NREL
NATIONAL RENEWABLE ENERGY LABORATORY





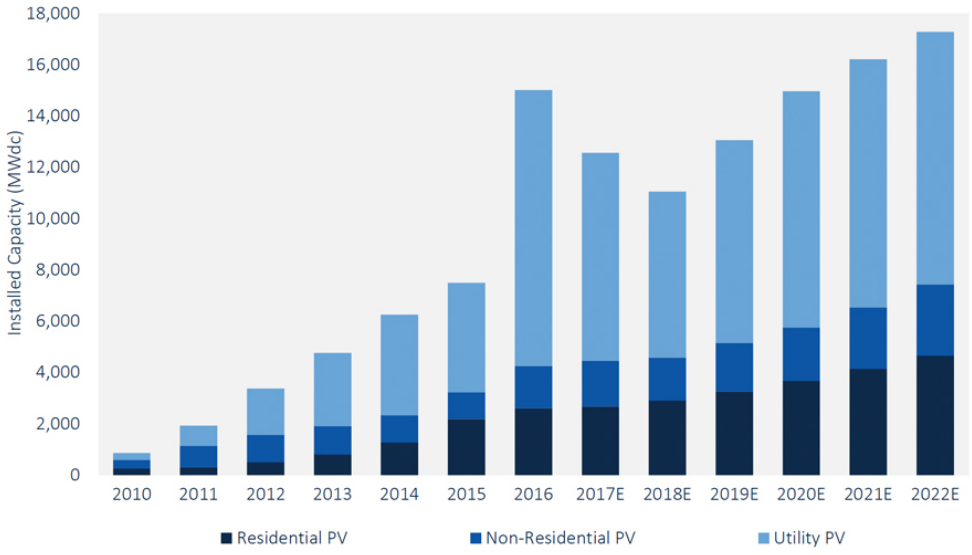
Benchmarking Distribution Grid Integration Costs under High Distributed PV Penetrations

NREL South Table Mountain Campus

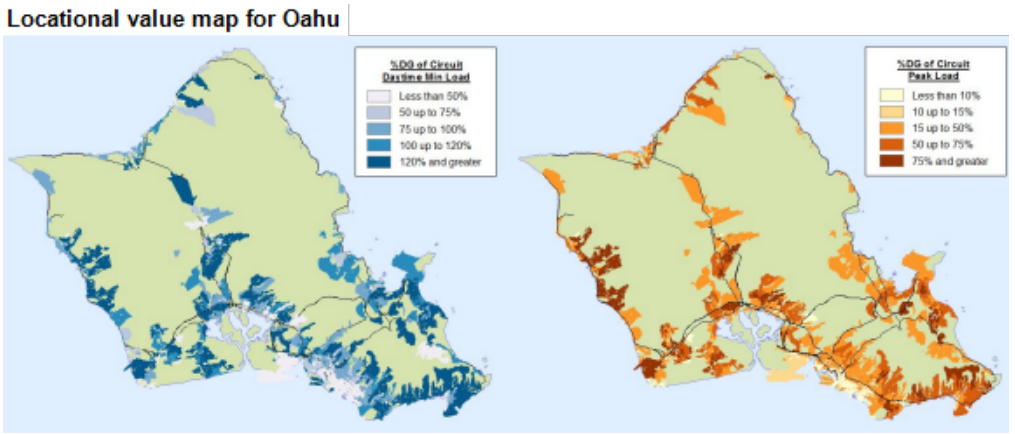
September 19, 2017

Motivation

- Increasing penetrations of distributed PV
  - How much does it cost to integrate DGPV?
  - How does DGPV benefit the grid?
- Need to develop forward-looking analysis approaches
- Need more data
- Need stakeholder engagement, multiple perspectives



GTM/SEIA

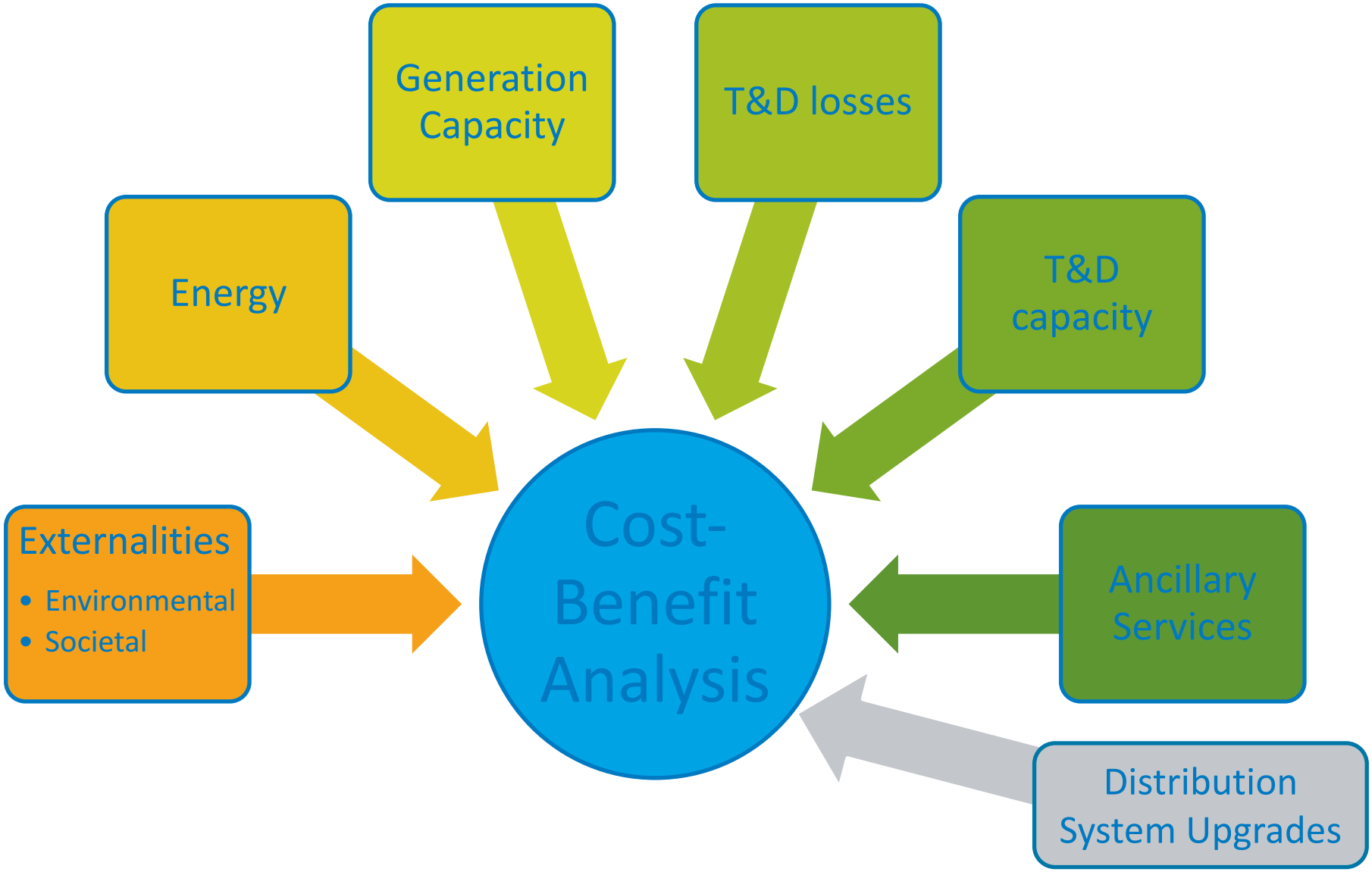


Hawaiian Electric

Workshop Goals

- Interactive discussions on DGPV grid impacts and monetizable distribution system costs and benefits associated with integrating increasing penetrations of DGPV
- Perspectives and information sharing across multiple, diverse stakeholders on:
  - Methods and assumptions for analysis
  - Data issues
  - Real world challenges
  - Future opportunities, ways different groups can contribute

Context for Distribution System Costs



Schedule

- 8:10-8:30am: Introduction to DOE interests and needs, overview of research and analysis efforts
- 8:30am- 10am: Panel #1 — Perspectives on grid integration/interconnection costs
- 10-10:15am: Coffee break
- 10:15-11:45am: Frameworks for cost-benefit analysis
- 11:45-12:45pm: Lunch and networking
- 12:45-2:00pm: Panel #2 — Data for grid integration cost-benefit analysis
- 2:00-3:15pm: Panel #3 — Future directions in grid integration cost-benefit analysis
- 3:15pm-3:30pm: Coffee break
- 3:30– 4:45pm: Breakout sessions
- 4:45-5:15pm: Larger group discussion
- 5:15-5:30pm: Wrap up, provide feedback