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April 28, 2015

MEMORANDUM

TO: Council members

FROM: Tom Eckman, Power Division Director

SUBJECT: Northwest Regional Forecast Presentation by Pacific Northwest Utilities Conference Committee

BACKGROUND:

Presenter: Dick Adams, Executive Director, PNUCC

Summary The Pacific Northwest Utilities Conference Committee (PNUCC) has released their annual update to the Northwest Regional Forecast (NRF). Dick Adams, Executive Director of PNUCC, will summarize the report and discuss the details of their findings.

Attached is PNUCC's announcement of the report's release, a link to the full text, and a description of the key issues they see impacting the region.

Workplan: 1.B. Develop Seventh Power Plan



April 14, 2015

Contact: Shauna McReynolds
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Meeting Peak Need Still Top of Mind

Portland, Ore. —PNUCC's *2015 Northwest Regional Forecast*, released this week, provides a snapshot of the Pacific Northwest's electric power picture. This collection of utility information on loads and resources frames our energy future amidst escalating system complexities stemming from evolving policies that affect resource development and operations. Flattening load growth and increasing intermittent power supply top the list of anticipated developments. Within our planning horizon the closure of Boardman coal plant will also become a reality. Utilities are focusing their attention on how to ensure there's enough power for everyone during the highest energy use hours.

The story continues to be focused on meeting peak needs. For the majority of utilities, power demand peaks in winter with heavier heating and lighting loads. The projected growth in summer demand is also holding planners' attention as it slightly outpaces anticipated winter load growth.

Similar to last year, additional firm supply to meet winter peak demand is needed. "The good news is that gains are being made," noted PNUCC System Planning Committee Chairman Phillip Popoff of Puget Sound Energy. "Even with utilities' strong performance working with customers to achieve aggressive energy conservation targets, the report shows the gap in winter loads and resources is growing; additional firm generation will be needed to ensure reliable service, as coal plants in the region are retired." Utilities are looking at their forecasted loads, expected conservation savings, as well as expected power supply to establish future needs.

The success of utility conservation programs is impacting load estimates. Utility programs continue to stack up. They are expecting as much as 900 MWa of savings in the next 5 years. Those same programs are roughly estimated to help reduce peak hour need by as much as 1,200 MW in the same timeframe. "These load reductions are similar in magnitude to building five natural gas-fired peaking plants, without the flexibility to turn it on and off, however," Popoff noted.

Looking ahead, the most notable development in the resource picture is the addition of another 560 MW of renewable generation; of that 430 MW is solar power with a little wind and hydropower to make up the difference. Also under construction is the 440 MW Carty natural gas-fired combustion turbine. Carty and most of the renewables will be up and generating by the end of 2016.

Read the full report at www.pnucc.org/system-planning/northwest-regional-forecast.

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State of the NW Power System

NORTHWEST POWER & CONSERVATION COUNCIL

May 2015

Defining “the region”

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- Avista
- Benton PUD
- Bonneville Power
- Central Lincoln PUD
- Chelan PUD
- Clark Public Utilities
- Clatskanie PUD
- Cowlitz PUD
- Douglas PUD
- Emerald PUD
- EWEB
- Flathead Electric Cooperative
- Franklin PUD
- Grant PUD
- Grays Harbor PUD
- Idaho Power
- Mason PUD #3
- NorthWestern Energy
- Pacific Power
- Pend Oreille County PUD
- PNGC Power
- Portland General Electric
- Puget Sound Energy
- Seattle City Light
- Snohomish PUD
- Springfield Utility Board
- Tacoma Power



Sum of utilities' load & resource projections

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10 year projections

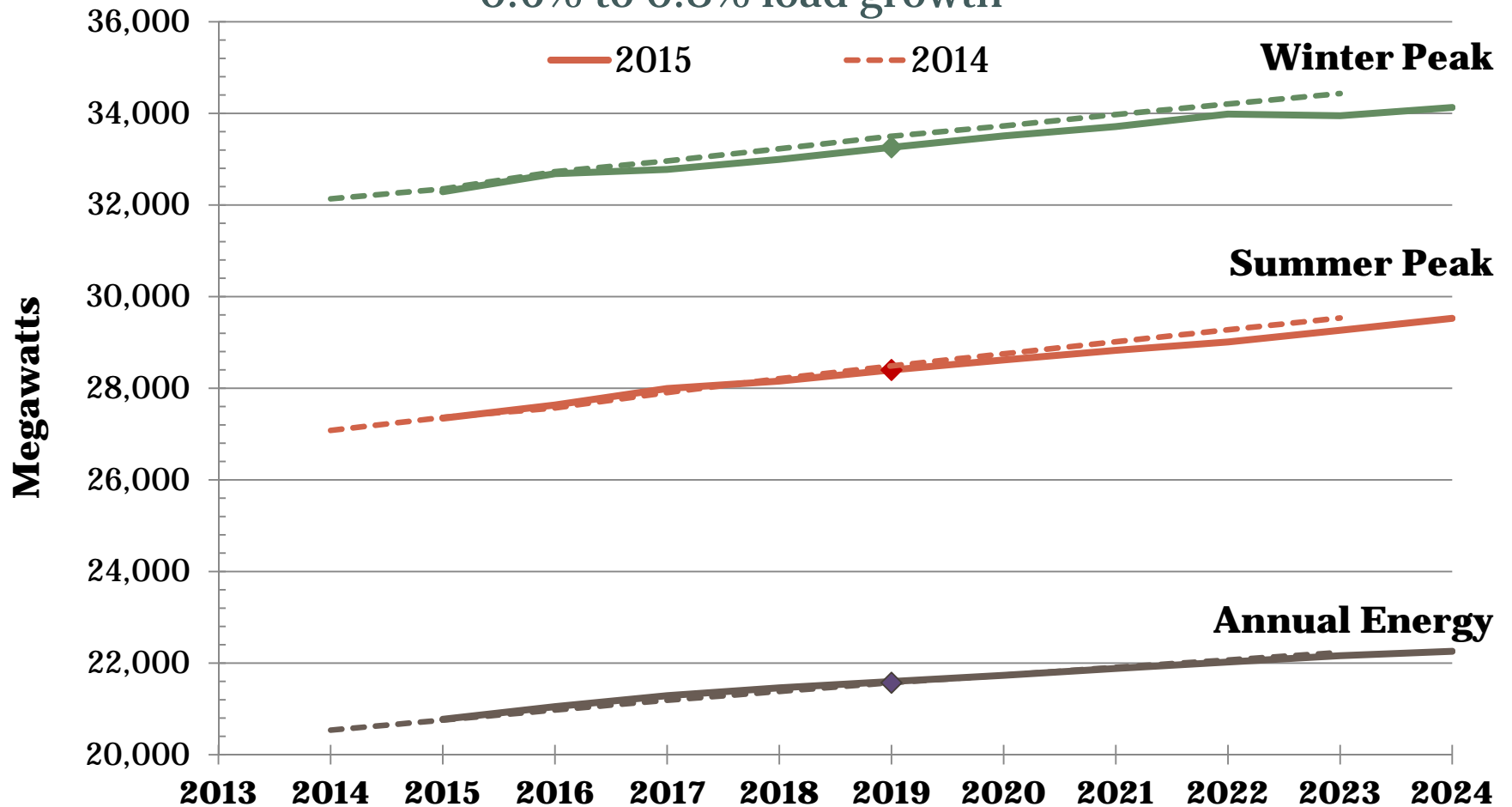


- ***Loads***
 - Normal weather conditions
- ***Demand side management***
 - Utility forecast of savings
- ***Hydropower***
 - Low water conditions
- ***Generating resources***
 - Utility expected operation
- ***Contracts***
 - Long-term only

Flattening load forecasts

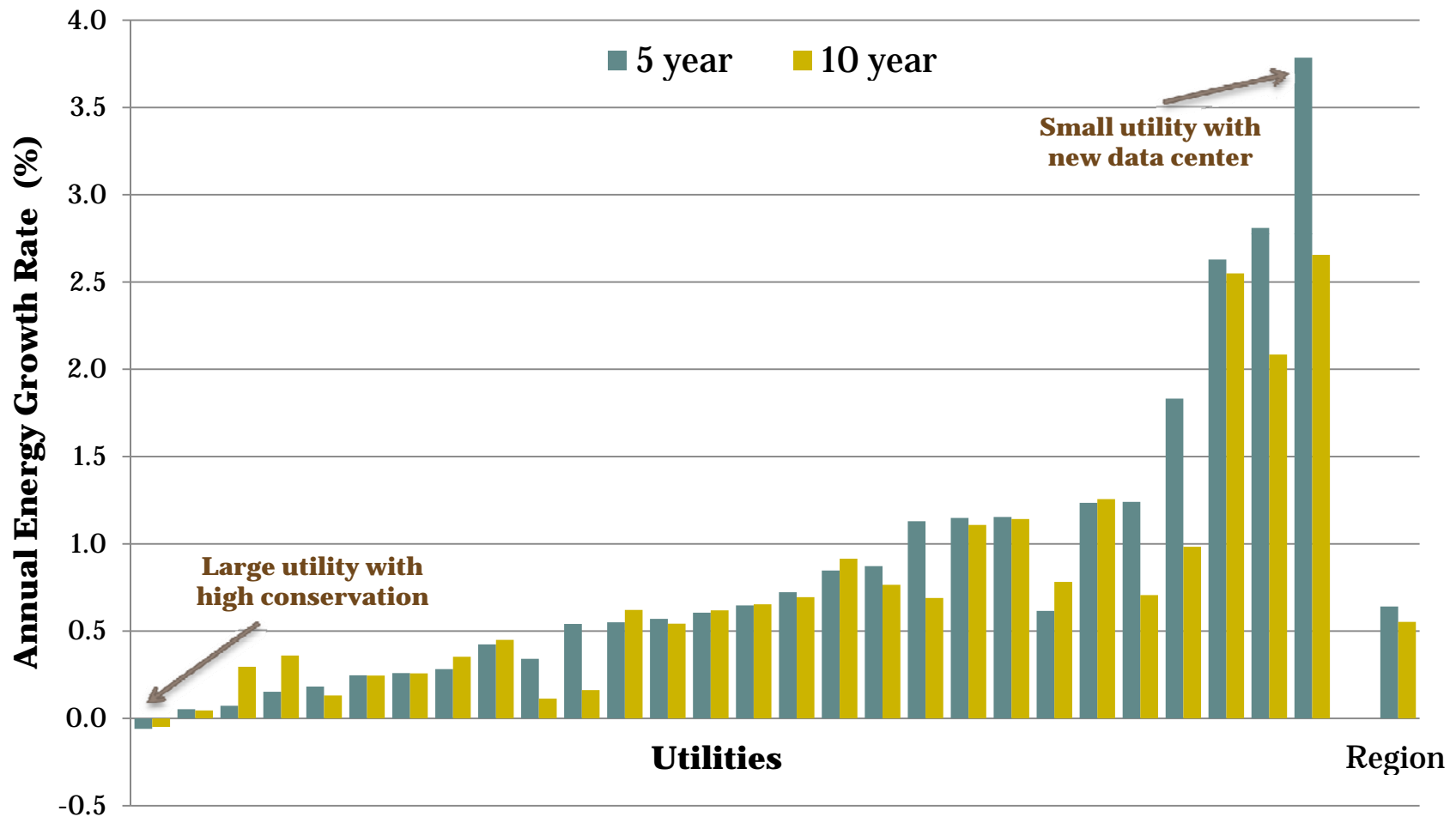
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0.6% to 0.8% load growth



Utility load forecasts wide ranging

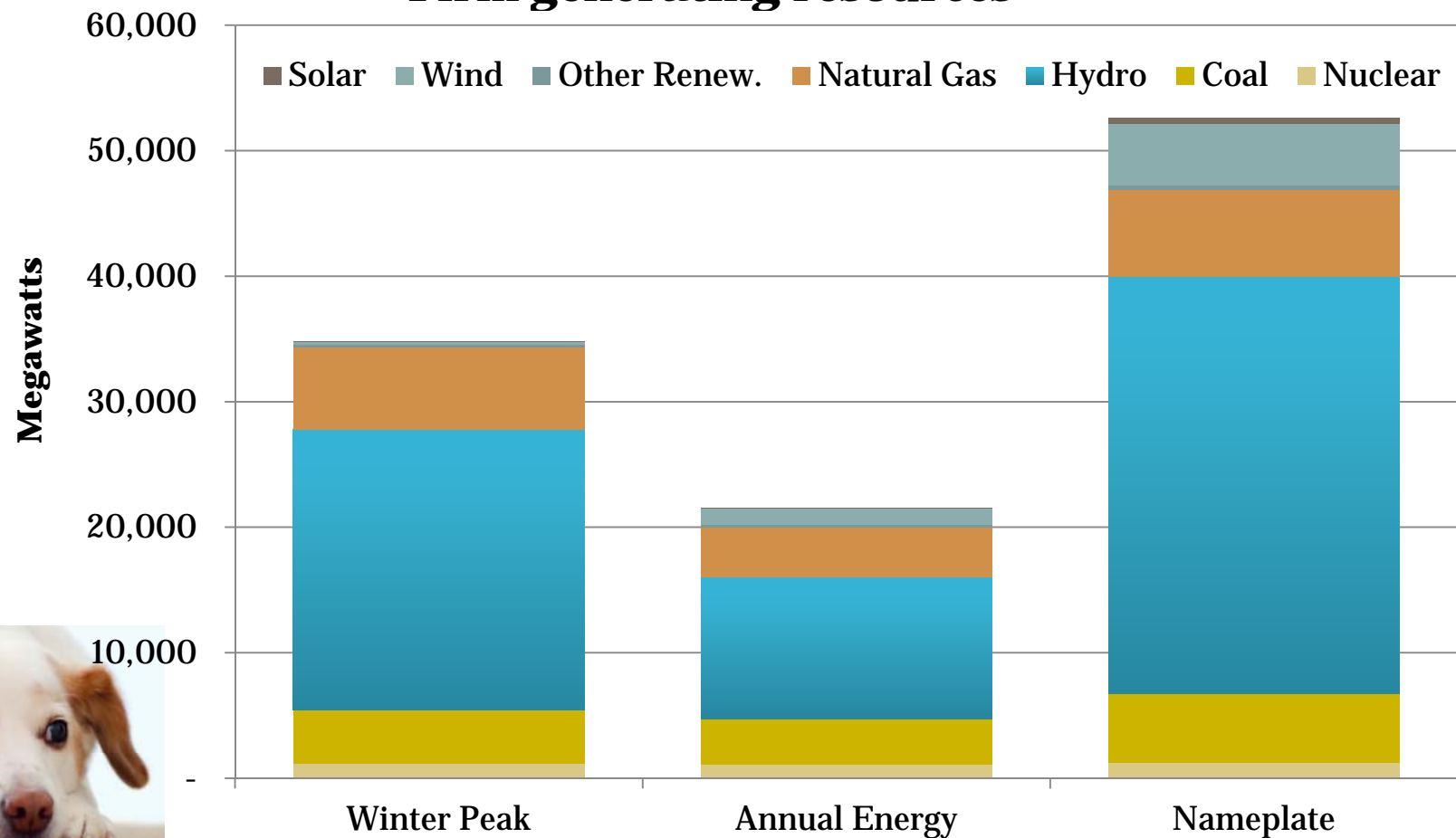
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Clean renewable hydro is the big dog

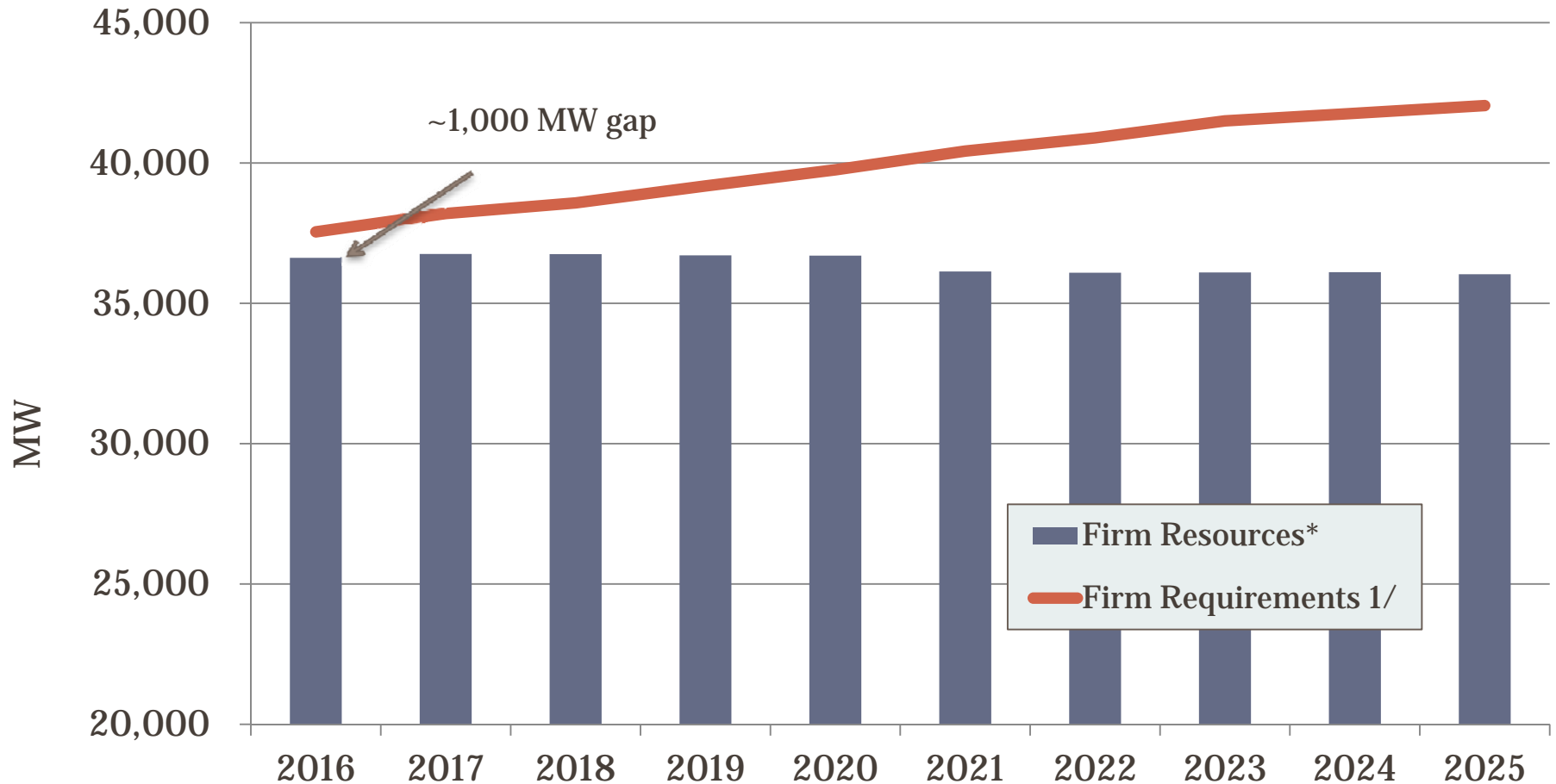
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Firm generating resources



Winter peak – the focus

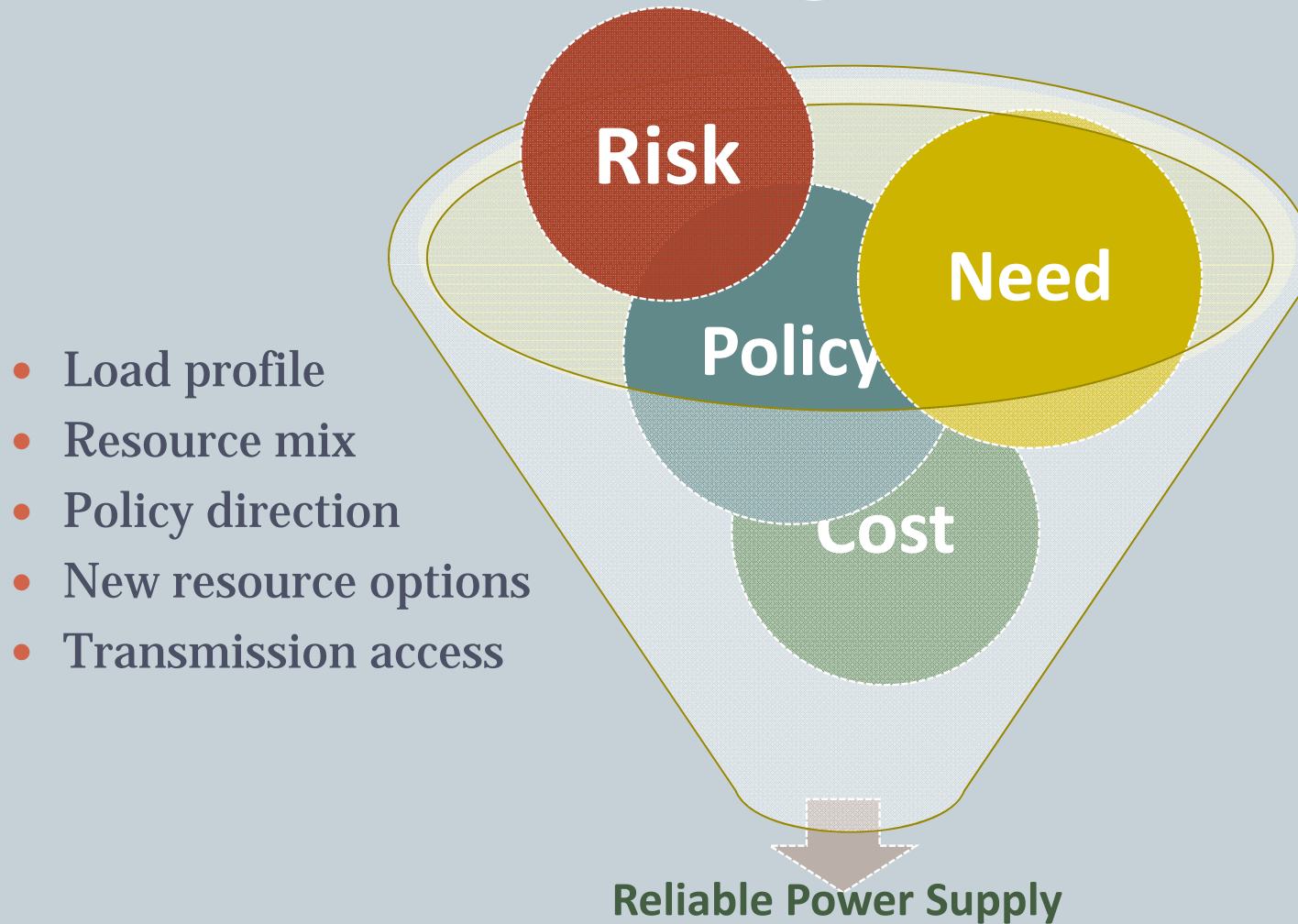
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1/ Requirements include load, exports, planning margin and account for conservation savings

Many factors drive utility plans

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Aggressive demand-side continues

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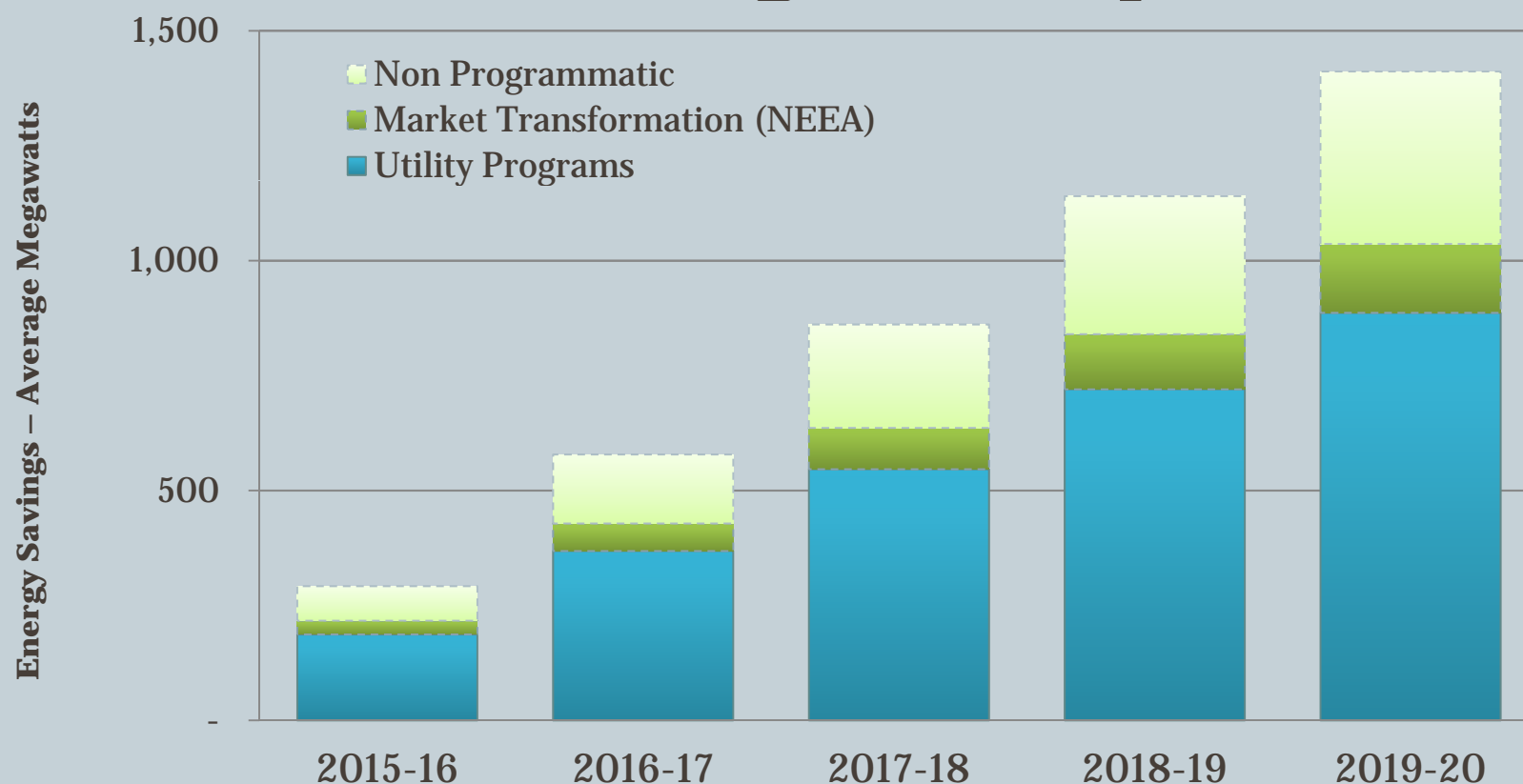


Demand Response (MW)	<u>2016</u>	<u>2020</u>
Winter	87	93
Summer	394	410
Energy Efficiency (MWa) 2016 – 2020 cumulative		
Annual Energy Savings	~ 900	
<div><div><div><div></div></div><div>Demand Response – Utility controlled load management</div></div><div><div></div></div><div>Energy Efficiency – Utility programs</div></div>		

Utility programs are foundation

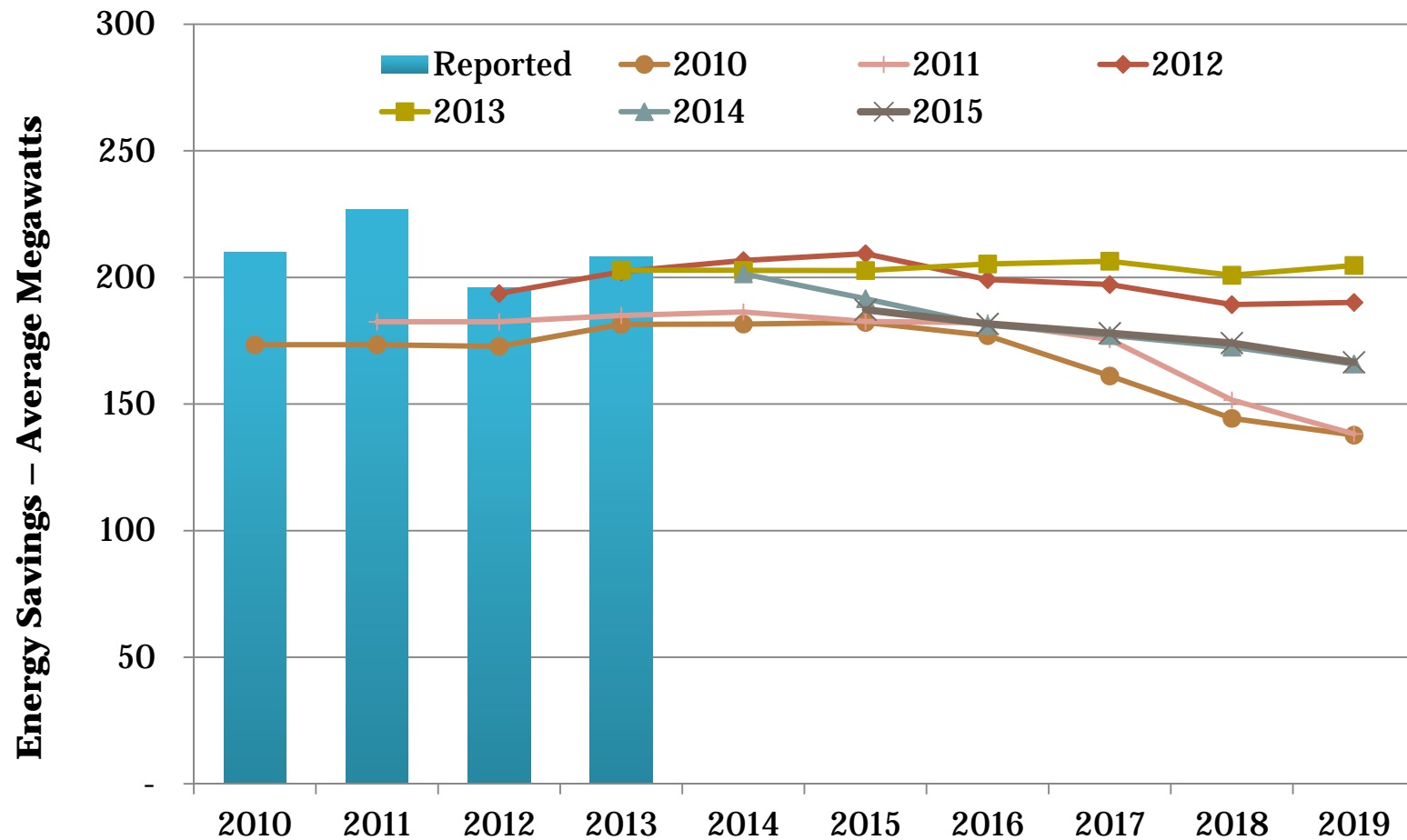
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Savings stack up



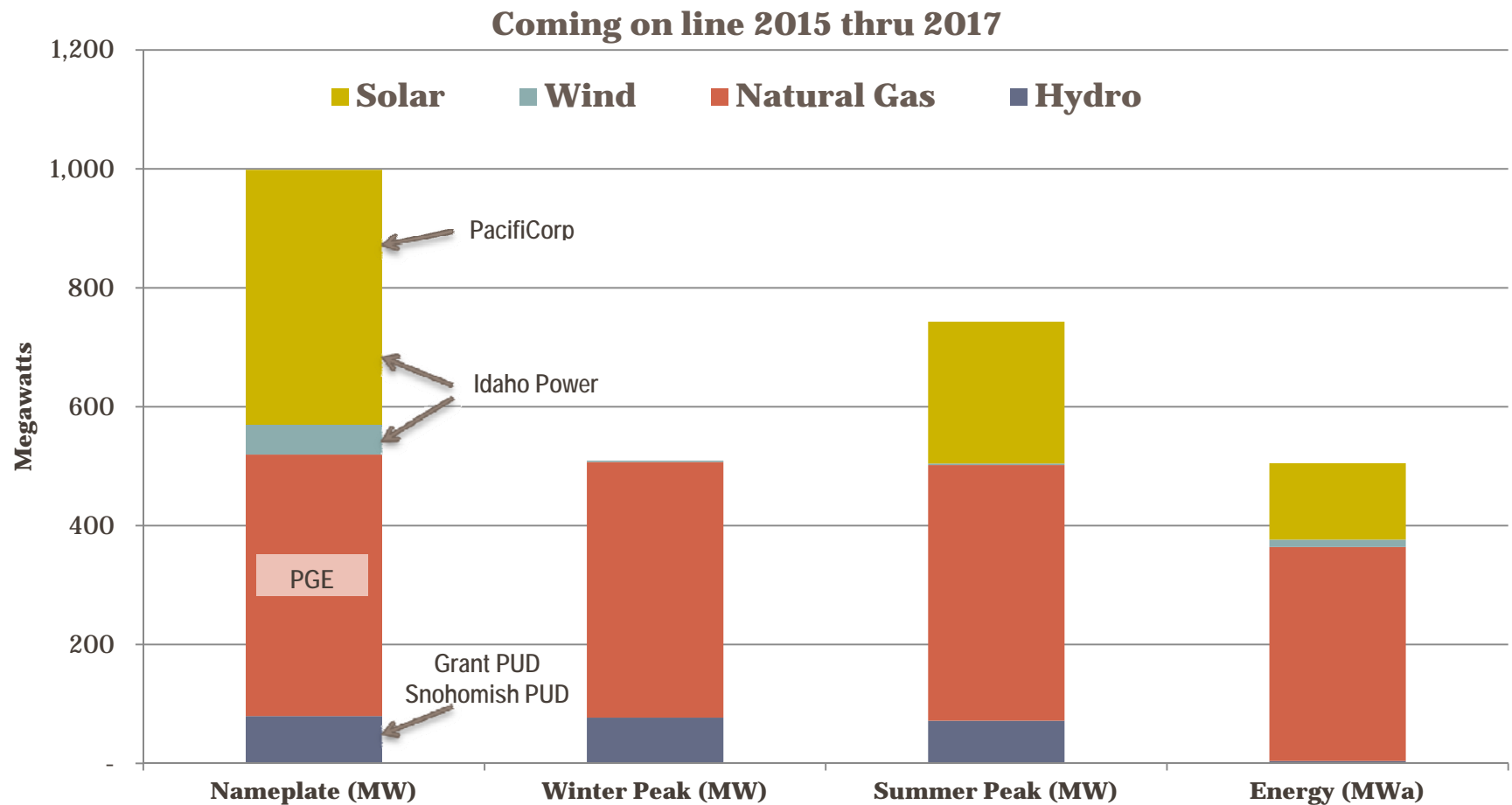
Savings regularly estimated

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A few utilities acquiring generation

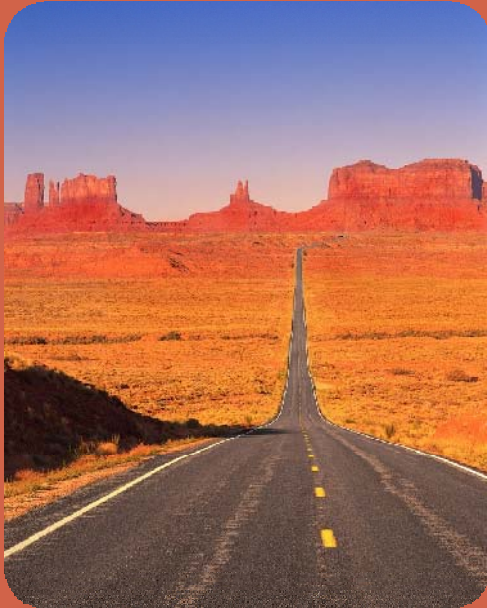
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NW power industry bottom line

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- ✓ Utilities are addressing different needs
- ✓ Peak need is the focus
- ✓ Energy efficiency is a priority
- ✓ Exploring new opportunities



May 2015



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