



LONDON  
ECONOMICS

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# Future Electricity Sector Ownership & Regulation in Hawaii

Prepared for Hawaii Department of Business, Economic Development,  
and Tourism (“DBEDT”)

The primary goals of today's meeting are to provide background information and obtain feedback from stakeholders

**1** Overview of the study undertaken by the Project Team to review utility ownership and regulatory models



**2** Provide an overview of the attributes of selected regulatory models included in the Study



**3** Solicit stakeholders' input on the regulatory models



# DBEDT is directed by the legislation to:

## Assess the ability of each model to:

- 1) Achieve **state energy goals**
- 2) Maximize **customer cost savings**
- 3) Enable a **competitive distribution system**
- 4) Eliminate or reduce **conflicts of interest**

### Evaluate alternative utility and regulatory models

**Ownership models** include: co-ops, investor-owned utilities, Single Buyer, and integrated distribution energy resources("IDER") system operator

**Regulatory models** include status quo with HERA, independent system operator, distribution-focused regulatory model, and performance-based regulation

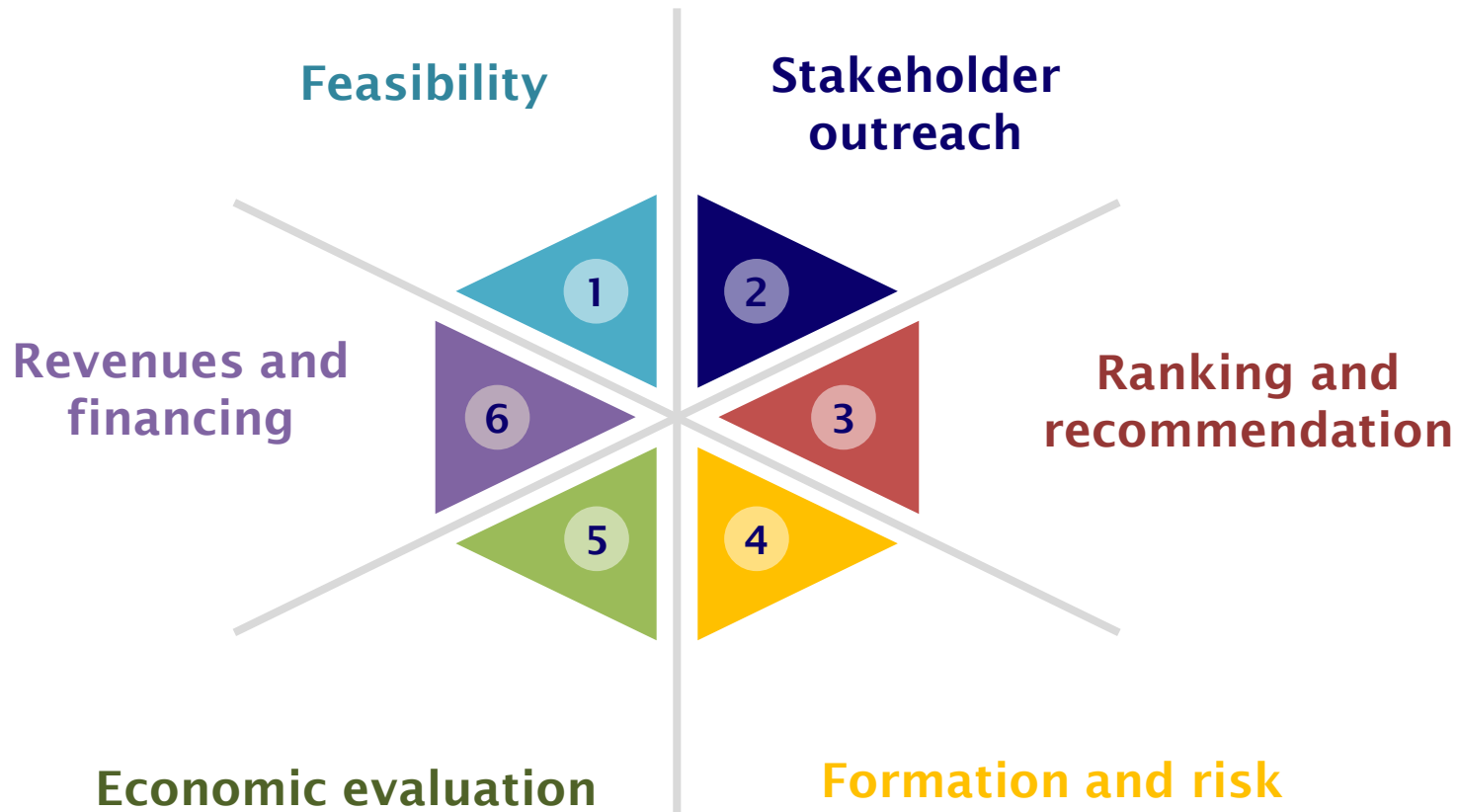


### Conduct a long-term cost benefit analysis

- **Costs** required to change from current model to new model
- **Legal and regulatory approvals** needed for the change
- Impact on **revenue requirements and rates**
- Effects on **distributed energy resources**



# We will perform stakeholder outreach and multiple analyses from feasibility to financing



# We are currently analyzing the regulatory models and the feedback received in this meeting will factor into that

## Intro & Ownership Models

Determine the long-term operational and financial costs and benefits of electric utility ownership models to serve each county of Hawaii

## Regulatory Models

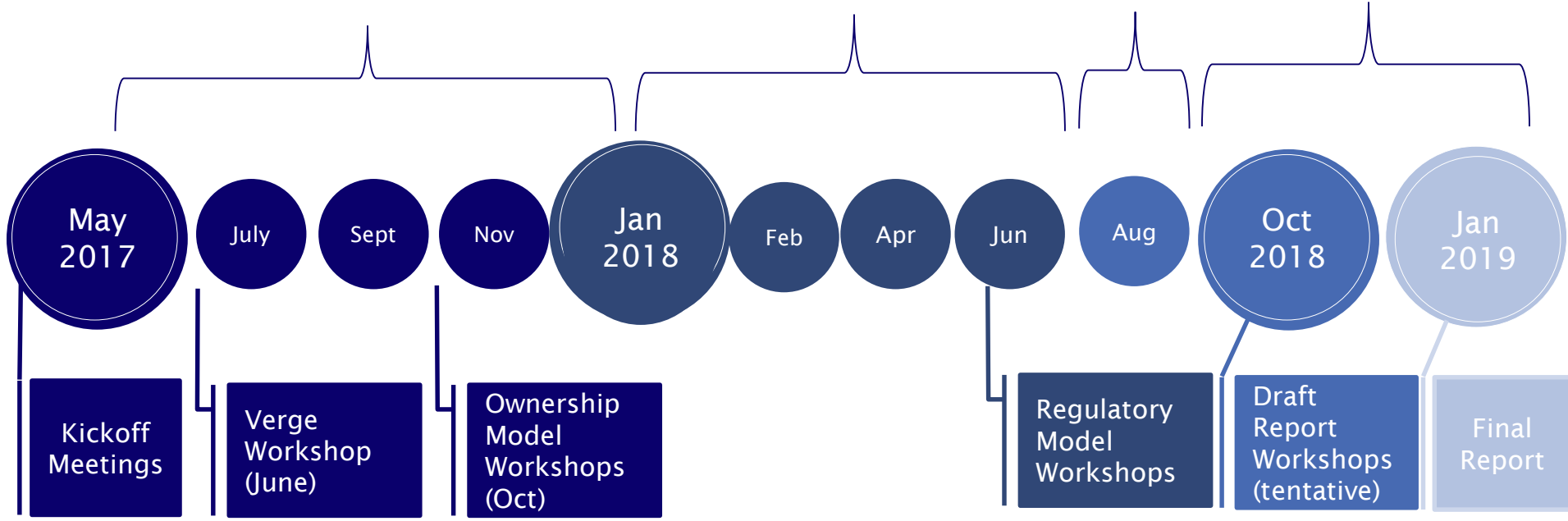
Determine the long-term operational and financial costs and benefits of electric utility regulatory models to serve each county of Hawaii

## Additional Analyses

Provide additional insight and analysis of ownership and regulatory models

## Final Report

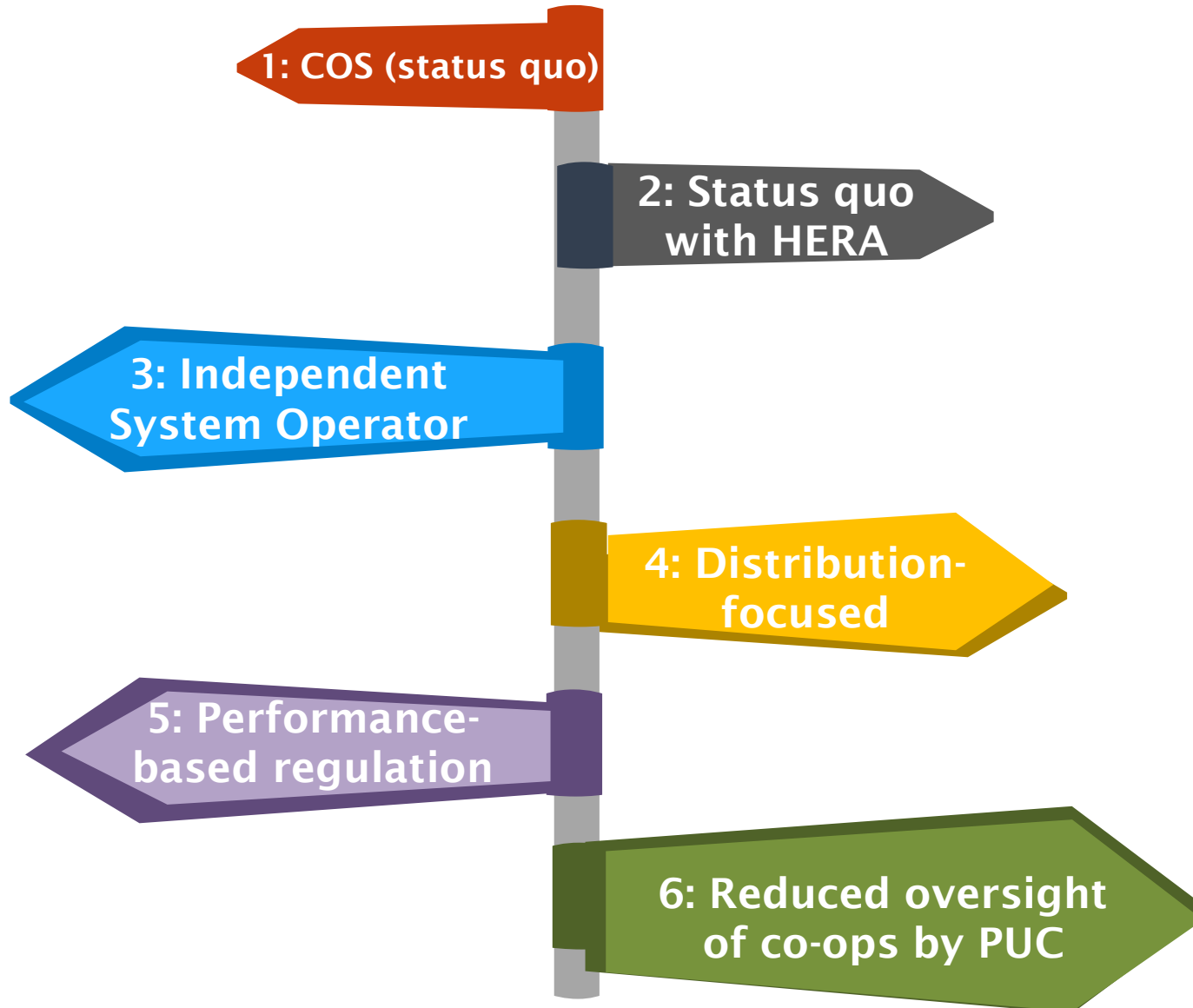
Develop and deliver the executive summary, formal presentation, and final report



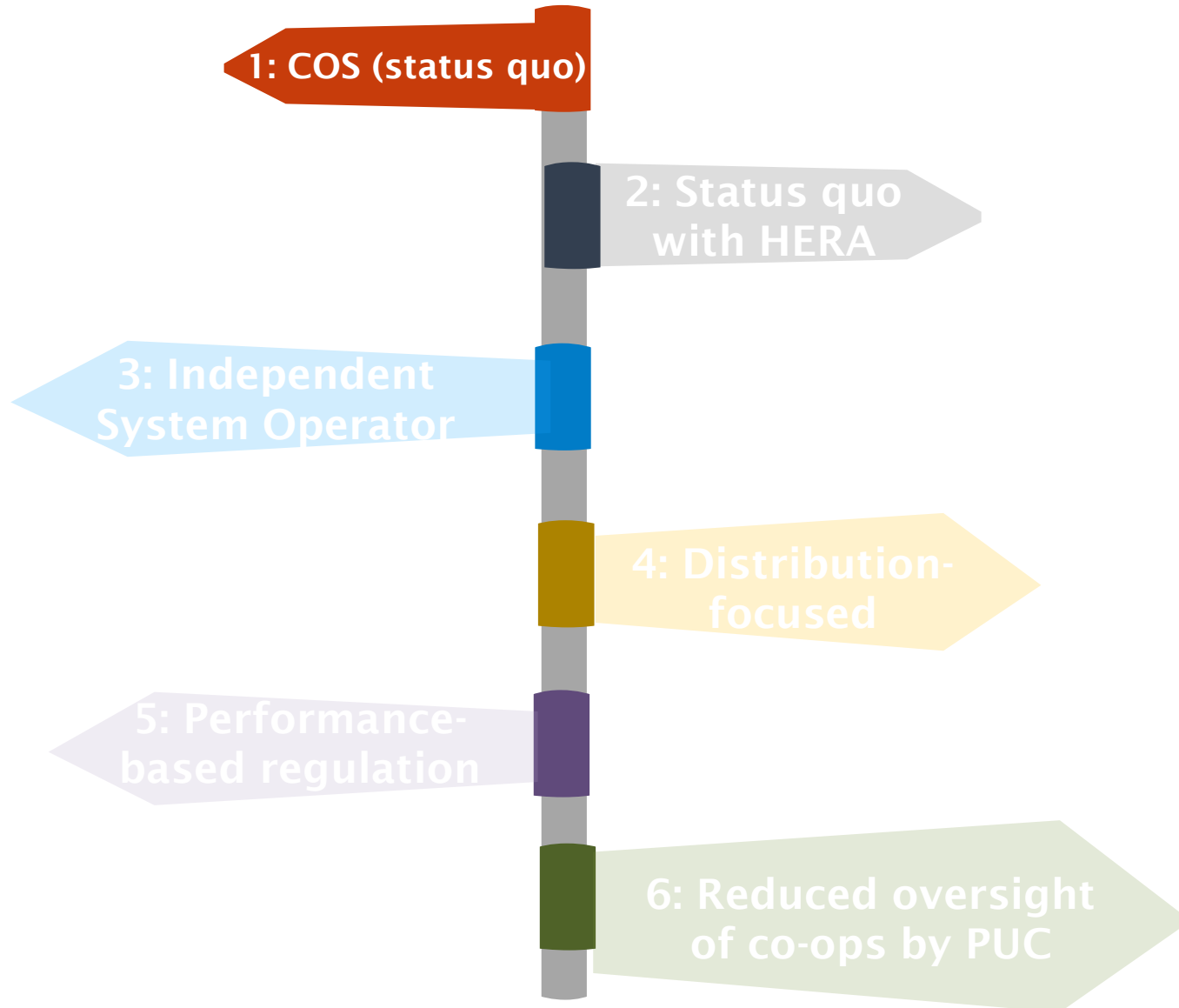
## Stakeholder Engagement

(> 200 attendances at VERGE workshop/ community discussion in 2017, ~ 50 one-on-one meetings with stakeholders, and 2 core group meetings/ calls as of June 2018)

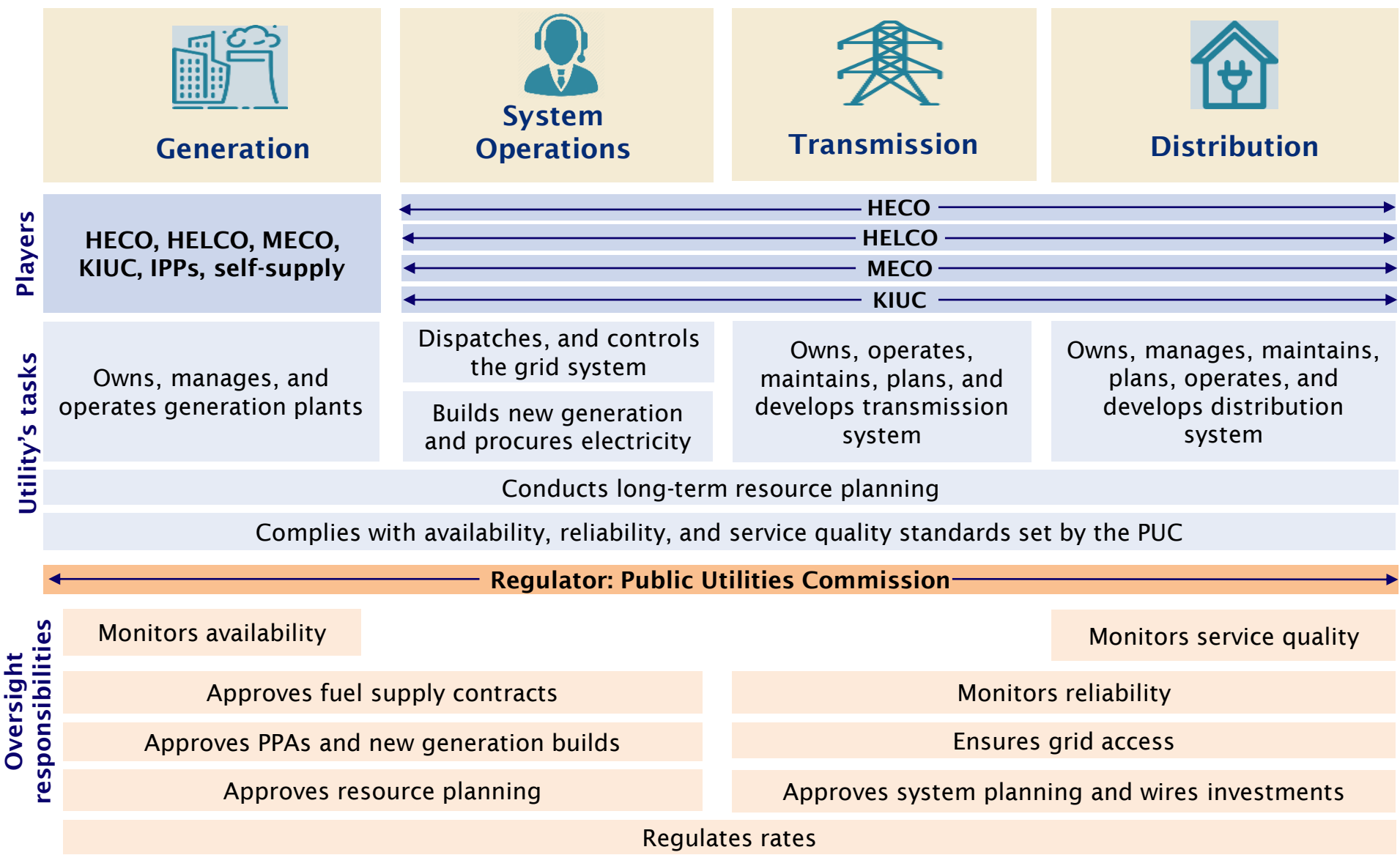
# We are evaluating six regulatory models, which are not mutually exclusive



# Model 1: Status Quo



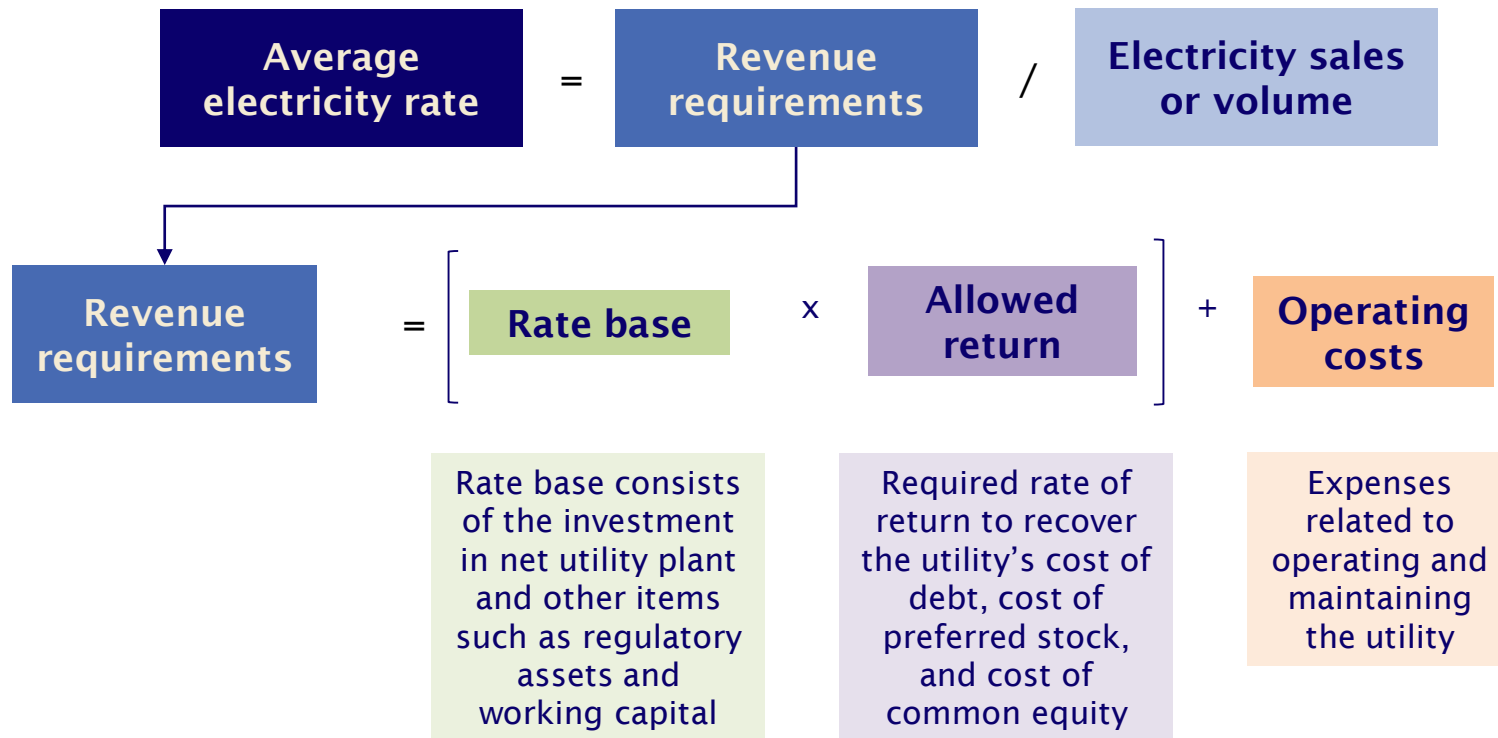
# Hawaii is served by vertically-integrated utilities, under the purview of the Public Utilities Commission



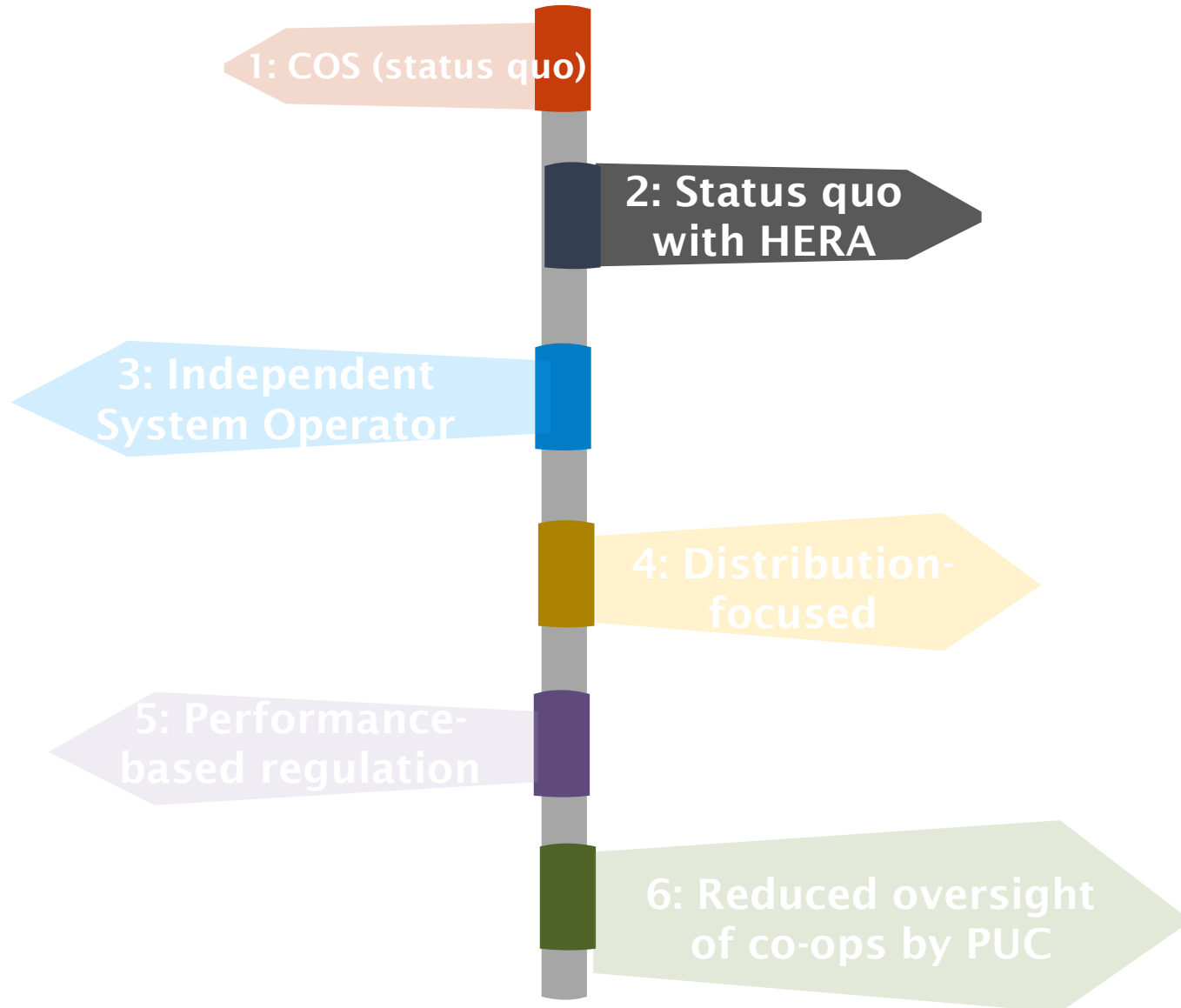


# HECO Companies' rates are determined through a cost of service approach

- ▶ Cost of service is the amount of revenue a regulated utility must collect from rates charged to customers to **recover the cost of doing business**
- ▶ A cost-of-service is a measure of the utility's "revenue requirement" that will provide the utility the opportunity to **operate profitably** and **attract capital** for future growth



## Model 2: Status Quo with HERA



# A dedicated body (Hawaii Electricity Reliability Administrator) would enforce and oversee compliance with formal reliability standards

## What is it?

- ▶ HERA was established to ensure that the State’s clean energy goals will be achieved by *implementing reliability standards* across all electric value chain and *providing fair grid access to generators*

## How does it work?

- ▶ HERA will *support the PUC* in carrying out critical functions related to reliability and grid access oversight functions
- ▶ The PUC may *contract* with a person, business, or organization, (but not a public utility) for the performance of HERA’s functions
- ▶ HERA shall *report to the PUC* each year on the status of its operations, financial position, and a projected operational budget

## What are the advantages?

- ▶ Ensures *fair and transparent* grid access
- ▶ Safeguards *system reliability, resiliency, and accountability*
- ▶ Recommends specific reliability standards relevant to *Hawaii context*
- ▶ Can develop into a *center* of excellence, expertise and best practice

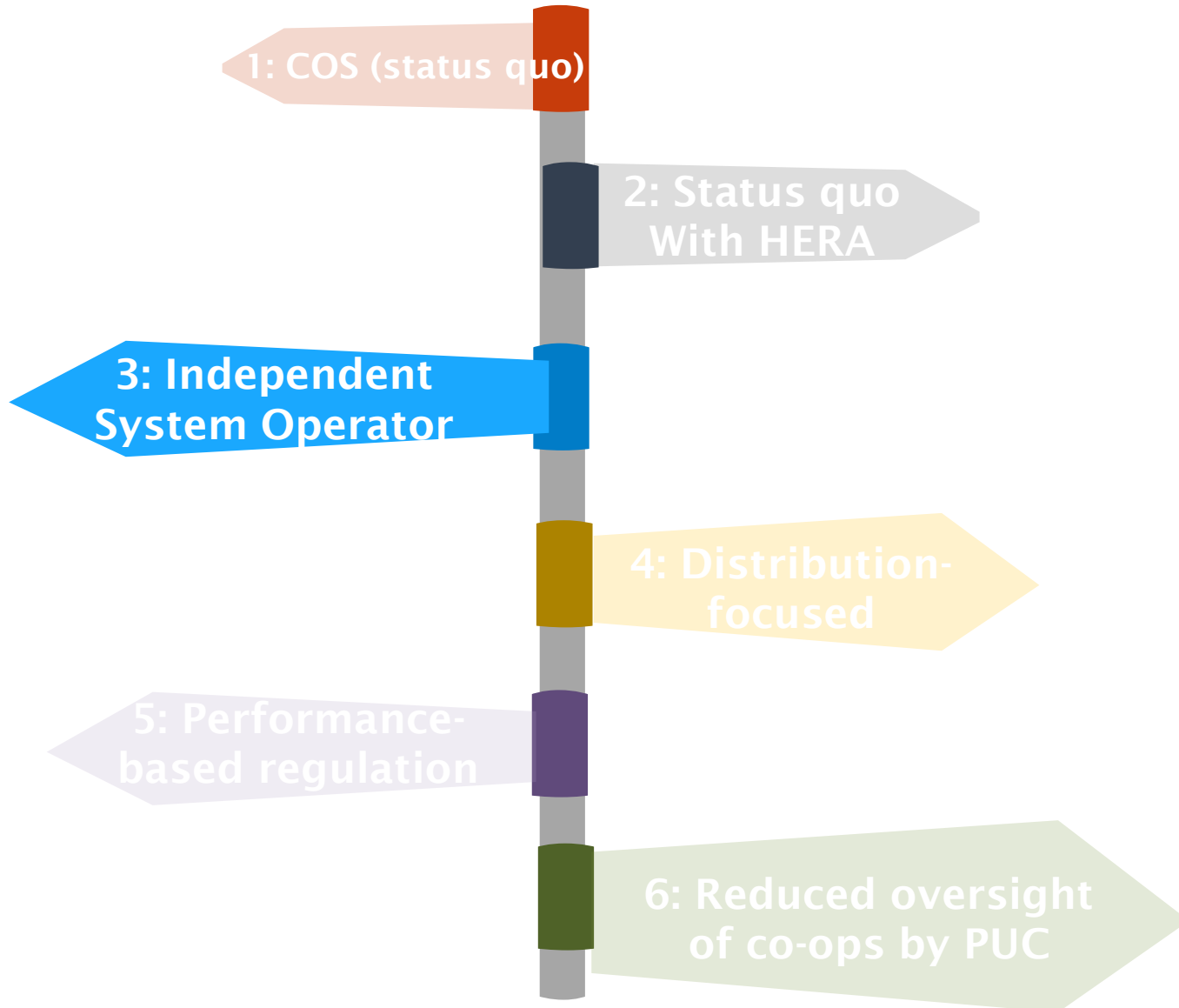
## What are the disadvantages?

- ▶ Risk of *ambiguity of roles* between Commission and HERA
- ▶ *Increased cost* of establishing and operating HERA to fall on ratepayers

## Where has this been implemented?

- ▶ North American Electric Reliability Corporation (“NERC”)

# Model 3: Independent System Operator



# Utility will turn over the day-to-day operations of the transmission grid and resource planning to the ISO

## What is it?

- ▶ An *independent* and *not-for profit* entity will be responsible for system planning and dispatch

## How does it work?

- ▶ Uses *bid-based markets* to determine economic dispatch for wholesale electric power
- ▶ ISO's functions may include operational control of the transmission and distribution system, coordination of transmission and generation, maintenance scheduling, and security coordinator, to name a few
- ▶ Utilities continue to *own, maintain, and develop* the transmission and distribution system

## What are the advantages?

- ▶ *Fosters competition* among generation resources
- ▶ *Eliminates discrimination* in transmission services
- ▶ Improves *efficiency of operations* through market forces
- ▶ Facilitates *lighter regulation* after establishment of market rules

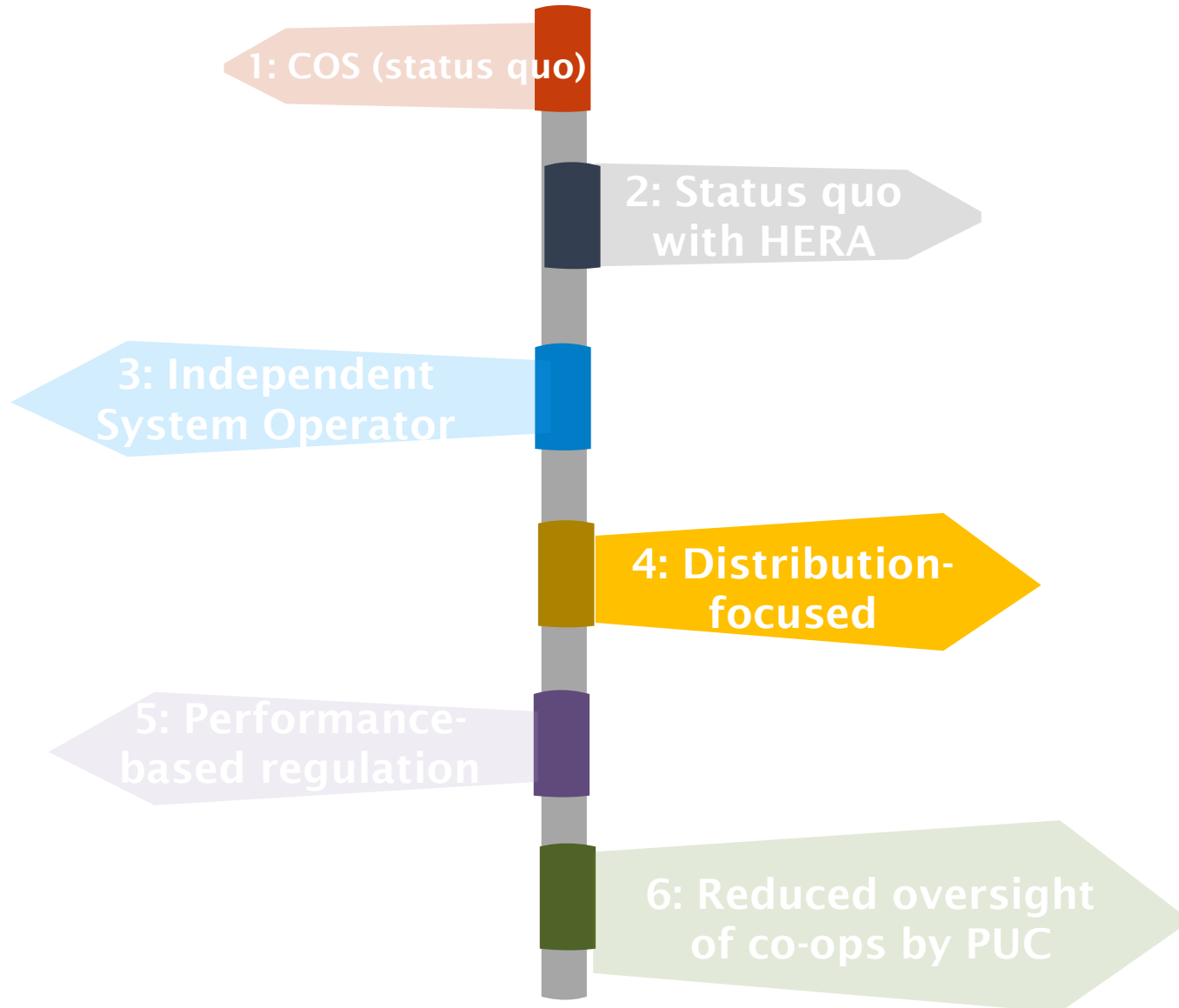
## What are the disadvantages?

- ▶ Significant *upfront and operating costs* to setup and run the ISO
- ▶ High level of *stakeholder engagement* required
- ▶ May lead to *price volatility*

## Where has this been implemented?

- ▶ North America: Alberta, California, New England, New York, Pennsylvania-New Jersey-Maryland, Midwest, Ontario, Southwest, Texas

## Option 4: Distribution-Focused



# Distribution utilities are required to provide a platform for third-party participation in a distribution system marketplace

## What is it?

- ▶ Utilities provide *distributed system platform (“DSP”) services* to enable third-party DER providers to create value for both customers and the system

## How does it work?

- ▶ Utilities still own and operate the distribution system and become the *Distributed System Platform Provider (“DSPP”)*
- ▶ DSPP is responsible for *planning and designing* its distribution system to be able to integrate DER
- ▶ DSPP allows *third-party access* to the grid and make data available

## What are the advantages?

- ▶ Potential for *lowering costs* to consumers through optimizing of DER solutions such as storage
- ▶ Facilitate *greater penetration* of renewables and *access* for behind-the-meter generation resources
- ▶ *Market efficiencies* from increased competition

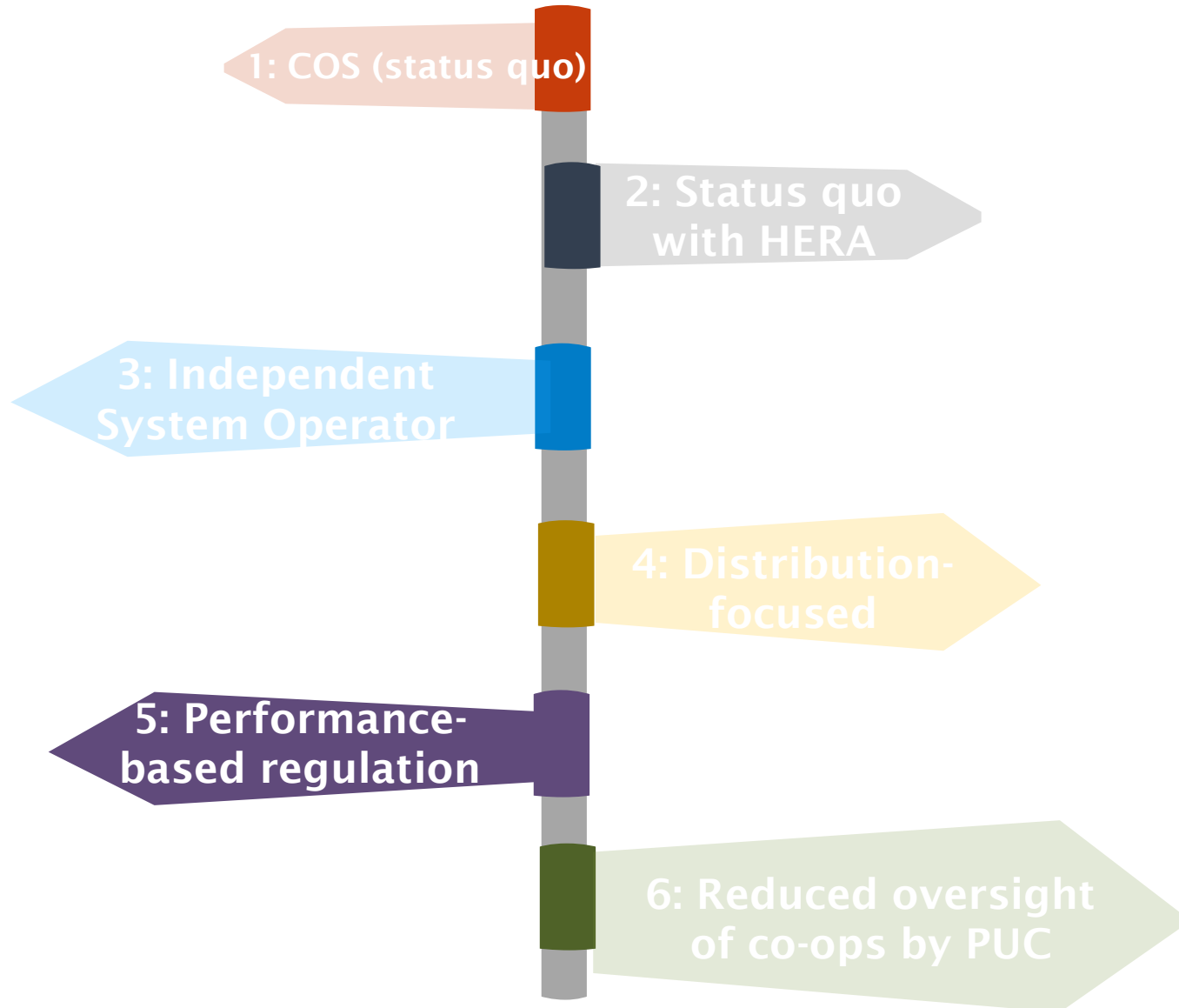
## What are the disadvantages?

- ▶ *High up-front costs* can lower accessibility of markets to all customers
- ▶ *Technical complexity* means risk of high costs
- ▶ Extensive levels of *consumer education* required
- ▶ Currently evolving so *limited best practices* to learn from

## Where has this been implemented?

- ▶ Reforming the Energy Vision (“REV”) model is being assessed in New York State





# Option 5: Performance-Based Regulation






# By instituting a PBR proceeding, the PUC is seeking to further incentivize HECO utilities to reduce costs, innovate, and achieve state goals

► In its Order instituting the proceeding, the Commission indicated it is interested in PBR mechanisms that result in:

-  Greater **cost control** and reduced rate volatility;
-  **Efficient investment** and allocation of resources regardless of capital or operating expense;
-  Fair **distribution of risks** between utilities and customers; and
-  Fulfillment of **State policy goals**

## Hawaii PUC PBR Proceeding Timeline

**Phase I**  
Evaluation & Assessment



- **Goal:** Examine the current regulatory framework and identify areas of utility performance that are deserving of further focus for PBR framework
- **Timeframe:** The commission expects Phase 1 to conclude in ~ 9 months

**Phase II**  
Design & Implementation



- **Goal:** Focus on refinement and/or modifications to existing regulatory framework that will incent the utility to achieve measured and successful outcomes
- **Timeframe:** The commission expects Phase 2 to conclude in ~ 12 months

# Performance-based regulation (“PBR”) regime strengthens financial incentives to lower rates and improve non-price performance

**What is it and how does it work?**

- ▶ It seeks to *correct the most common foundational problems* observed in traditional cost of service regulation:
  - Weaker incentives for cost efficiency
  - Lack of incentives to encourage prudent and efficient capital investment
  - Intensity of the associated administrative process
- ▶ It allows the adjustment of utility revenues *based on its performance*
- ▶ It *exists as a continuum* with “soft to “hard” mechanisms and not just a single type of regulatory regime



Incentives (and penalties) included on top of cost of service (“performance standards with rewards or penalties”)

Savings for improved efficiency shared with customers (“earnings sharing mechanism”)  
 Provide mechanism to ensure prudence in capital spending to remove bias towards capital spending

Utility revenues set independent of investments

# PBR has a number of perceived advantages and disadvantages

## ADVANTAGES

01

*Aligns incentives of utilities with policy goals of the state*

02

Encourages utilities to *operate more efficiently*, leading to lower rates than could have been under COS

03

Should *reduce regulatory burden* by decreasing the need for frequent regulatory hearings in the long run

04

Allows the utility *sufficient freedom* to decide how to best optimize its resources given the targets and objectives

A lot of regulatory work needed to *design the PBR framework and performance standards*, especially during the first generation/term

01

Requires good data to adequately monitor performance metrics

02

Requires the ability to *forecast elements* and for a longer period of time compared to a COS regime

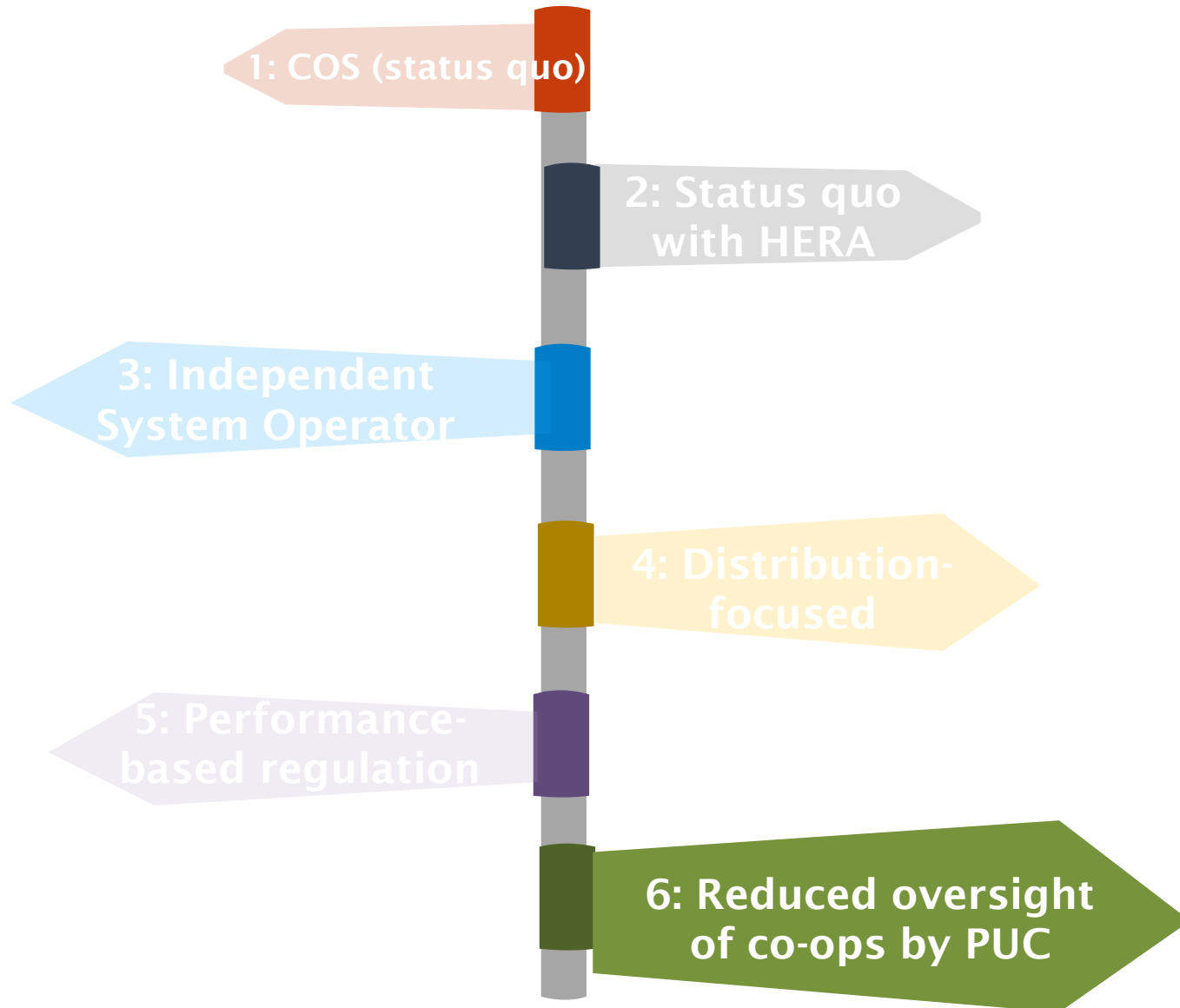
03

Appropriate design of *capex incentives* have been challenging where future capex differs from “steady state”

04

## DISADVANTAGES

## Option 6: Lightened Regulation of KIUC



# Co-ops would be autonomous and independently controlled by its members

## What is it?

- ▶ Co-ops will be *exempted from most of PUC's regulations* established based on an IOU structure such as approval of:
  - rate setting and design
  - power purchase agreements and fuel contracts
  - large capital expenditure over \$2.5 million

## How does it work?

- ▶ *Board of Directors* will continue to approve operating and capital budget, develop plans taking into account the interest of the members, and ensure adequacy of electricity
- ▶ Co-ops will continue to be under the regulatory oversight of the *Rural Utilities Service* in terms of planning, financing, and capital investments

## What are the advantages?

- ▶ Reduces *redundant governance* and *regulatory burden* for co-ops
- ▶ *Eliminates costs for co-ops* from reduced participation in regulatory dockets and regulatory compliance
- ▶ *Functions similarly as other co-ops* in the US where they are outside of the purview of the State Commission

## What are the disadvantages?

- ▶ *Lost of fee revenues* for PUC
- ▶ Harder to ensure that co-op goals *align with state policy goals*
- ▶ Undermines the objective role of the PUC as a *mediator* between the co-op and their members (e.g., dispute over rate or other policies)

## Where has this been implemented?

- ▶ Most other co-ops in the US

# Agenda

1

About the Study

2

Regulatory Models

3

**Small Group Discussions**

## Group Discussion

### ► Guiding questions for small groups:

1. Priorities? What's working? What could be improved?

2. Thoughts on different regulatory models?

3. Thoughts on the PBR model?

# Community meetings and working sessions

## Wednesday June 13

- 5:30-7:00 p.m. Kailua, Oahu
- Enchanted Lake Elementary School, Dining Hall

## Thursday June 14

- 6:00-7:30 p.m. Honolulu, Oahu
- Homer A. Maxey International Trade Resource Center Conference Room at the Hawaii Foreign-Trade Zone #9

## Friday June 15

- 5:30-7:00 p.m. Lihue, Kauai
- Kauai High School, Dining Hall

## Monday June 18

- 6:00-7:30 p.m. Wailuku, Maui
- Waikapu Community Center

## Tuesday June 19

- 6:00-7:30 p.m. Kaunakakai, Molokai
- Mitchell Pauole Community Center

## Wednesday June 20

- 6:00-7:30 p.m. Lanai City, Lanai
- Lanai Community Center

## Thursday June 21

- 5:30-7:00 p.m. Hilo, Hawaii
- Waiakea High School, Dining Hall

## Friday June 22

- 5:30-7:00 p.m. Kailua-Kona, Hawaii
- Natural Energy Laboratory of Hawaii Authority, Hale Iako Collaboration Room

*RSVP online: <http://energy.hawaii.gov/utility-model/community-outreach>*