

Distributed Generation

UPDATE

December 19, 2016



CHELAN COUNTY
www.chelanpud.org

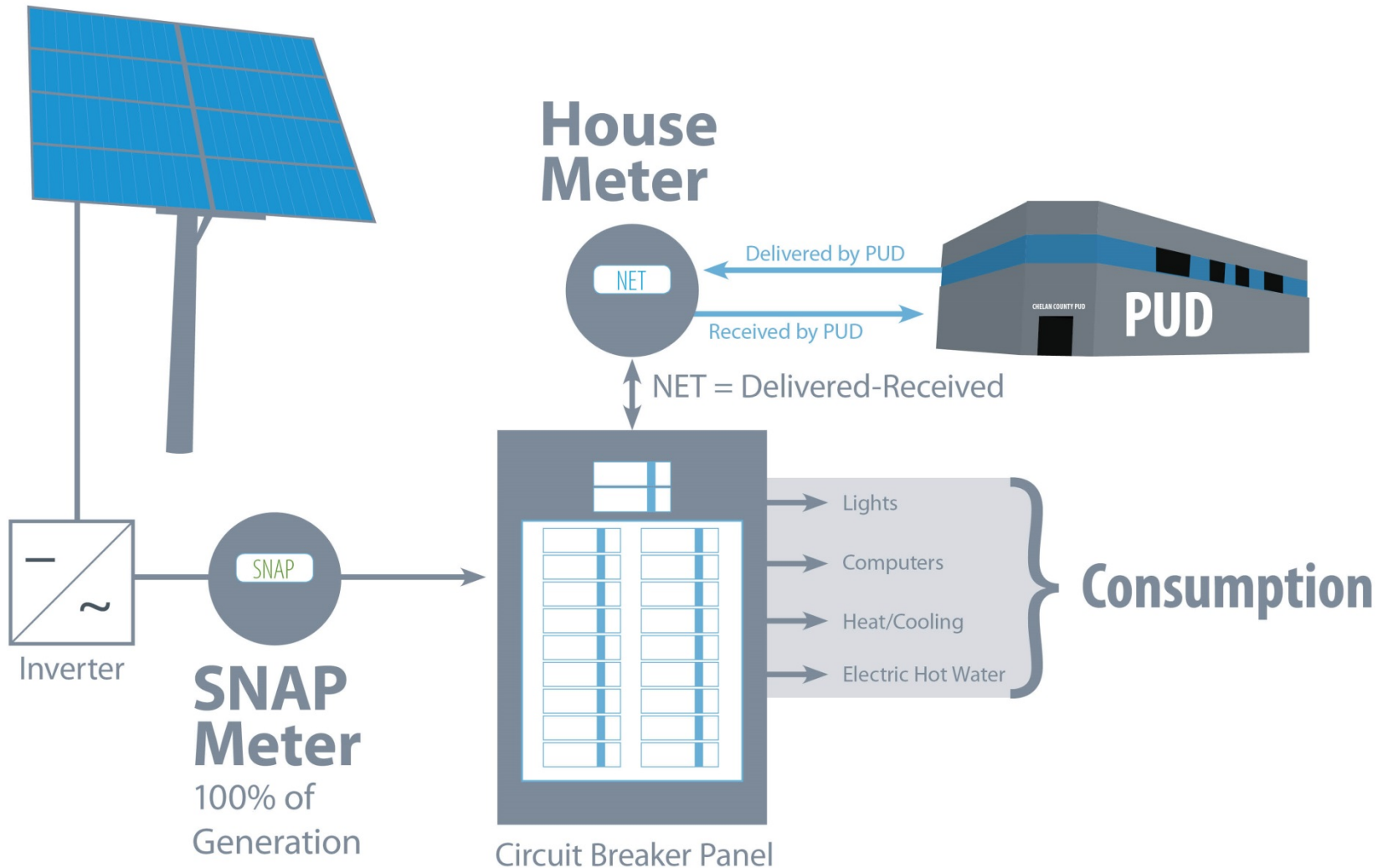
Agenda

- Distributed Generation at Chelan PUD
- 2016 Efforts
- Looking Ahead

No Board action required

What is distributed generation?

Small-scale electric generation installed at, or in close proximity to, the use location



2014 Value Statement

Chelan PUD supports investment in distributed generation that is safe, reliable and equitable for customer owners.

2014 Guiding Principles

System safety, reliability and performance

Local decision making

Fair and equitable allocation of costs and benefits among customers

Consumer protection and customer service

2016 Balanced Scorecard

Maintain and update Utility Service Policies to be responsive to changing circumstances

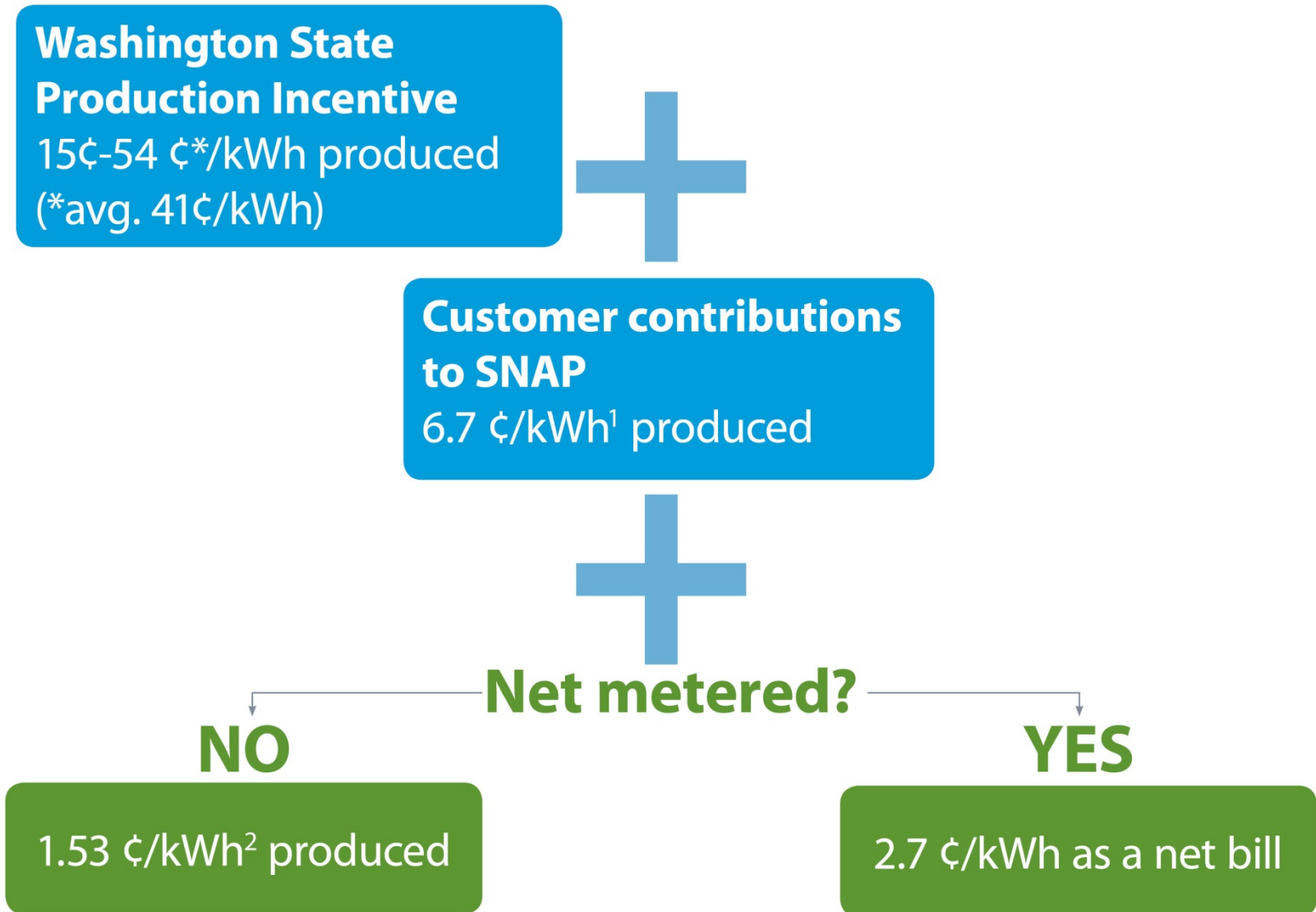
– *Stretch Tasks:*

- Rate alternatives by Q2
- Recommendation to Senior Team by end of Q3
- Distributed Generation rate to Board by Q4

Chelan PUD Programs

- SNAP (2001) – gives customers generation & purchase options (RCW 19.29A)
- Net Metering (2001, updated 2006) - retail rate for up to 0.5% of 1996 peak load (RCW 80.60)
- Renewable Energy System Cost Recovery (through June 2020) - State production incentive program administered by PUD (RCW 82.16.110 thru 130)

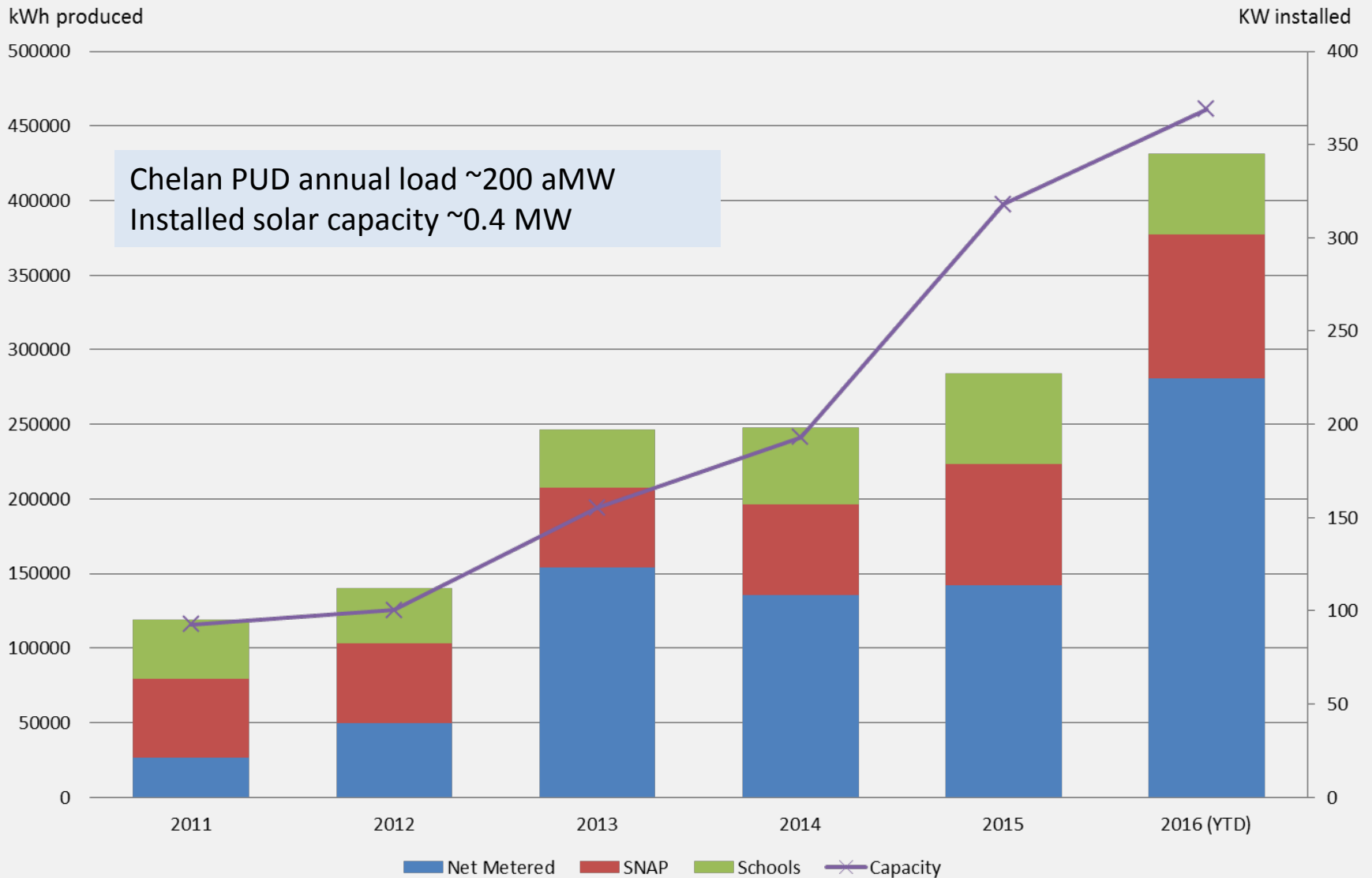
How are owners compensated?



¹ Based on production and contributions in the 2015-2016 reporting year

² Based on 75% of market off-peak average in the 2015-2016 reporting year

Program Growth



Growth Influencers

- Solar conditions
- Retail electric rates
- Production incentives
- Legislation
- Technology advancements
- Cost of solar
- Customer opinion



Which Direction?

In the news...

As states debate solar, contentious rate cases give way to broader valuation proceedings

AEP Ohio wants to double fixed charges, joining net metering debate

Colorado solar compromise avoids new grid fees, pushes TOU rate pilots

Heating up again: Arizona turns to solar valuation after demand charge decision delayed

NV Energy strikes solar grandfathering deal with SolarCity, regulatory staff

El Paso Electric drops demand charge push as regulators approve solar settlement

Demand charges vs. TOU rates: The great Arizona rate design experiment

Nevada court overturns fixed charges, lower net metering rates for existing solar customers

2016 Efforts

- Worked with Charlie Black - CJB Energy Economics
- Researched
 - Utility Distributed Generation rate common practices
 - Current industry studies/opinions
 - Analysis of our programs compared to others

CJB Energy Economics

- **What makes Distributed Generation an industry hot topic?**
 - Safety, bi-directional power flow
 - Reliance on the utility grid for backup
 - Decreasing energy sales (i.e. lack of cost recovery)
 - Shifting cost recovery to non-adopters
 - Third-party service providers
 - Ability to defer capacity/expansion projects
 - Ability to decrease fossil-fueled generation
- **The common response?**
 - Rates

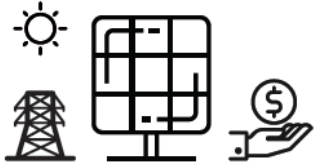
CJB Energy Economics

- **Conclusions for Chelan PUD**
 - Consider Distributed Generation impacts with broader rate analysis and discussion
 - Address issues early to limit impact to customers, both adopters and non-adopters
 - Maintain awareness of industry development
 - Undertake an initial value of solar analysis

Future actions

- **Ongoing**
 - Monitor legislative proposals
 - Monitor production levels and growth indicators
- **2017-2018**
 - Review/confirm 2014 DG value statement and guiding principles
 - Utilize technology to gather information to better understand DG operations and impacts
 - Consider a value of solar analysis as a data point to inform future efforts
 - Integrate DG with broader financial policy and rate guidance discussions, keeping in mind interests of all customers

APPENDIX



COMMON COMPONENTS OF VALUE OF SOLAR

Value of solar is more than direct costs. Here are seven key attributes to consider when estimating VOS — each can cause significant differences in valuation.

