

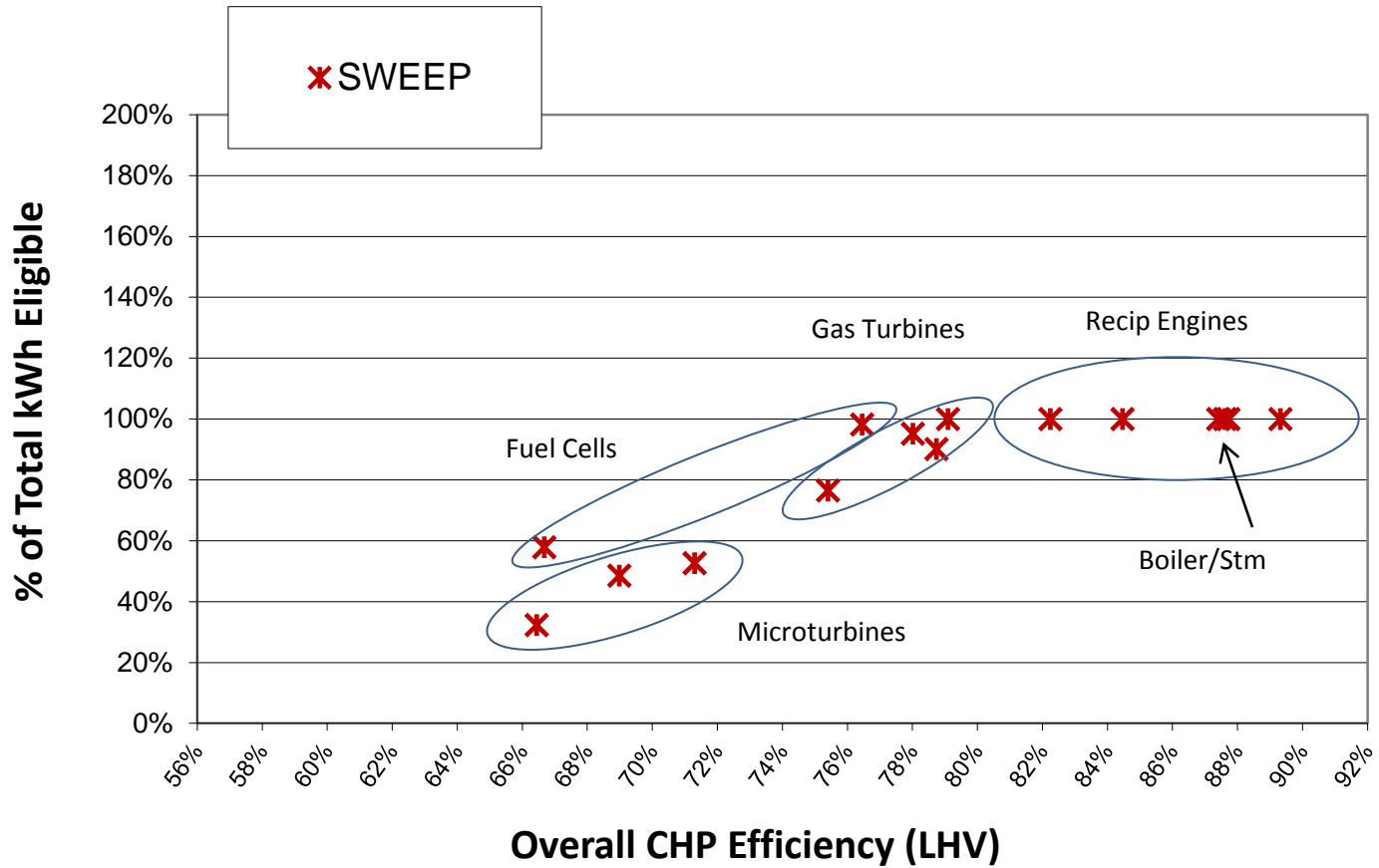
# How should the Commission estimate savings?

- How should the energy saving benefits of CHP systems in be recognized in the *electric* energy efficiency portfolio standard
- Recommended approach:
  - Threshold
  - Tier

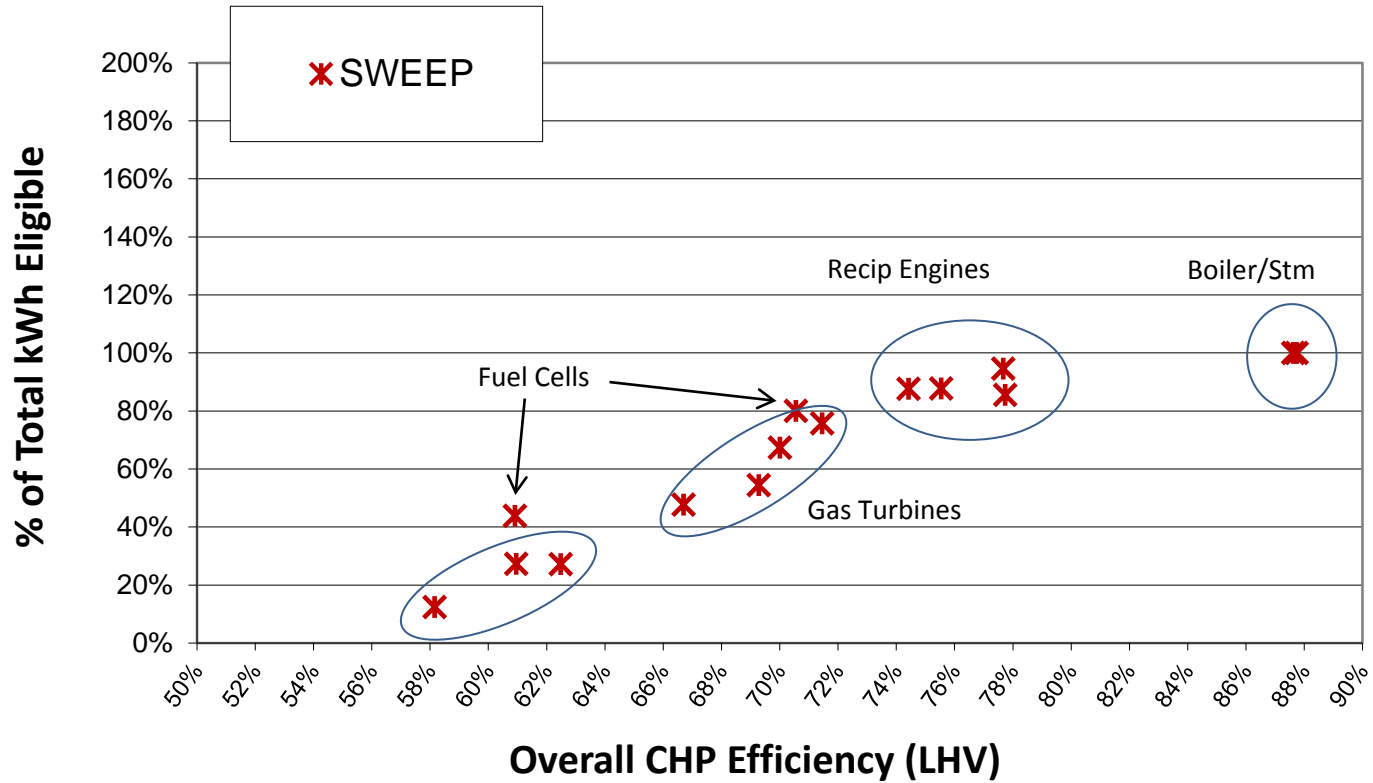
# How should the Commission estimate savings?

- **Threshold: only CHP installations that are projected to exceed 60% efficiency (LHV) will be considered energy efficiency measures (R.C. 4928.66(A)(1)(a))**
- **Tiers that encourage efficient installation and operation of CHP systems that exceed the threshold**

# Qualified Power as Function of Overall CHP Efficiency 100% Thermal Utilization



## Qualified Power as Function of Overall CHP Efficiency 80% Thermal Utilization



# Proposed tiers

Efficiency (% LHV)	Portion of MWh output considered savings
< 60	0%
60-65	60%
65-70	70%
70-77.5	80%
> 77.5	100%

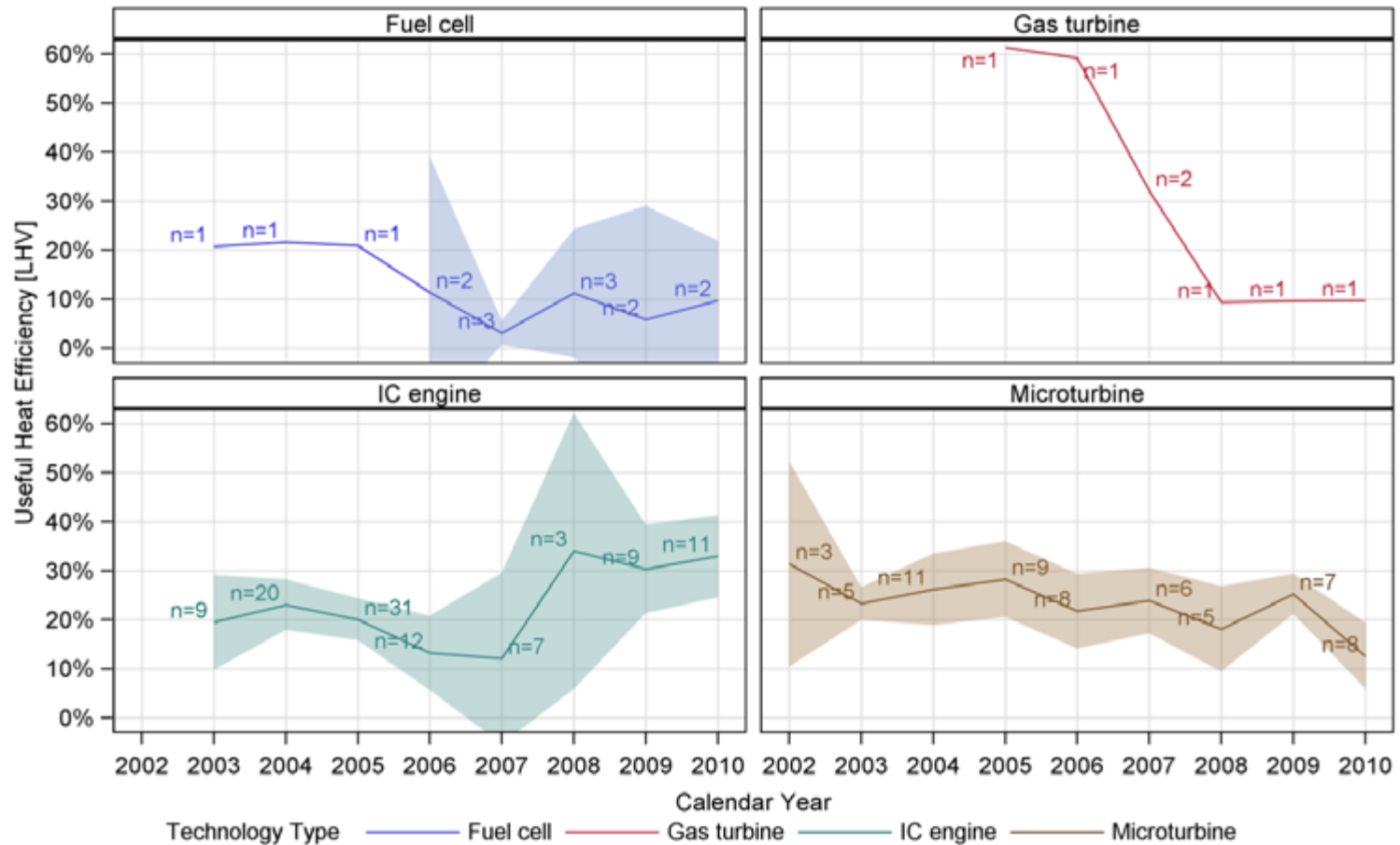
# Why does tier-threshold make sense?

- Does not pick technology winners
- Encourages project developers to design higher-efficiency installations, regardless of the prime mover technology
- Is based on the performance of real CHP systems, of various sizes, configurations and technologies
- Is simple to administer and implement
- Neither under-estimates nor over-estimates savings

# How should developers get paid?

- ... based on *actual performance*, as actual vs. predicted efficiency varies based on operating strategy, maintenance, etc.

# How should developers get paid?





# How should developers get paid?

## Proposal:

- Incentives paid in two installments
  - 60% at system commissioning based on expected efficiency and savings calculated using threshold-tier method
  - 40% one-year post-commissioning based on actual efficiency and savings calculated using threshold-tier method, trued up so that total incentive reflects one-year of actual operation
- Based on MWh savings calculated using threshold-tier method

# How should developers get paid?

## Proposal:

- Incentives should not exceed 50% of project cost (to align with other efficiency measures)
- Incentives initially benchmarked with other commercial/industrial measures

# How should utilities get credit?

**... on the same schedule they pay out incentives, using tier-threshold method**

- 60% in the year of commissioning based on expected performance in first year**
- 40% in commissioning year + 1, trued-up for actual performance in the first year**