Northwest **Power** and **Conservation** Council

June 6, 2017

MEMORANDUM

TO: **Council Members**

FROM: **Mike Starrett, Analyst**

SUBJECT: **Council decision on release of Energy Storage Paper for public comment**

BACKGROUND:

Presenter: Mike Starrett, Analyst

Summary: Council staff developed an energy storage whitepaper and took two rounds of feedback from the Generating Resources Advisory Committee. The intent of the whitepaper is to provide "just the facts" reference which describes the technologies, costs, and existing and future markets and policies which are most relevant to energy storage being considered for development today. Staff would like to release the storage whitepaper for public comment. The presentation for this item will include an overview of current storage development and policy in the region to provide additional context regarding the current environment in which this whitepaper is being released.

Relevance: Action Item ANLYS-16 called for the development of a whitepaper on the value of energy storage to the power system.

Workplan: C.4.1 Prepare for 8th Plan, Generating Resources

851 S.W. Sixth Avenue, Suite 1100
Portland, Oregon 97204-1348
www.nwcouncil.org

Steve Crow
Executive Director

503-222-5161
800-452-5161
Fax: 503-820-2370

Decision To Release Outcome of **ANLYS-17:** White Paper on the Value of Energy Storage to the Future Power System

Mike Starrett

June 14, 2017

Northwest Power and Conservation Council

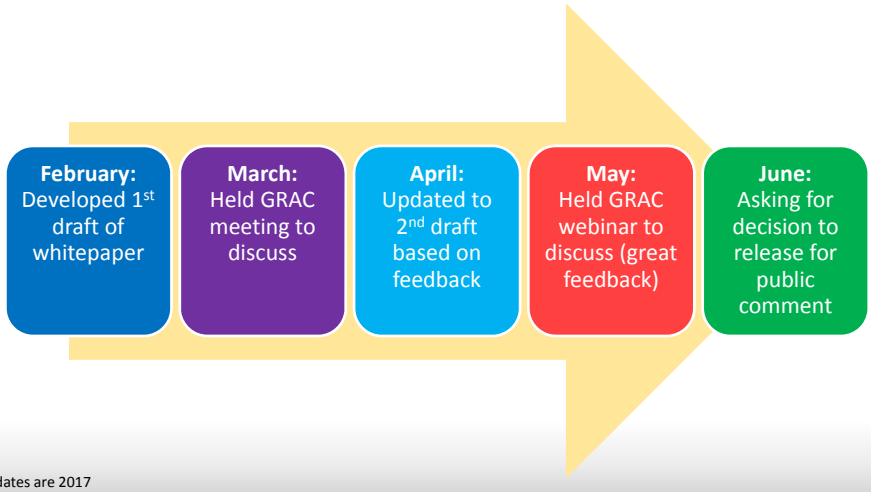
Background

- **7th Plan ANLYS-16:** *"Research and develop a white paper on the value of energy storage to the future power system"*

"The Council should convene a subgroup of subject matter experts from its Generating Resources Advisory Committee to assist in the research and development of a Council white paper on the full value stream of energy storage and its role in the power system, including transmission, distribution, and generation."

Northwest Power and Conservation Council

Timeline thus far



All dates are 2017

Northwest Power and Conservation Council

3

Current Progress & Next Steps

- Council staff views whitepaper as the start of a broad based approach to thinking about storage in the region
- Whitepaper focuses on technologies, costs, and value streams – "just the facts"
- Separate, subsequent work to come focused on evaluating and modeling energy storage

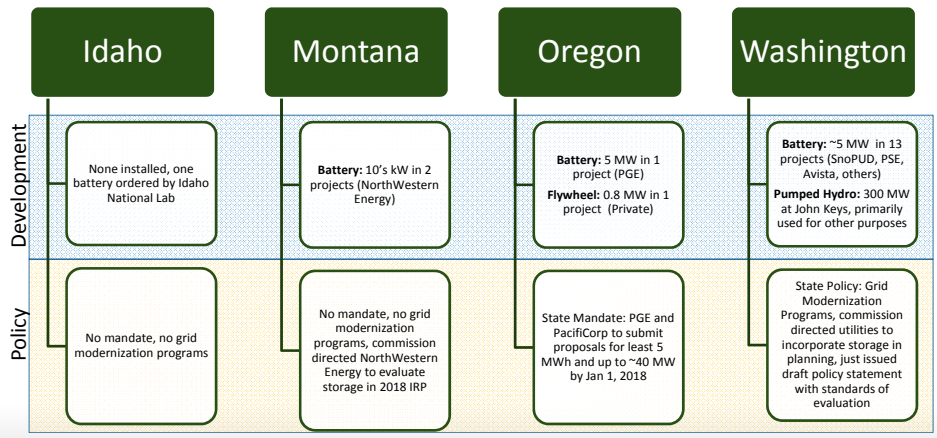
Northwest Power and Conservation Council

4

Relevance and Impact

- Majority of storage in U.S. is pre-1990 pumped hydro
- Nearly all recently deployed storage has been lithium ion located in California
- Markets help, mandates still key
- Costs are falling fast; regional planners working to better consider storage

Northwest Regional Development



Storage Development in California

- Already had 1,325 MW mandate by 2020 (AB 2514, 2010)
- Added new 500 MW behind-the-meter mandate (AB 2868, 2016)
- Re-Opened self-generation incentive program (SGIP): 80% of budget (= ~$450M) for storage, mostly at large (> 10kW) scale and the rest for residential

Impact of whitepaper

- ✓ Identifies high impact value streams accessible to storage
- ✓ Provides technical info and cost data
- ✓ Describes U.S.-wide and Northwest Regional Policy
- ✓ Details treatment of storage in regional IRPs

Next Steps

- Decision to release on Council website
- Would take public feedback for several weeks
- After final draft is released, Council staff will continue other, separate work in storage