

ENERGY

# Utility-sponsored Energy Efficiency Programs for Hospitals and Health Care Facilities

**Jennifer McWilliams**

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# Utility-sponsored Energy Efficiency Programs

*Utilities provide financial incentives for saving energy...*

Rebate Code	Description	Rebate/ Unit Measure
H148	Variable Frequency Drive for HVAC Fan	\$80/hp
H182	Replacement Multiple-Speed Brushless Permanent Magnet Blower	\$50/unit
SA17	Central Natural Gas Furnace 95-96.9% AFUE without VSM	\$150/unit
SA19	Central Natural Gas Furnace ≥ 97% AFUE without VSM	\$250/unit

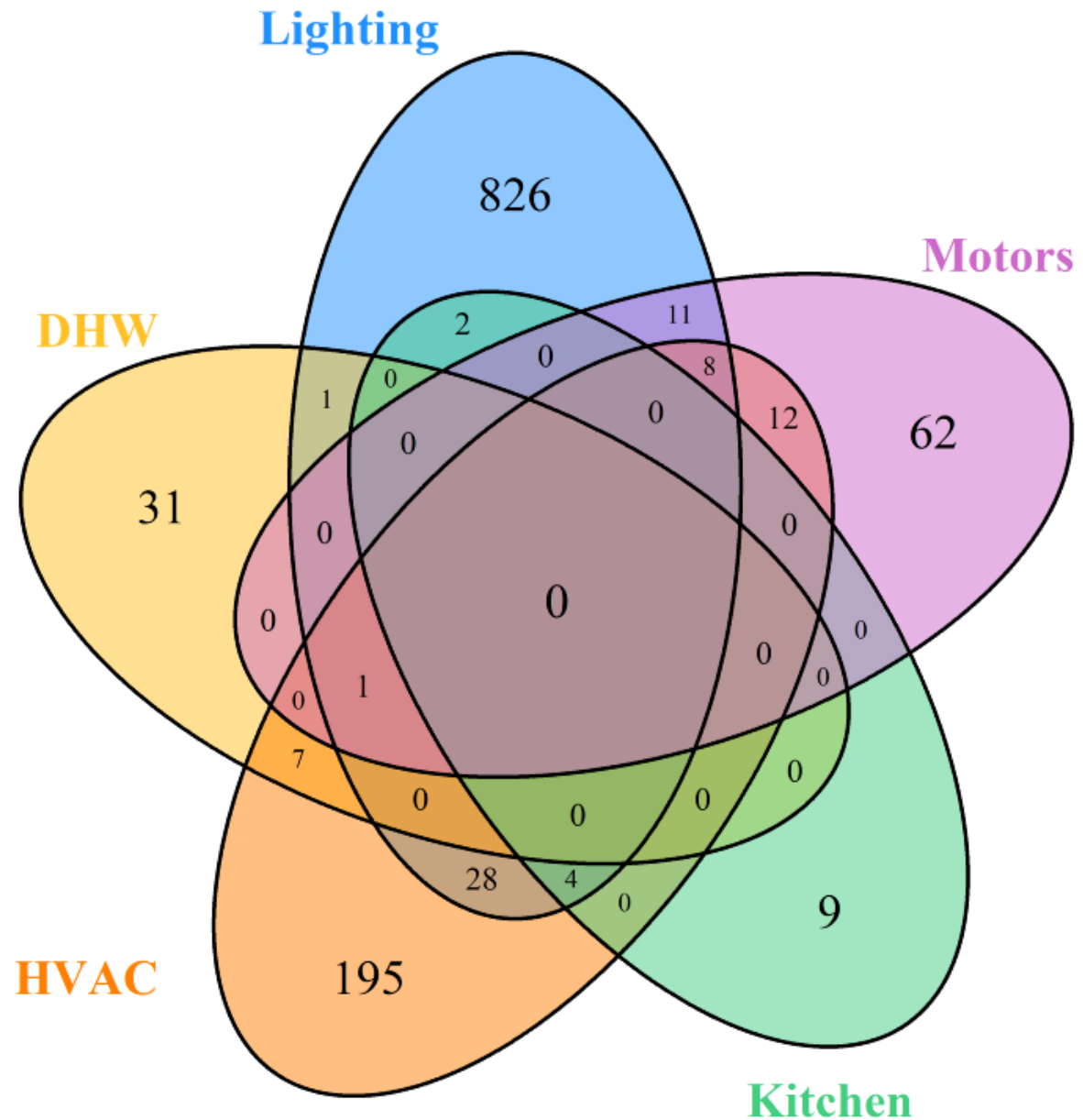
## PG&E Health Care Energy Efficiency Program



Pacific Gas & Electric's **Healthcare Energy Efficiency Program (HEEP)** enables medical facilities to lower energy use and utility costs while increasing operational efficiency, conserving natural resources and reducing air emissions. HEEP offers a combination of financial incentives, energy audits, engineering analysis, implementation oversight, and retro-commissioning assistance to help facility owners and managers upgrade their existing equipment with new, energy-efficient equipment and controls.

## Piecemeal retrofits

In these utility-rebated health care facility projects, 73% of energy efficiency measures were installed alone...



## Stranded Savings

*Energy efficiency measures proposed at a hospital with savings, costs, payback, and return on investment...*

Measure	kWh	Therm	Annual \$ saved	Cost to implement	Payback [years]	ROIC
LED Exit Signs	7,035	-	\$ 1,407	\$ 700	0.5	201%
Lighting Occupancy Sensor Control	18,946	-	\$ 3,789	\$ 3,200	0.8	118%
4-ft T8 Lamp and Ballast	76,215	-	\$ 15,243	\$ 27,488	1.8	55%
High Efficiency Water Heater	-	1,075	\$ 1,612	\$ 3,490	2.2	46%
VFD on HVAC Fan	63,029	-	\$ 12,606	\$ 37,950	3.0	33%
4' Linear LED Lamp	34,000	-	\$ 6,800	\$ 24,000	3.5	28%
Daylighting Controls	3,996	-	\$ 799	\$ 4,050	5.1	20%
High Efficiency Boiler	-	5,945	\$ 8,918	\$ 64,000	7.2	14%
Water-cooled Chiller	12,700	-	\$ 2,540	\$ 21,960	8.6	12%
Web Based Building Automation System	27,850	-	\$ 5,570	\$ 53,250	9.6	10%
	<b>243,770</b>	<b>7,019.6</b>	<b>\$ 59,283</b>	<b>\$ 240,088</b>	<b>4.0</b>	<b>25%</b>

A required 4-year payback leaves 30% of the savings stranded

# Experience - multi-measure "bonus"

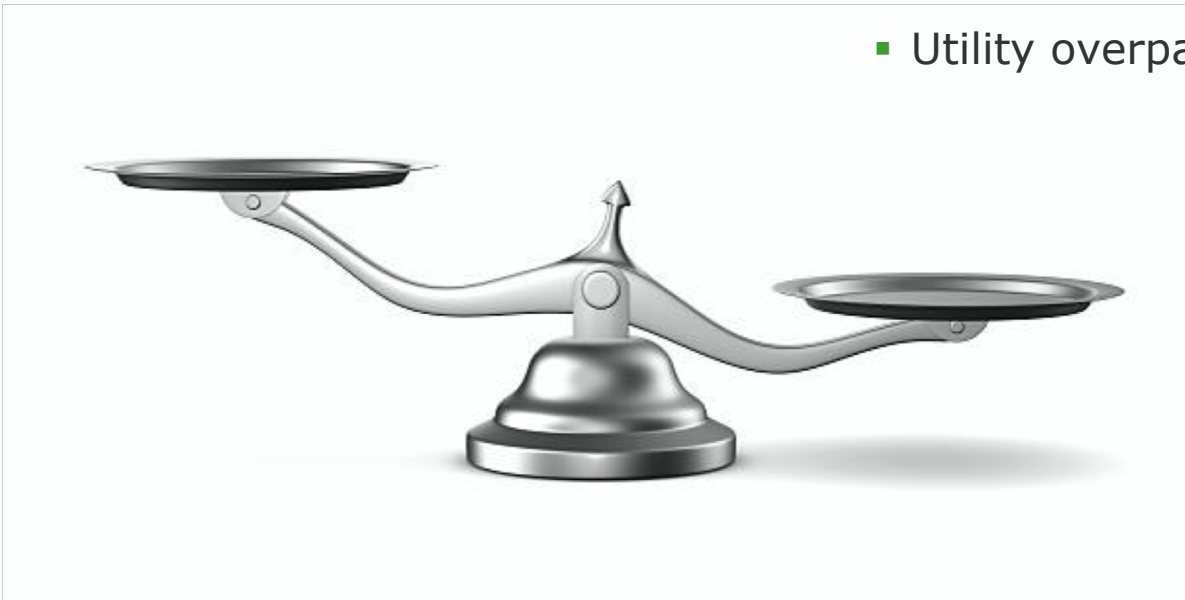
## Advantages

- Diversification
- Early adoption
- Participation



## Difficulties

- Incomplete applications
- Longer timeline
- Coordination
- Bonus "not worth it"
- Forecasting
- Utility overpaid

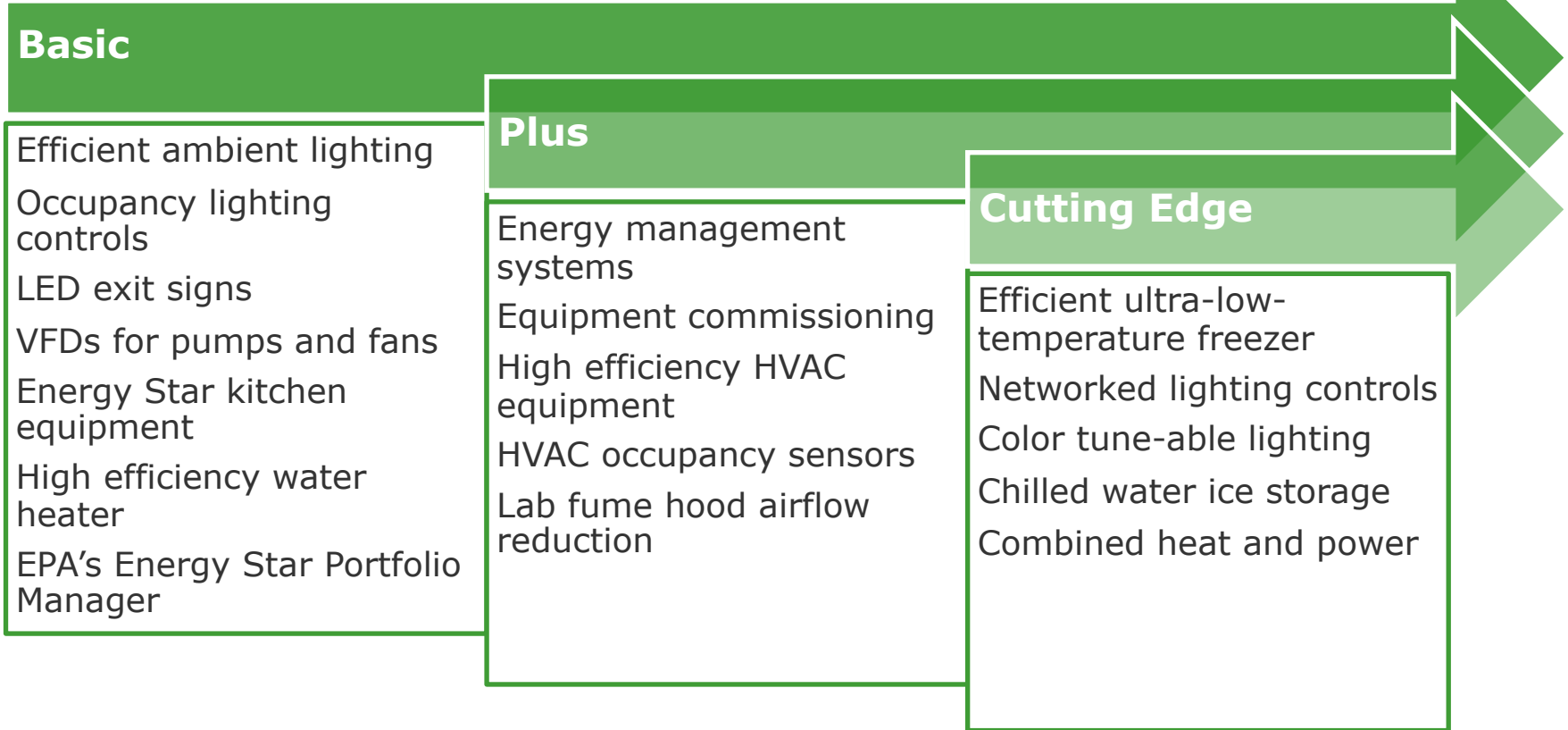


# Measure bundle types

	Markets where the approach works well	Works with the following utility motivations	Associated risks
<b>Basic bundle</b>	Works in untapped niche markets.	Utilities that have a need for a high cost effectiveness will like this concept.	Often called “cream skimming” and can leave plus and cutting edge measure savings stranded if they are not cost-effective on their own.
<b>Plus bundle</b>	Works well in niche markets that have already been tapped.	Utilities who want to continue EE in markets where basic measures are already installed.	Installing this bundle alone leaves cutting edge measure savings stranded, or more expensive to capture later.
<b>Cutting Edge bundle</b>	Works in mature niche markets where basic and plus EE measures have been installed. A good place to showcase non-energy benefits.	Utilities who are willing to spend more and want to promote cutting edge technologies. For those interested in market transformation.	More expensive than the basic and plus bundle programs.

# Basic, Plus, Cutting Edge

*Energy efficiency measure examples tailored to a health care facility...*



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