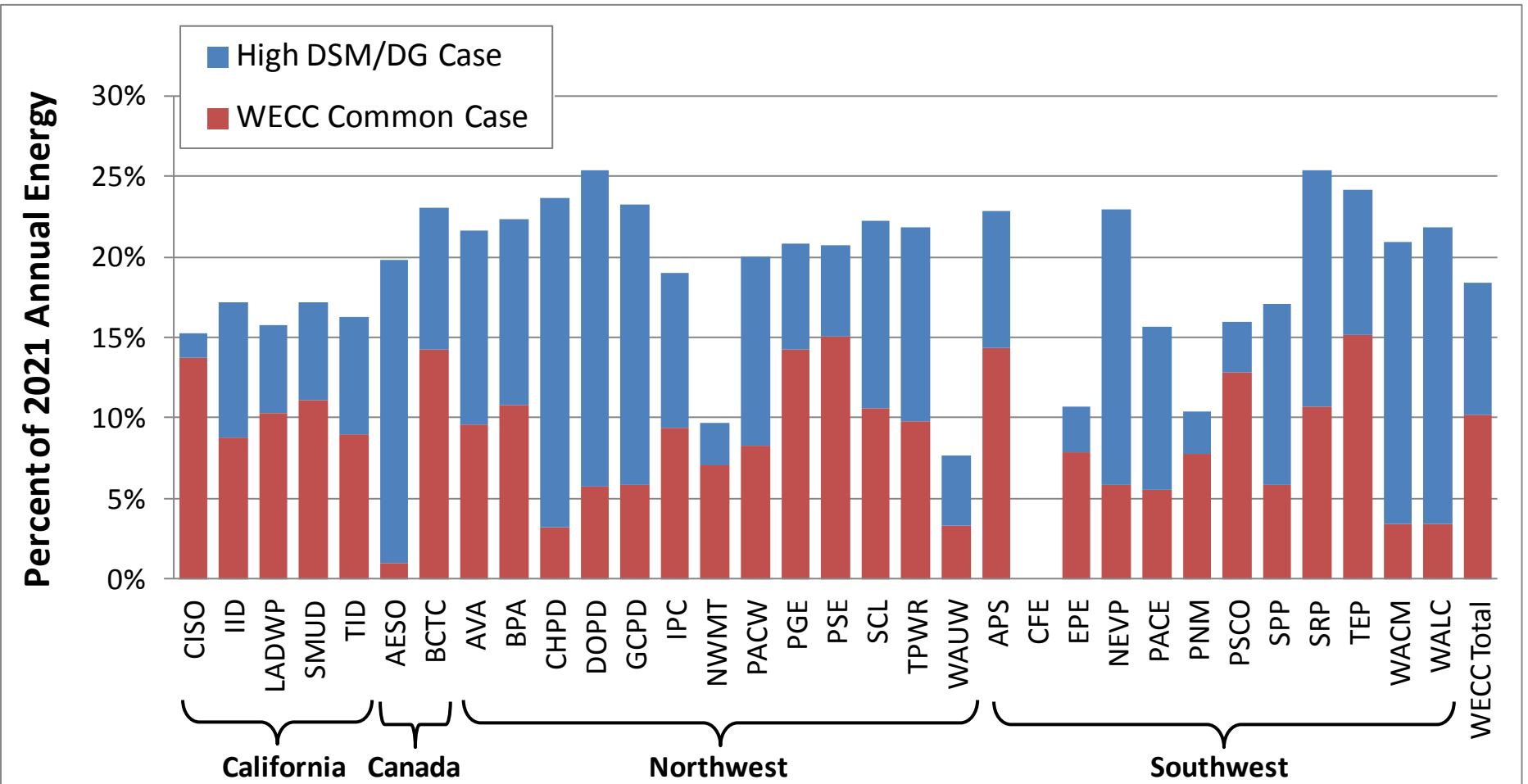
High DSM/DG Case vs. Common Case

	GWh	MW
Cumulative Savings in 2021 (% of Load)		
Common Case	10.2%	11.5%
High DSM/DG Case	18.4%	21.0%
CAGR (2010-2021)		
Common Case	1.4%	1.3%
High DSM/DG Case	0.5%	0.2%

- **High DSM/DG Case represents roughly a doubling of EE savings relative to the Common Case, and almost no load growth (WECC-wide)**

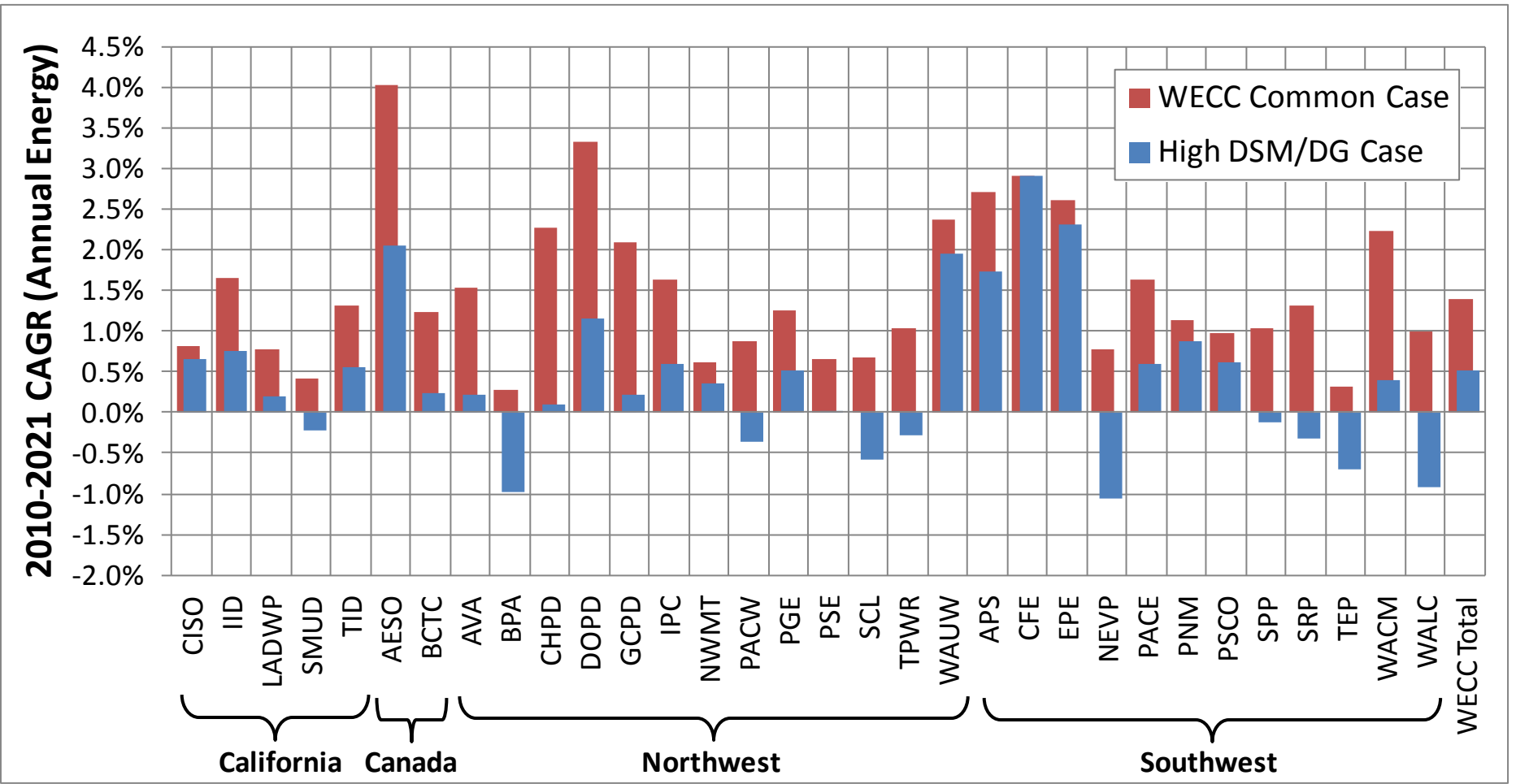
EE Savings in the High DSM/DG Case (Annual Energy)

Energy Savings (Cumulative, 2011-2021) as a Percent of 2021 Annual Energy



Load Growth in the High DSM/DG Case (Annual Energy)

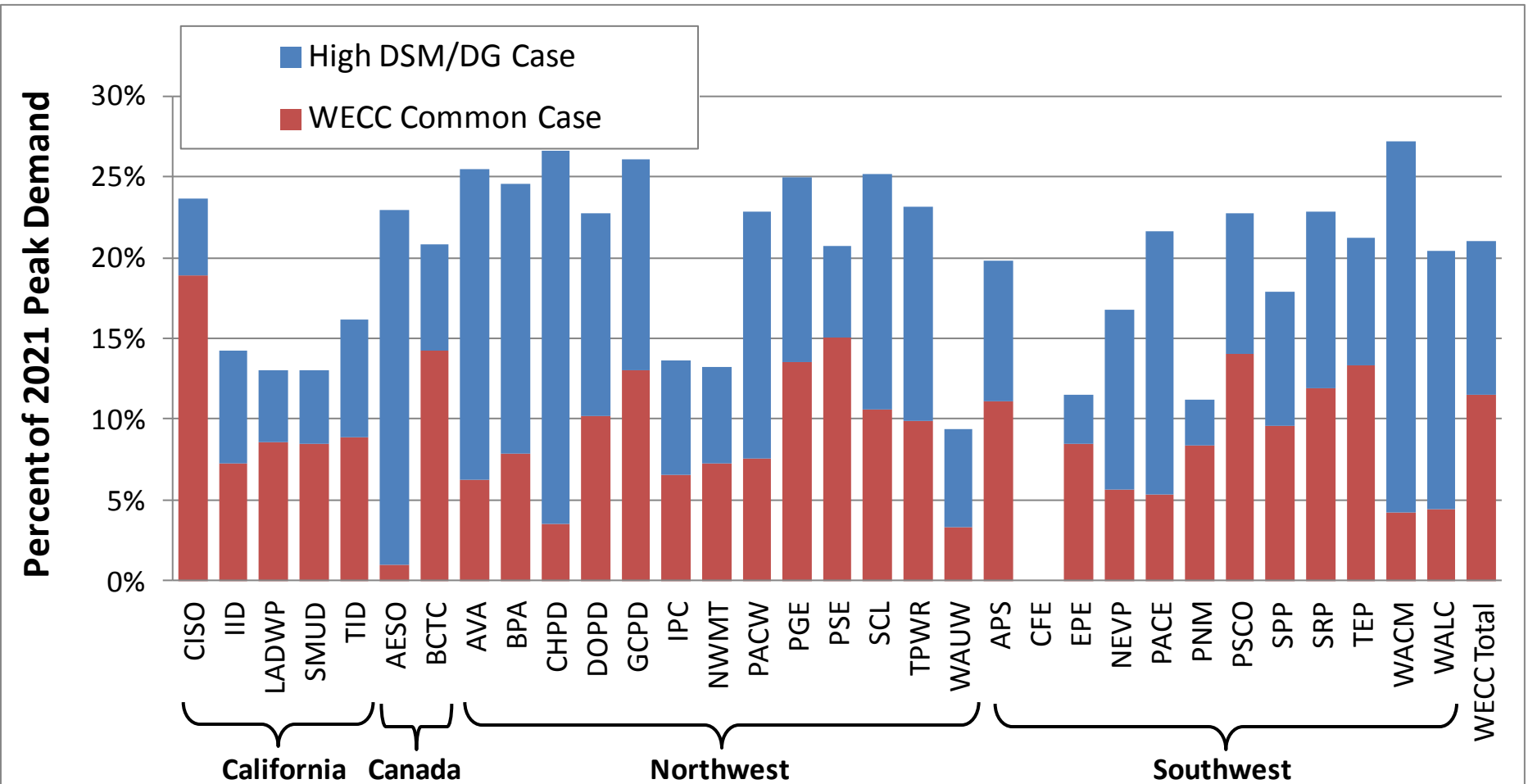
Compound Annual Growth Rate* (2010-2021, Annual Energy)



*Growth rates are calculated prior to accounting for behind-the-meter DG additions

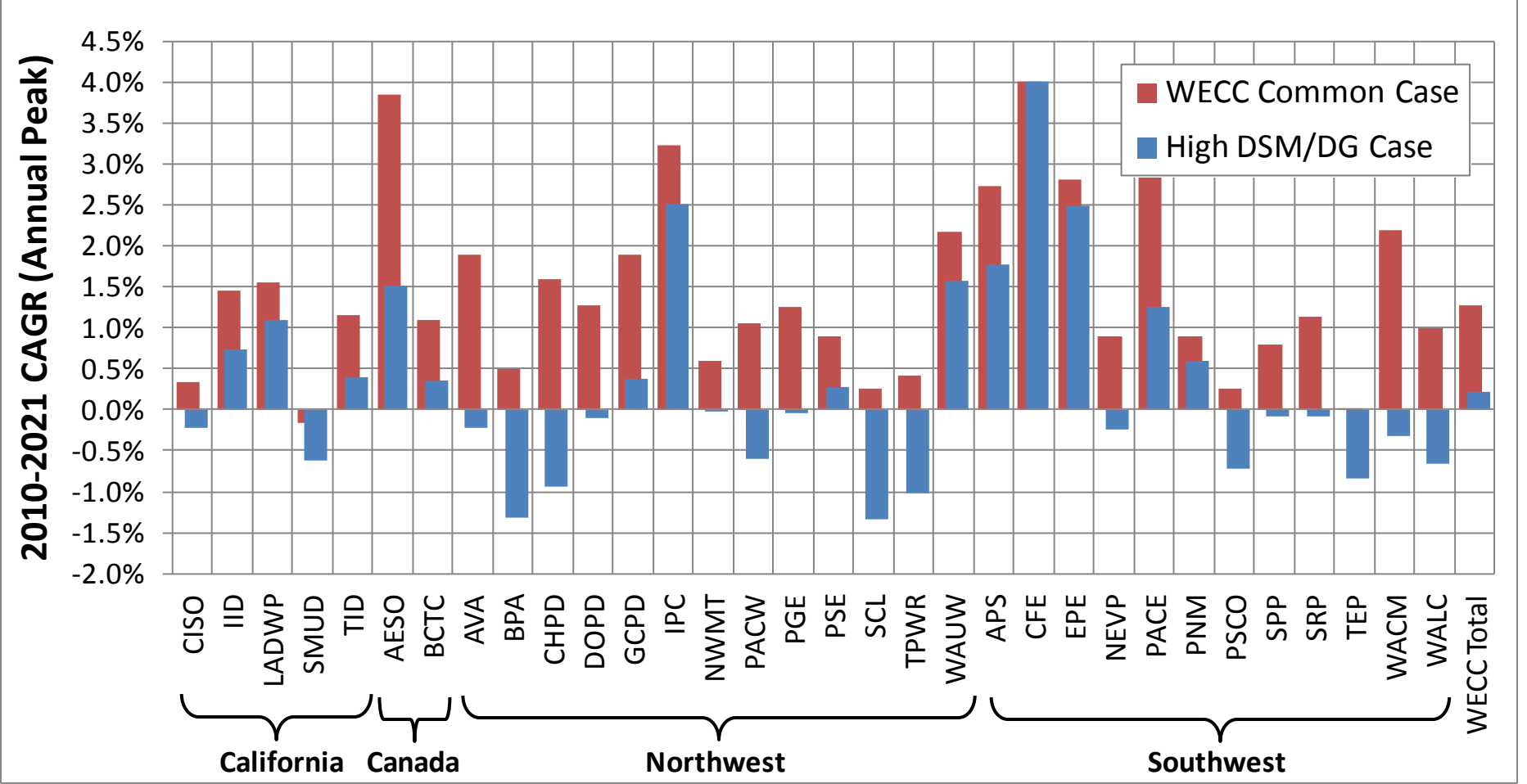
EE Savings in the High DSM/DG Case (Non-Coincident Peak Demand)

Peak Demand Savings (Cumulative, 2011-2021) as a % of 2021 Peak Demand



Load Growth in the High DSM/DG Case (Non-Coincident Peak Demand)

Compound Annual Growth Rate* (2010-2021, Non-Coincident Peak Demand)



*Growth rates are calculated prior to accounting for behind-the-meter DG additions

Limitations of High EE Methodology in the 10-Year Study

- **Differences across EE potential studies, e.g., related to:**
 - The scope of measures and sectors
 - Study vintage and forecast period
- **Reconciling EE potential study baselines with balancing authority load forecasts submitted to WECC**
 - Accounting for naturally occurring savings
 - Accounting for recently-adopted codes/standards
 - Unknown differences in underlying economic and demographic drivers
- **LBL and WECC currently exploring whether to procure a load forecasting tool and services for the 20-year study, which would circumvent these issues**

Next steps

- **November 28:** WIEB/LBNL circulate written documentation on the High EE calculations for each state/balancing authority
 - Updated versions of the state-level documents distributed last year
- **DSM Work Group participants will review the documentation for their state/region and provide feedback**
 - Preference is to receive feedback by **December 9th**
 - Absolute final date to provide feedback is **December 16th**
- **December 22:** SPSC DSM Work Group provides WECC staff with High DSM load forecasts