



Portland City Council Work Session

Hydroelectric Power Contracting

Portland Hydroelectric Bureau
August 16, 2017



Background

- City developed hydroelectric generating facilities—Portland Hydroelectric Project (PHP)—in early 1980s
- Power Sales Agreement with Portland General Electric (PGE), started generating power in 1982
- Operating under that agreement for 35 years
- City has invested a total of \$55 million in facility; \$14 million net revenue generated to general fund
- \$1.8 million positive fund balance

Background

Hydroelectric Bureau

- Separate Bureau, not the Water Bureau
- Has reported to the Water Bureau since 1989, but *not* ratepayer funded
- PHP construction financed by City revenue bonds, secured solely by PGE
- Bonds were paid off in Oct 2016, currently debt free
- Net revenue from power sales went to General Fund

Background

PHP Facilities

- Dam 1: 24 megawatt powerhouse



Background

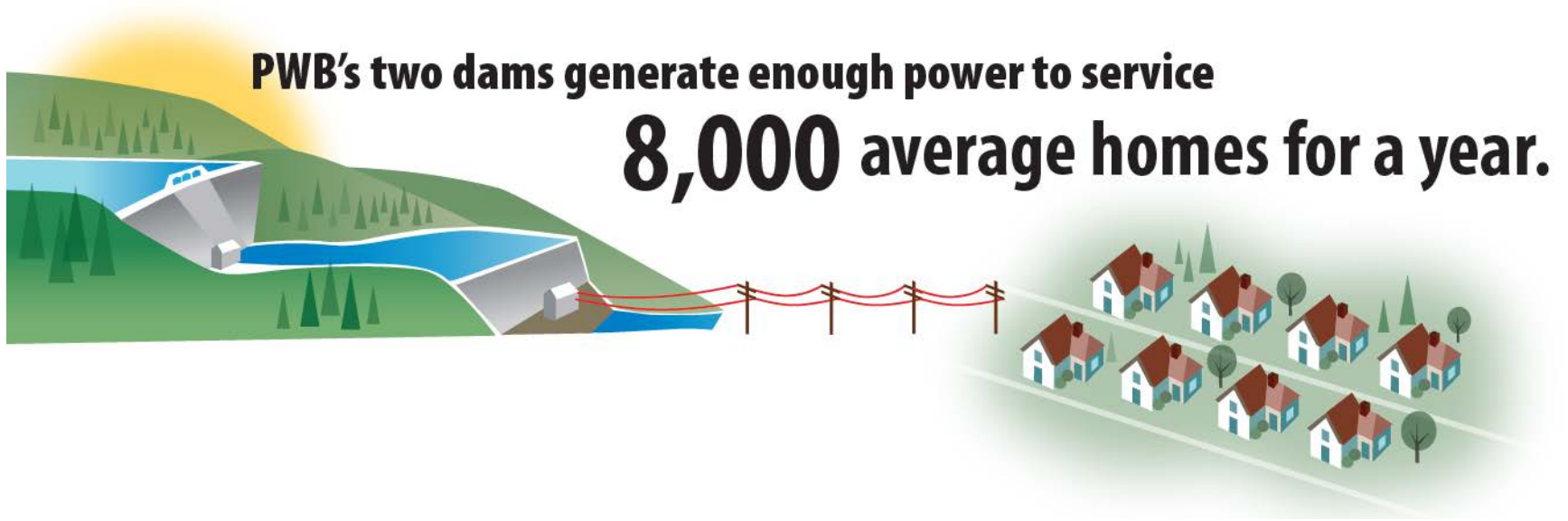
PHP Facilities

- Dam 2: 12 megawatt powerhouse



Background

PHP Facilities



Background

Water & Hydro Nexus

1. Water Supply

2. Fish

3. Power



New Agreement

- PGE to continue to purchase power from the project
- PGE no longer to operate or maintain power plant
- PGE to maintain powerlines

New Agreement

Council Considerations

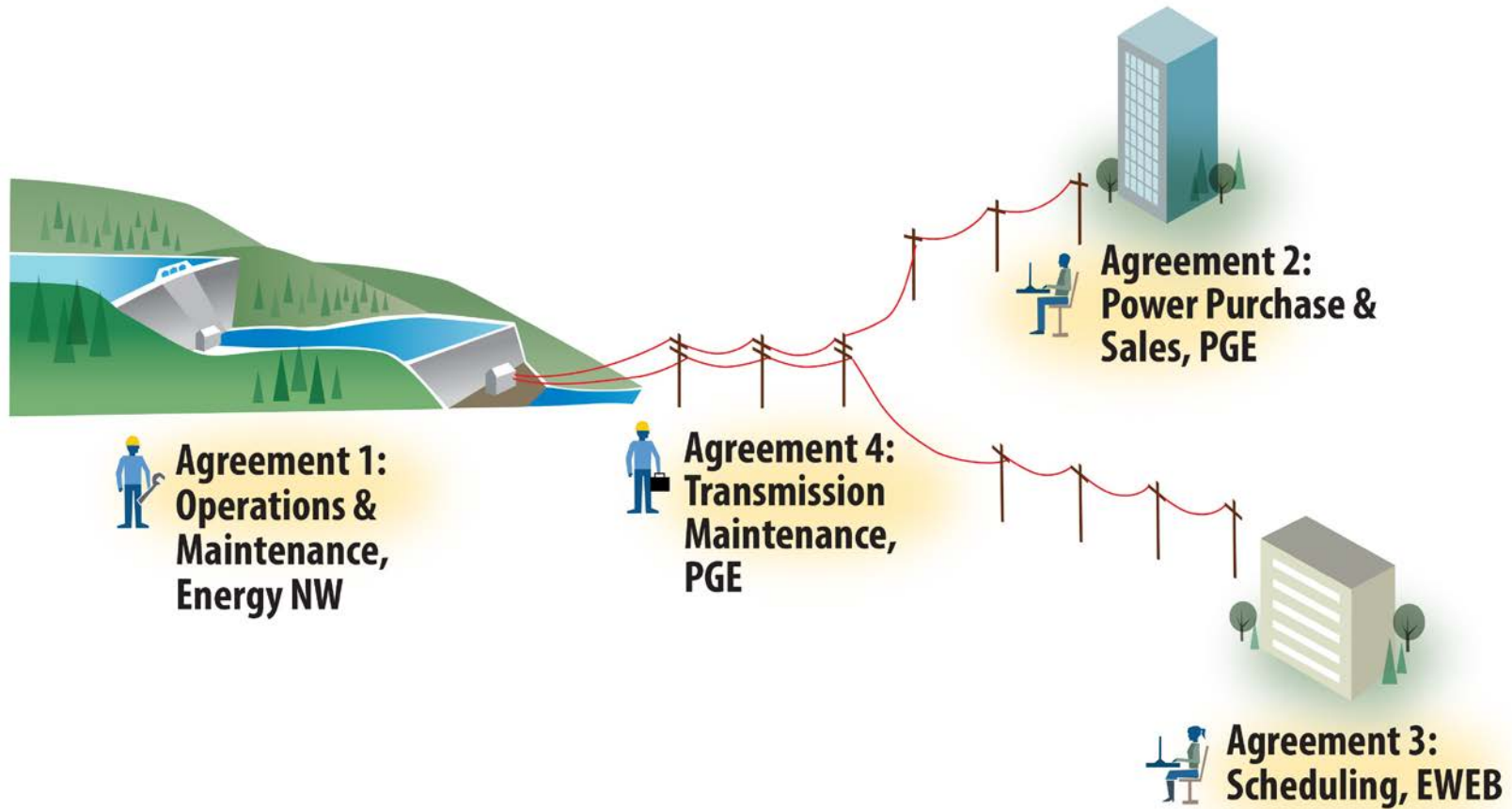
- Surrender Generation License?

—OR—

- Continue to generate and sell power?

New Agreement

Proposed Power Generation Agreements



Risks and Financial Analysis

Types of Risks

1. Weather
2. Water
3. Price
4. Operational
5. Regulatory

Financial Analysis

Revenue

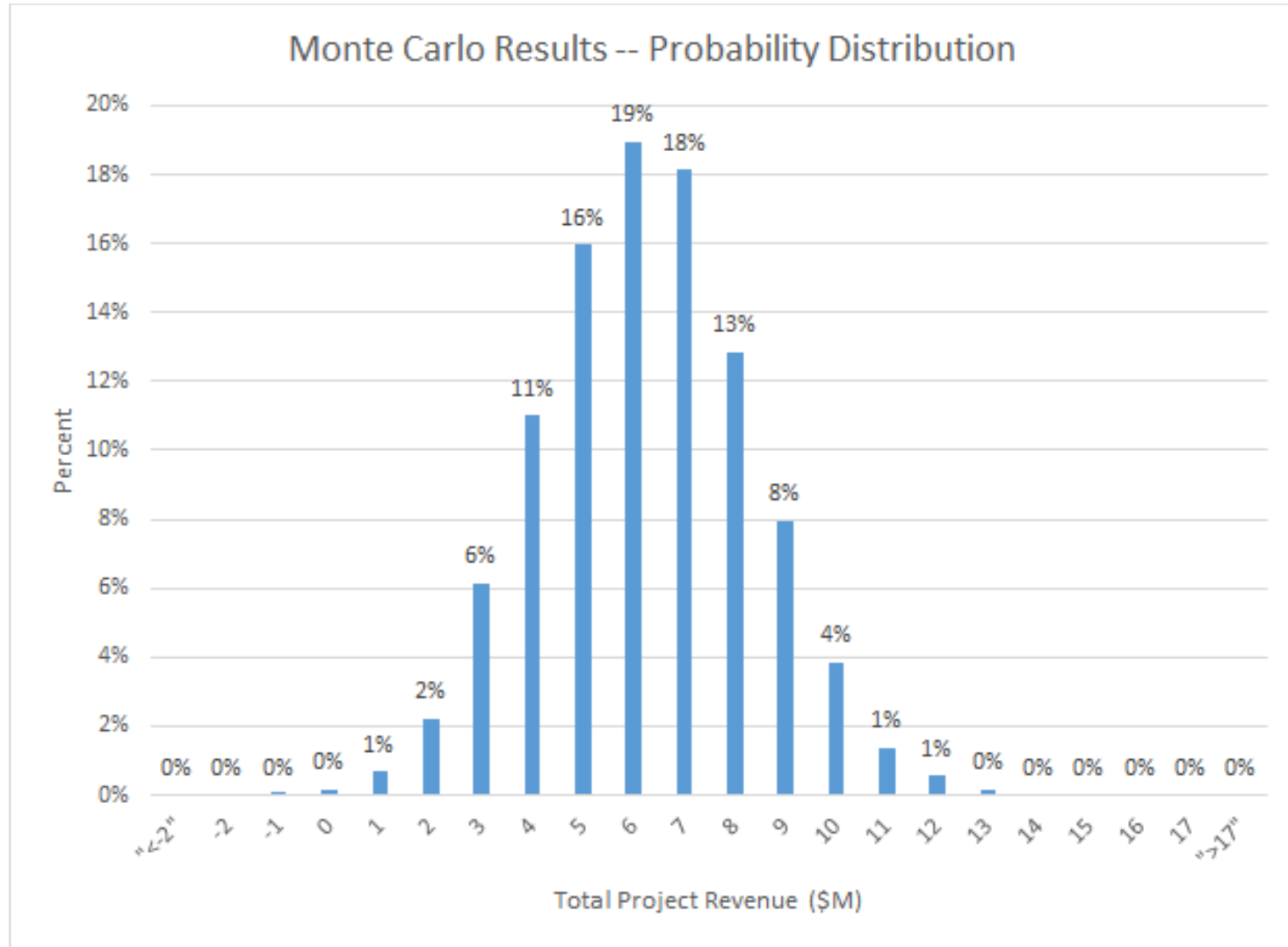
- Maximize revenue
- Revenue will be variable
- Contract price will average above market price

Financial Analysis

Mitigation

- Greatest risk would be when prices are high during a low-water year
- Risk offset by selling extra (“as-available”) energy into the market at the higher market price. Creates safety net.
- “Under delivery” damages only apply when wholesale prices exceed contract prices and promised amount is not delivered

How Much Net Revenue will PHP Earn from 2018–2031?



Summary

- Net-positive deal
 - Estimated revenues projected to exceed expenses by \$5.8 million over 15 years
 - Ending fund balance: ~\$7.6 million
 - Greater than 99% probability of positive net revenues
- Multiple mitigation tools in the contract
- Maintain control of the water supply
- Produce energy from a renewable source