

# OPALCO 2016 Budget Introduction

23 December 2015

*revised with board input*

# OPALCO Snapshot: *Serving 20 Islands*

## *A healthy and financially stable cooperative*

- Review performance metrics compared to other regional co-ops
- Review emerging trends that will challenge “business as usual”
- Recommend adaptive strategies

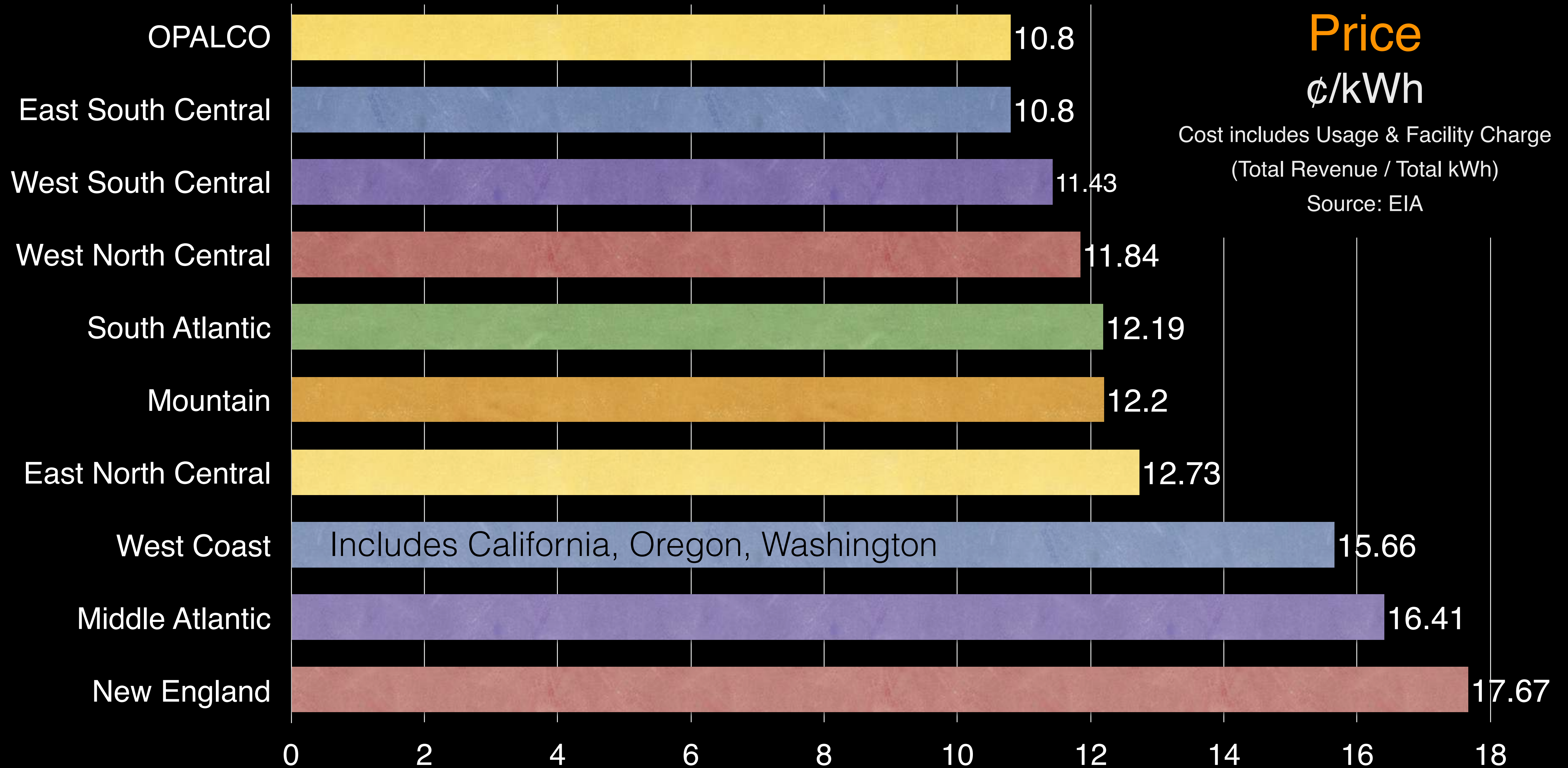
# Performance Metrics

# OPALCO the most complex utility in the nation: Serving 20 Islands

- Some of the lowest cost, cleanest energy in the nation
- 20 islands served
- 14,745 meters connected (representing about 11,131 members)
- 206,560,734 kilowatt hours sold\*
- \$21.2 million in annual sales\*
- \$707,381 paid out to 4,192 members (1988) in capital credits\*
- 1,328 miles of power lines (95% underground) including 43 miles of overhead transmission lines\*
- 51 employees: member owner-operators
- 15 distribution submarine cables, covering 14 miles
- 11 transmission submarine cables, covering 15 miles
- 11 substations
- 7 OPALCO board members, elected by co-op members
- 231 members attended 2013 Annual Meeting on the ferry; 2,480 ballots cast for the board election
- 4 warehouses
- 3 crew stations
- 2 public-access offices
- 1 healthy and financially stable cooperative

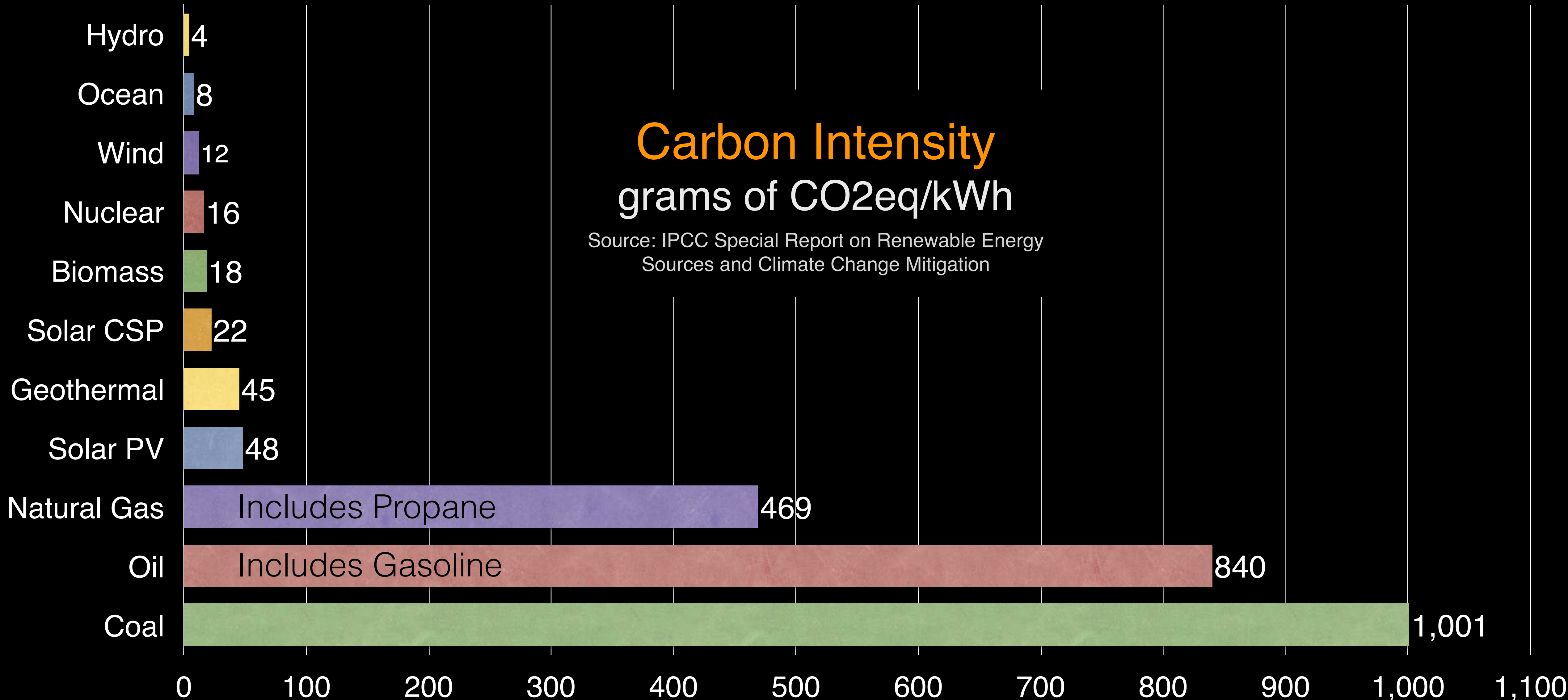
Note: \*2013

# Cleanest Lowest Cost Electricity In US





# Cleanest Lowest Cost Electricity In US



*OPALCO's 20 island service area and infrastructure is the most complicated in the nation.*

*Unlike the mainland, much of the electricity transmission and distribution is via very expensive submarine cables - over 30 miles, costing from \$1,000,000 to \$5,600,000 per mile.*

*Lopez - San Juan submarine 2017 replacement cable is estimated to cost at least \$15,000,000 for just under 3 miles of cable.*



# Submarine **Transmission** Cables

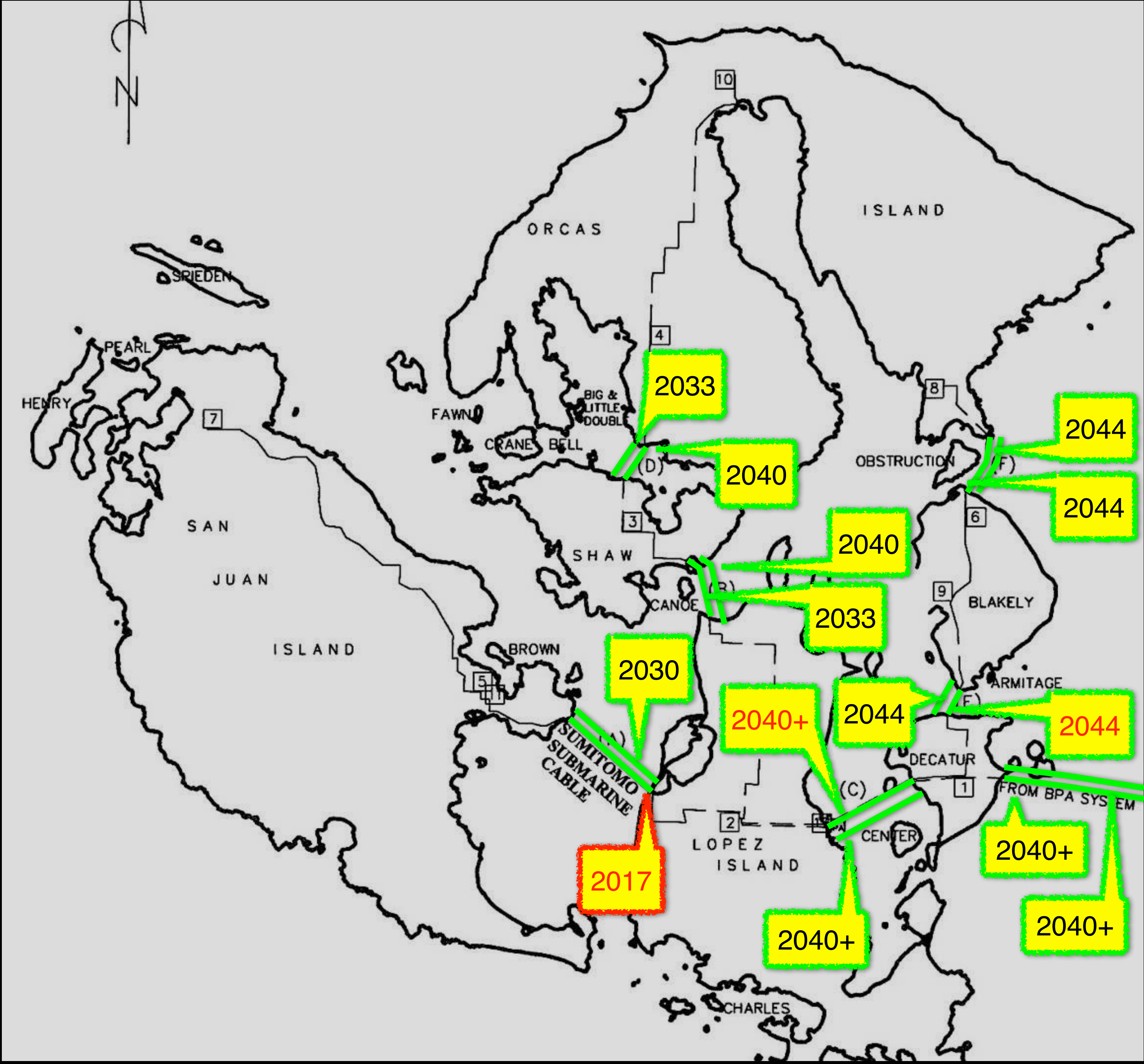
**date** Budgeted Start Date

**date** End of Life

## Notes

- Decatur-Blakely cable
  - Deferred from 2018 to 2044
  - Due to upgraded feeder through Moran State Park
- Lopez-Decatur cable
  - Currently rented from BPA
  - Unneeded due to upcoming 69KV tap
- Based on 40 year life of cable
  - Subject to ROV inspection after 20 years of life
  - Installing cathodic protection to extend life additional 10 to 20 years for less than 10% of cost

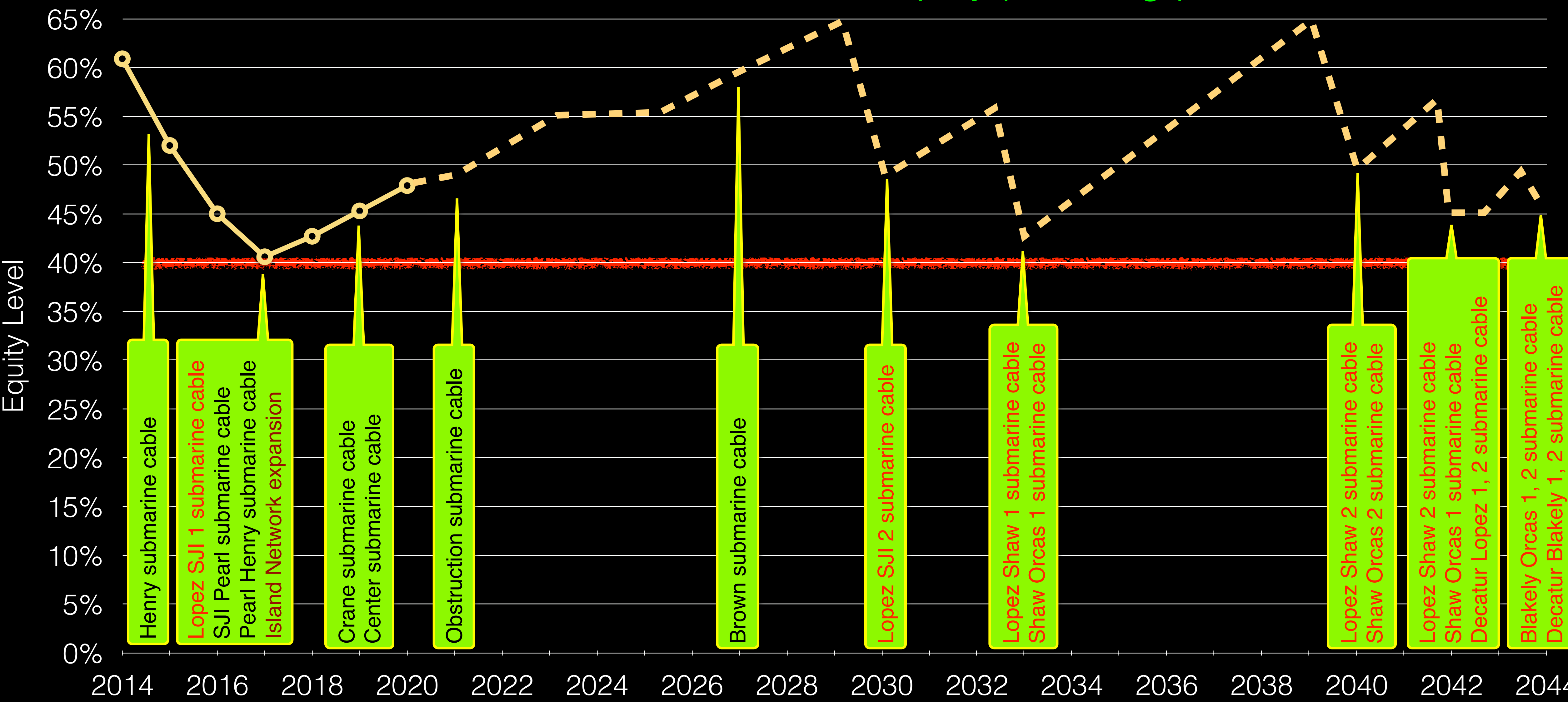
Per board directive, transmission submarine crossings shall be redundant





# Submarine Cable Projects: Managing Equity Level

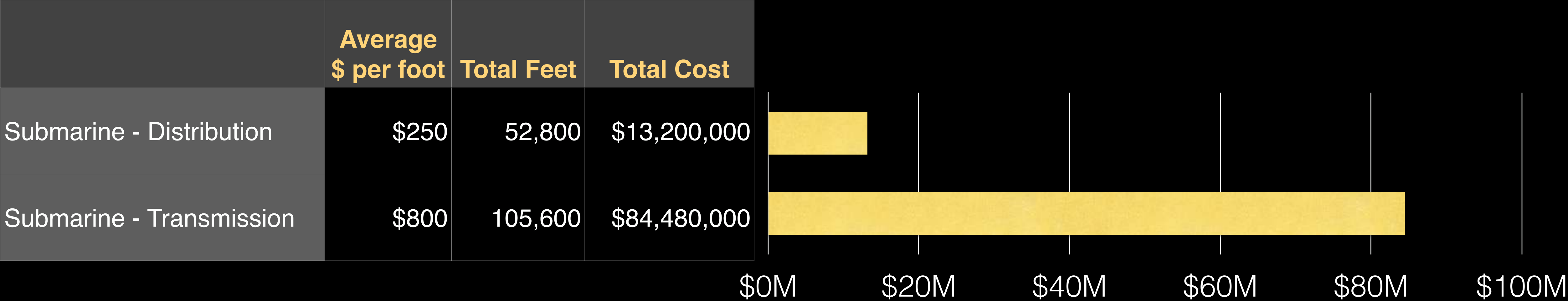
Note: Schematic to illustrate equity planning process



# Rule of Thumb

## Plant Transmission Cable Replacement Cost

(Current total net plant valued at \$50 million)



Lopez - San Juan submarine 2017 replacement cable is estimated to cost at least \$15,000,000 for just under 3 miles of cable.

Despite our complex 20 Island environment the  
OPALCO team outperforms our mainland  
counterparts by working smarter and

**Doing More With Less**

*OPALCO's 20 island service area and infrastructure is the most complicated in the nation.*

*To track how we are doing, we review annual comparable performance statistics (Key Ratio Trend Analysis), which supports our prudent use of resources.*

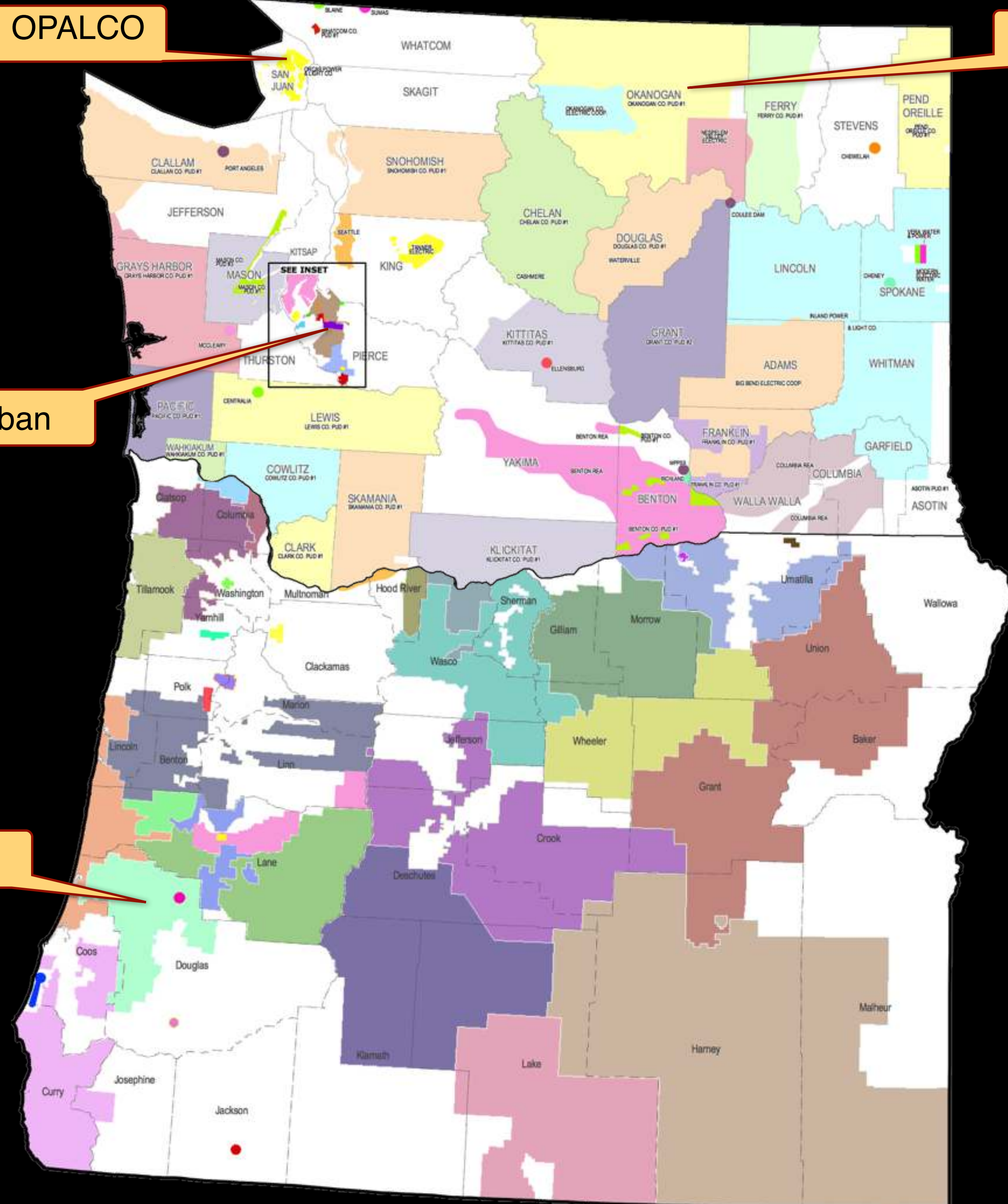


OPALCO

Seasonal

Urban

Rural

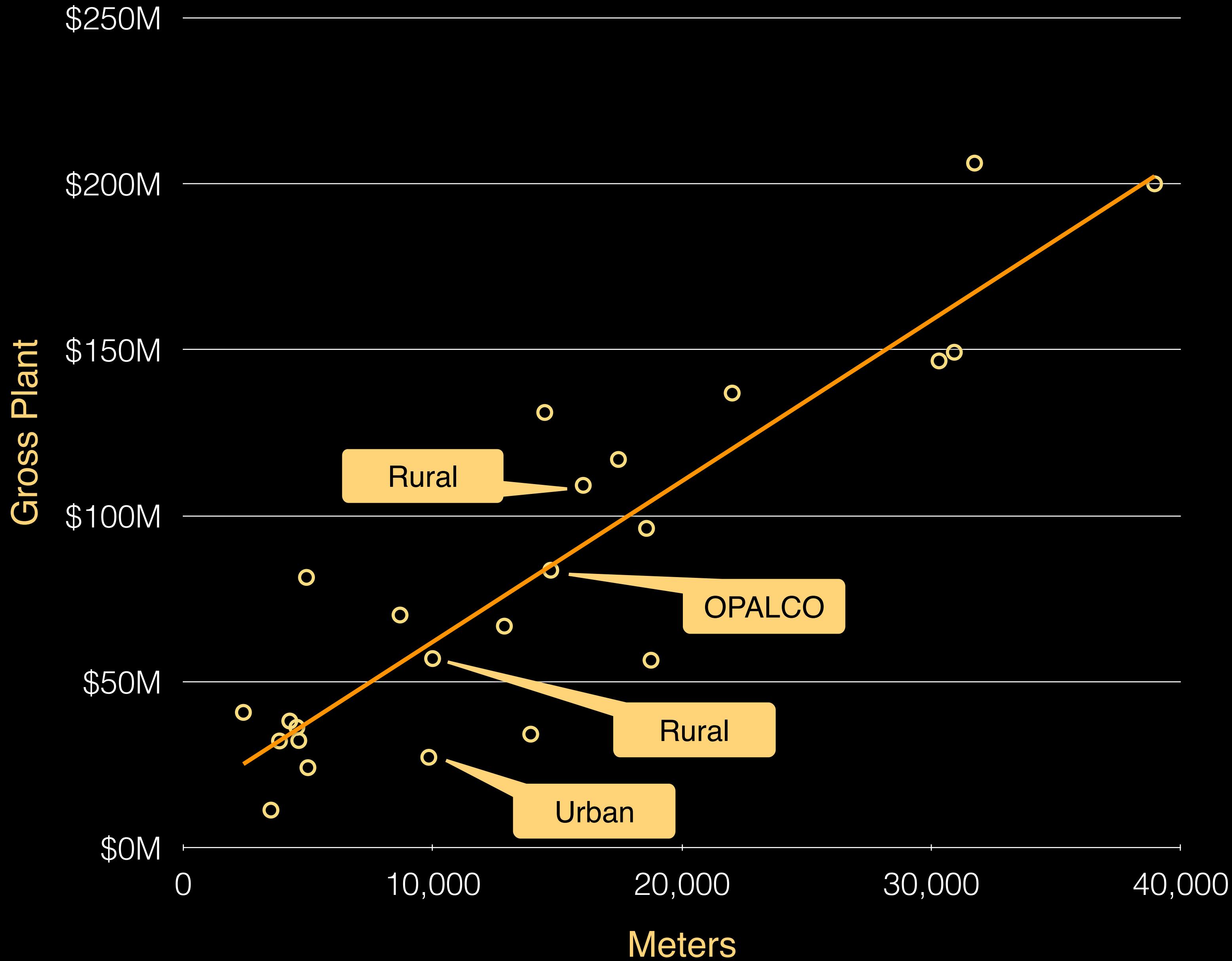


Co-Op	State	Meters	Gross Plant	Revenue
Harney Electric Co-op	OR	2,413	40,784,551	11,360,640
Okanogan	WA	3,517	11,356,250	4,878,680
Columbia Basin Electric Co-op	OR	3,860	32,179,650	7,687,785
West Oregon Electric Co-op	OR	4,273	38,181,664	8,971,521
Tanner	WA	4,558	36,288,323	9,275,330
Wasco Electric Co-op	OR	4,633	32,306,084	9,977,253
Columbia	WA	4,942	81,436,054	20,991,250
Blachy-Lane Electric Cooperative	OR	5,000	24,139,628	11,517,863
Big Bend	WA	8,694	70,102,236	27,526,577
Lakeview	WA	9,848	27,264,950	20,716,498
Douglas Electric Co-op	OR	10,000	56,989,726	13,651,722
Lane Electric Cooperative	OR	12,878	66,755,182	21,514,334
Elmhurst	WA	13,935	34,226,787	14,558,913
Umatilla Electric Co-op	OR	14,497	131,101,784	54,662,143
<b>OPALCO</b>	WA	<b>14,738</b>	<b>83,593,001</b>	<b>20,987,011</b>
Benton	WA	16,041	109,158,098	37,875,726
Coos-Curry Electric Co-op	OR	17,452	116,955,019	30,974,262
Midstate Electric Co-op	OR	18,578	96,194,065	27,083,144
Salem Electric	OR	18,759	56,493,242	24,654,247
Consumers Power, Inc.	OR	22,014	136,937,382	32,926,511
Oregon Trail Electric Consumers Co-op	OR	30,309	146,627,833	46,589,603
Peninsula Light Co	WA	30,921	149,236,086	49,139,008
Central Electric Co-op	OR	31,733	206,192,112	49,355,300
Inland Power and Light Co	WA	38,951	199,954,999	60,654,566

Notes  
 Source: 2012 IRS Form 990 tax filings  
 Area: Square miles of land



# Regional Co-Op Comparison: Meters & Gross Plant

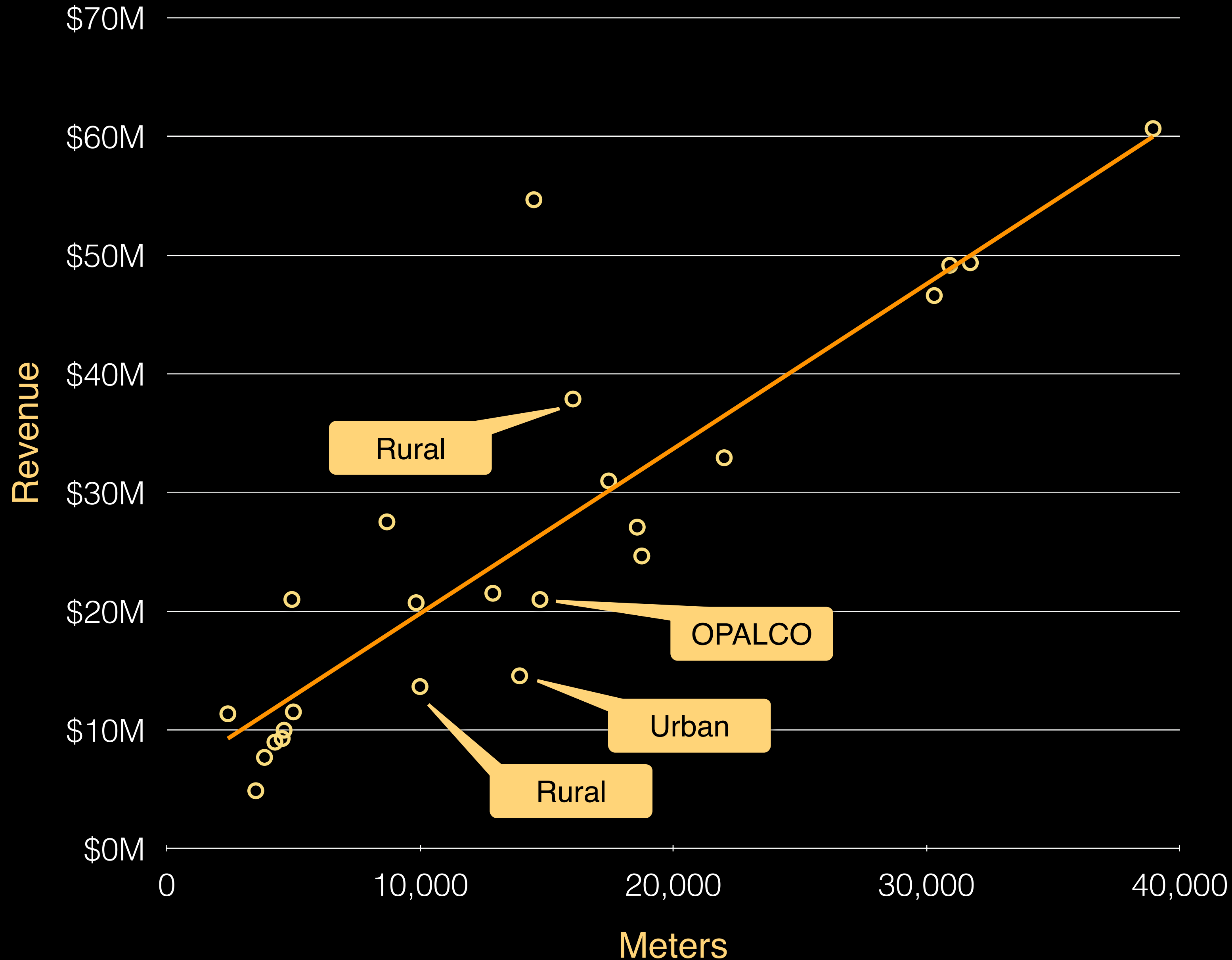


## Notes

Serving 20 Islands with multi-island substations and distributed aerial, buried and submarine infrastructure is much more expensive than mainland counterparts

- Yet, OPALCO plant expense is inline with mainland counterpart

# Regional Co-Op Comparison: Meters & Revenue

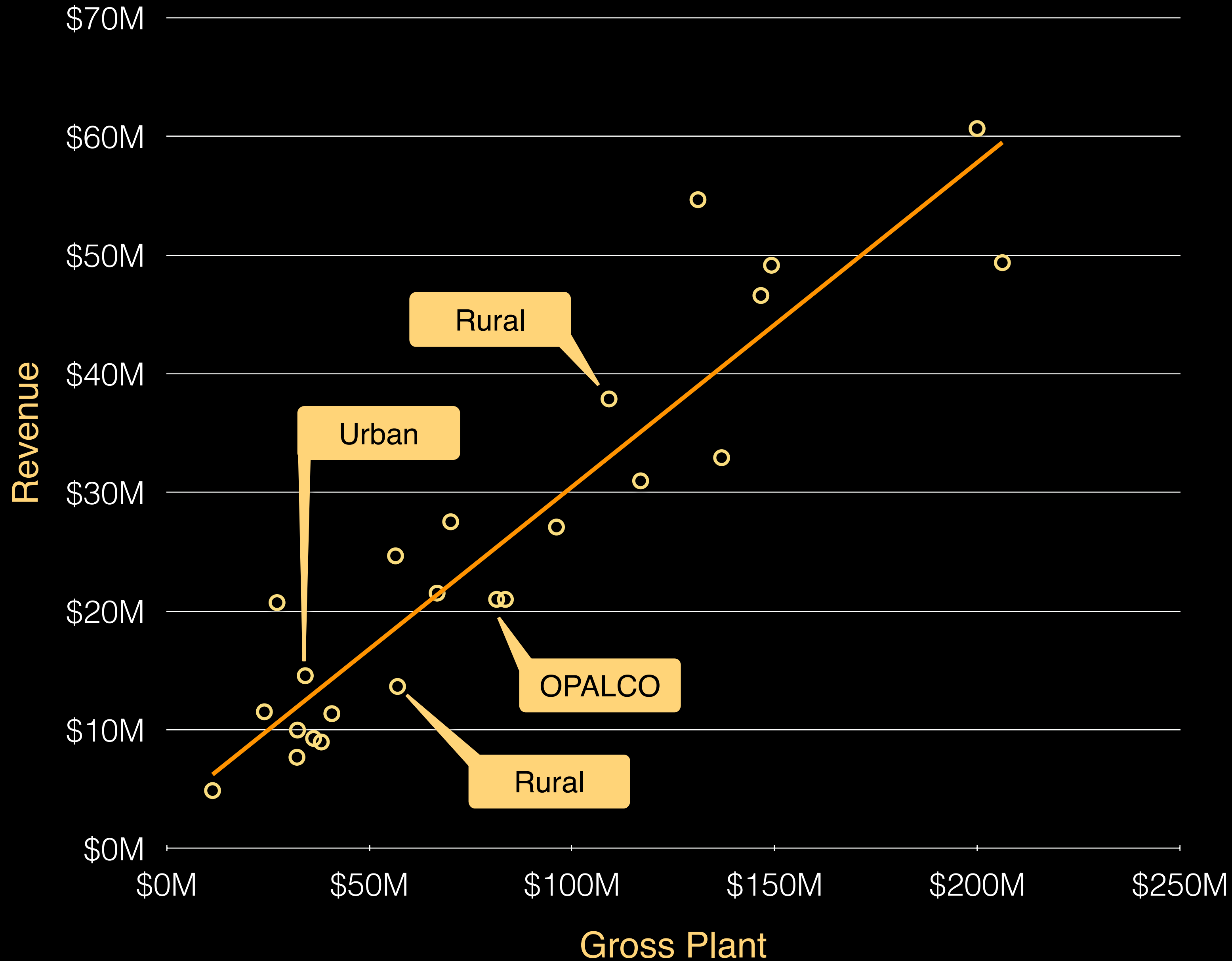


## Notes

Despite the challenges and costs of delivering electricity to 20 Islands

- OPALCO revenue and member charges are below our mainland counterparts
- OPALCO members receive more value for their services

# Regional Co-Op Comparison: Gross Plant & Revenue



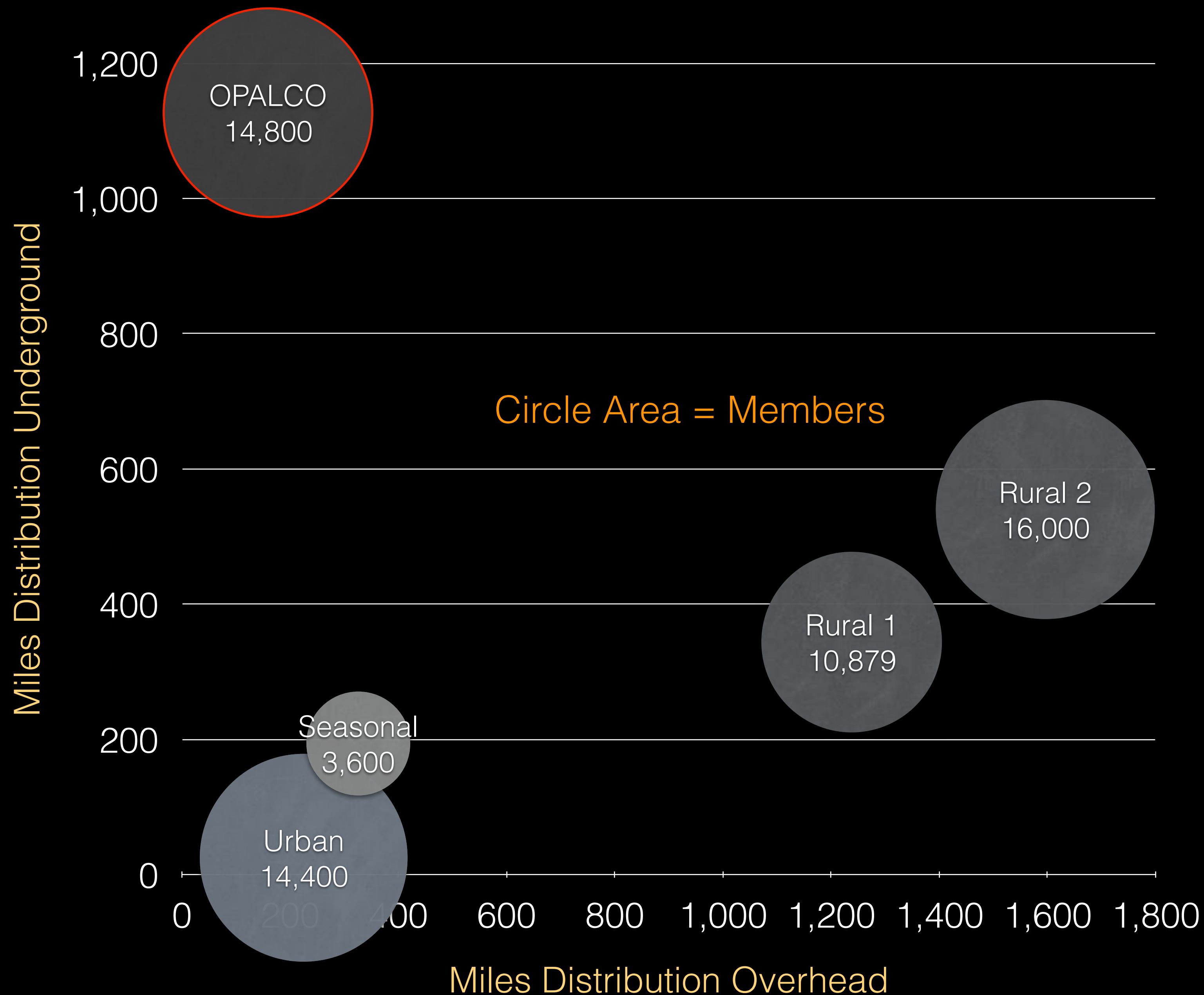
## Notes

Despite the challenges and costs of delivering electricity to 20 Islands

- OPALCO revenue and member charges are below our mainland counterparts
- OPALCO members receive more value for their services



# Distribution: Overhead versus Underground

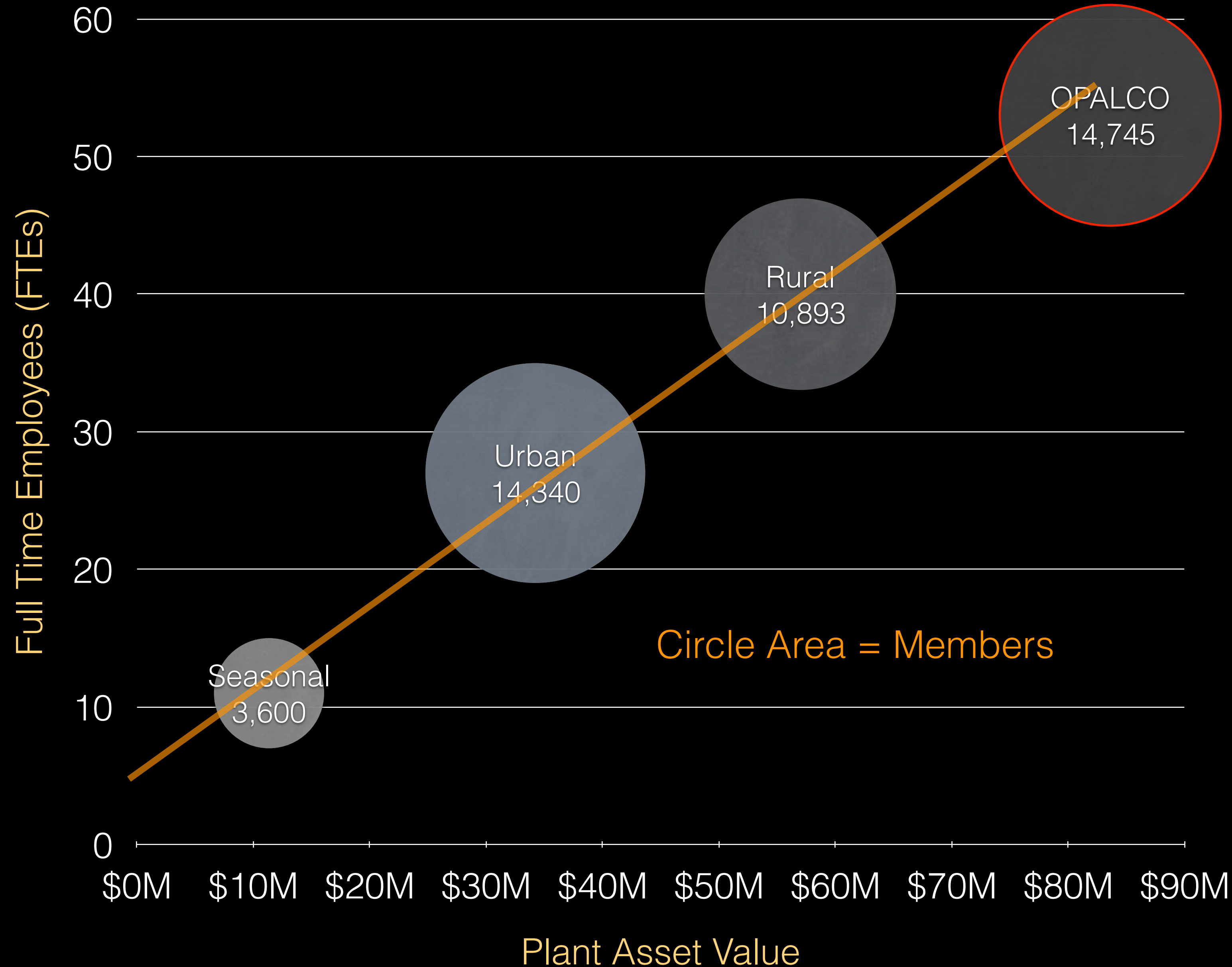


## Notes

Serving 20 Islands with storm-hardened infrastructure requires very expensive buried distribution cable for comparable reliability

- "Rural 1" service area 200 times larger than OPALCO
- "Seasonal" territory size similar to OPALCO, with concentrated neighborhoods rather than our scattered rural population

# Distribution: FTE and Plant Cost

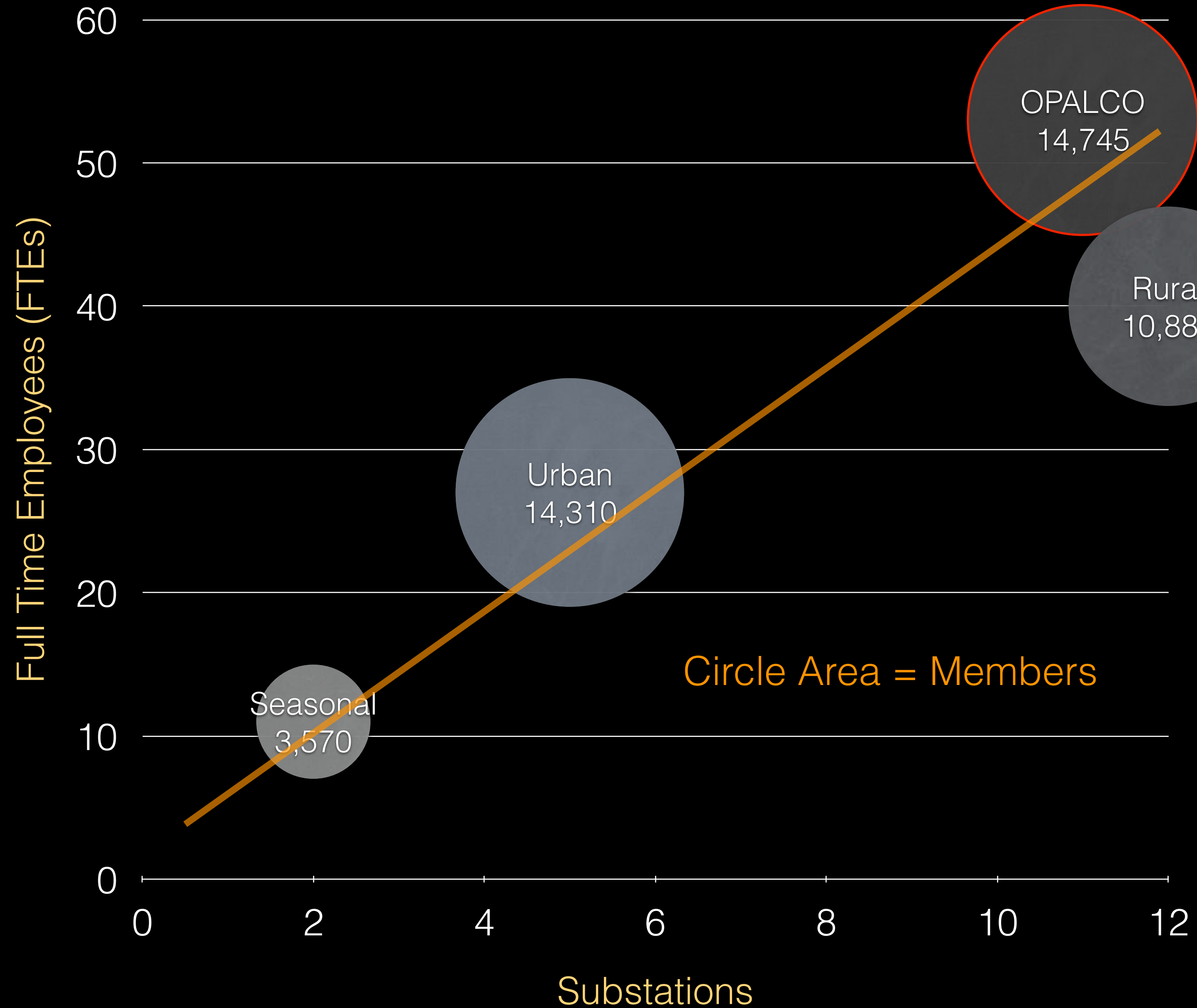


## Notes

Our 20 island distributed infrastructure is much more complex to manage and maintain

- Yet OPALCO FTE's are in-line or below mainland co-ops

# Distribution: FTE and Substations

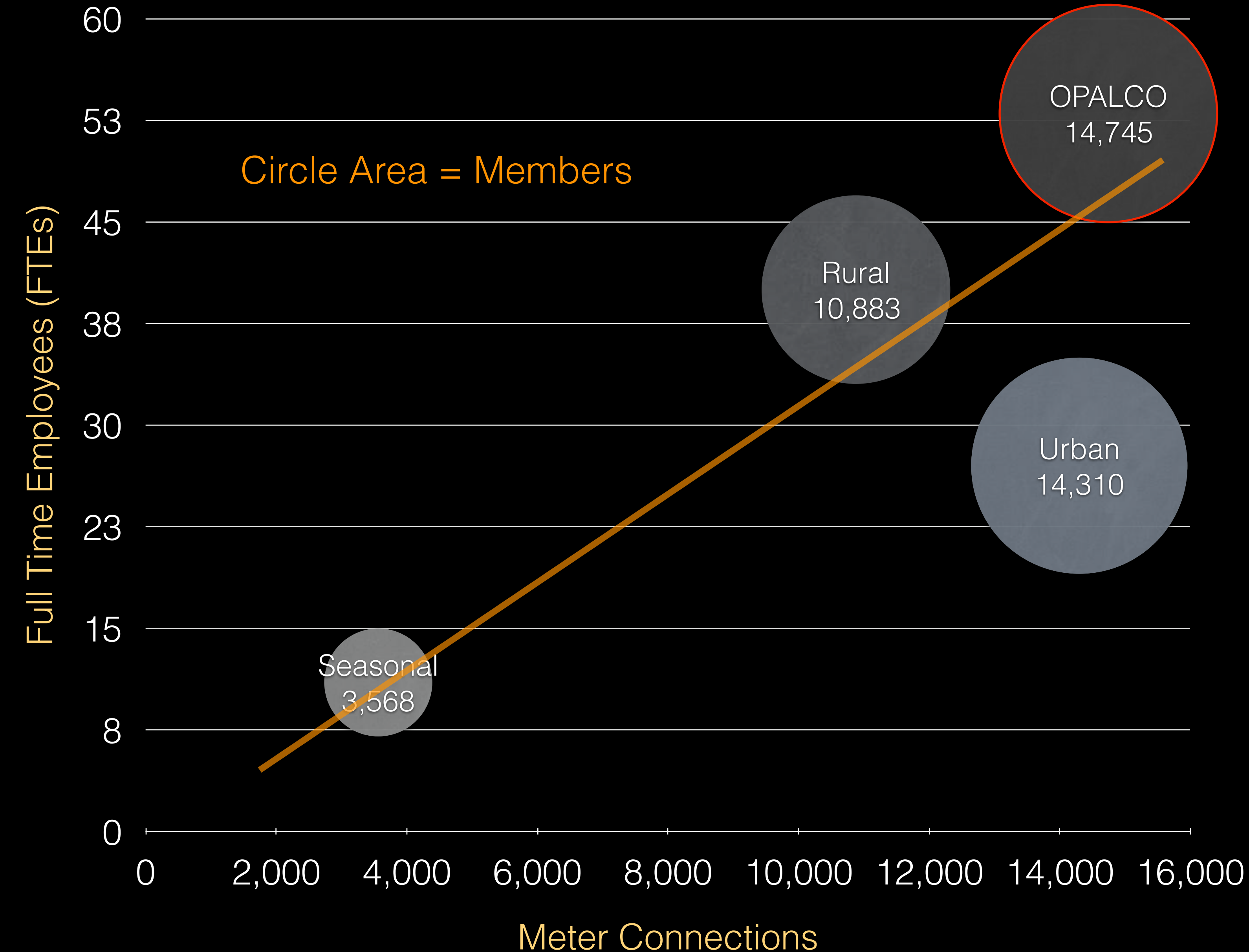


## Notes

Serving 20 Islands's with distributed infrastructure requires more substations to manage

- Yet OPALCO FTE's are in-line with mainland co-ops

# Distribution: FTE and Members



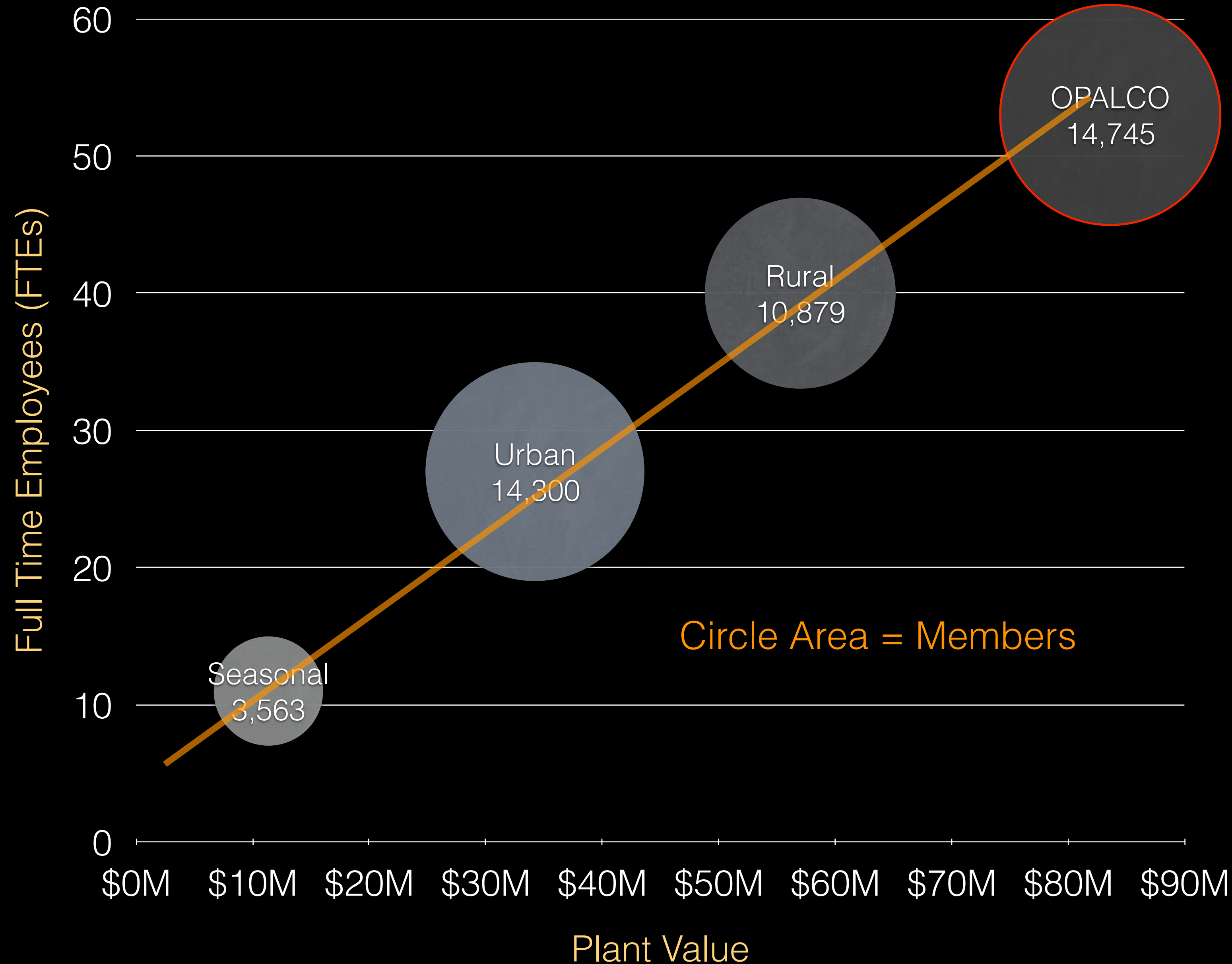
## Notes

Our 20 island distributed membership requires more functional overlap to handle member needs in a timely way

- Yet OPALCO FTE's are in-line with mainland co-ops



# Distribution: FTE and Plant

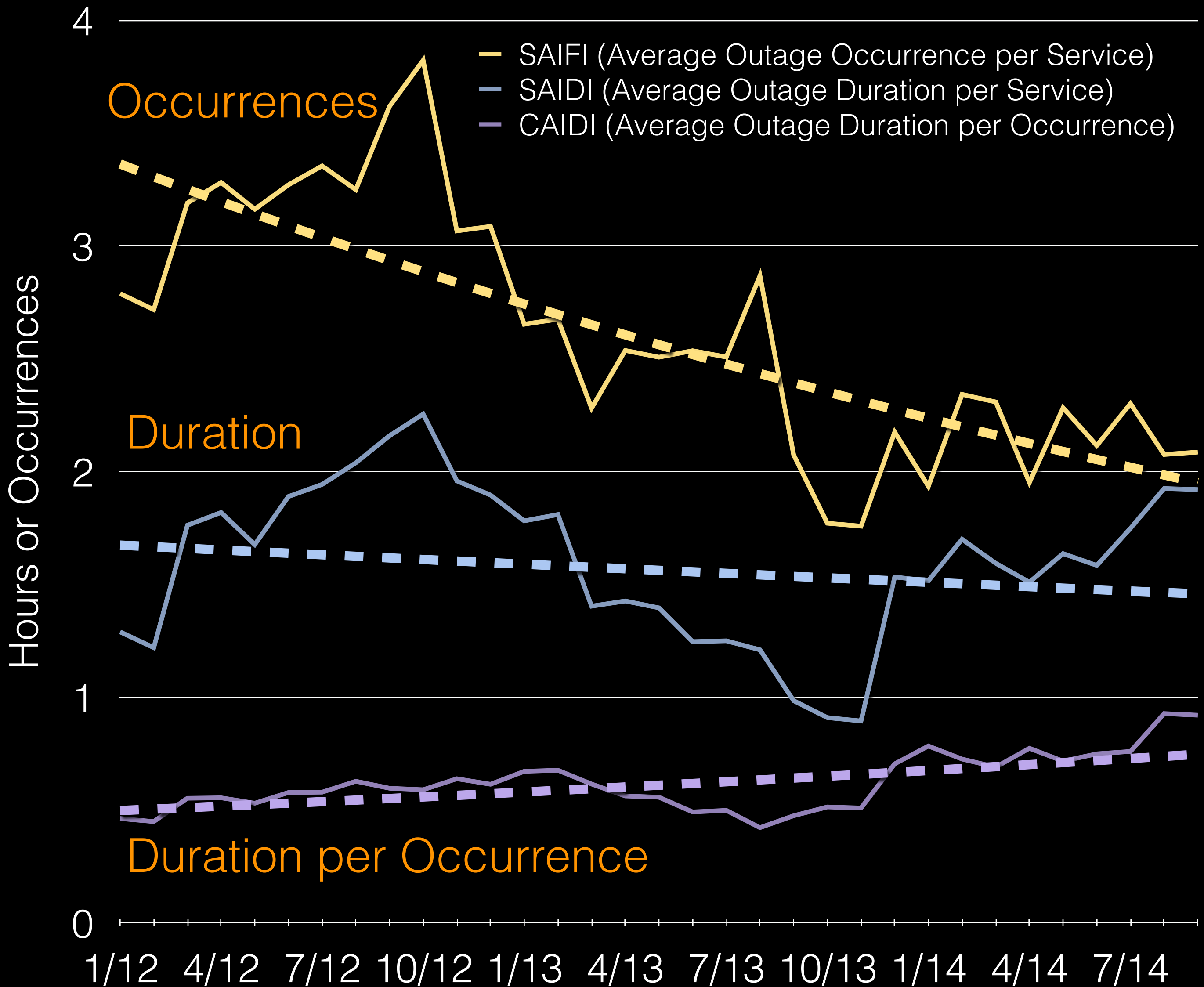


## Notes

Serving 20 Island's distributed isolated geographic area requires much more complex and expensive plant

- Yet OPALCO manages that plant with less employees than the mainland

# Steadily Improving Reliability



- **Under-Grounding Program Improves Grid Reliability**

- 70+% reduction of outage occurrences
- 20+% reduction of outage duration per service

- **When an outage occurs**

- 30+% increase of outage duration per occurrence
- Because underground failures are more difficult to repair than above ground

- **Comparables: SAIFI**

- OPALCO: 2.1 occurrences
- ✓ NRECA: 1.3
- CA: 2.1

- **Comparables: SAIDI**

- ✓ OPALCO: 1.6 hours
- NRECA: 2.1
- CA: 2.4

- **Comparables: CAIDI**

- ✓ OPALCO: 0.6 hours per occurrence
- NRECA: 1.6
- CA: 1.1

*Despite OPALCO's complex operations and infrastructure, our costs, staffing, reliability, and rates are in-line with or out perform our mainland counterparts.*

*But there are some emerging trends that will challenge us.*

# Emerging Trends



# Revenue Challenges

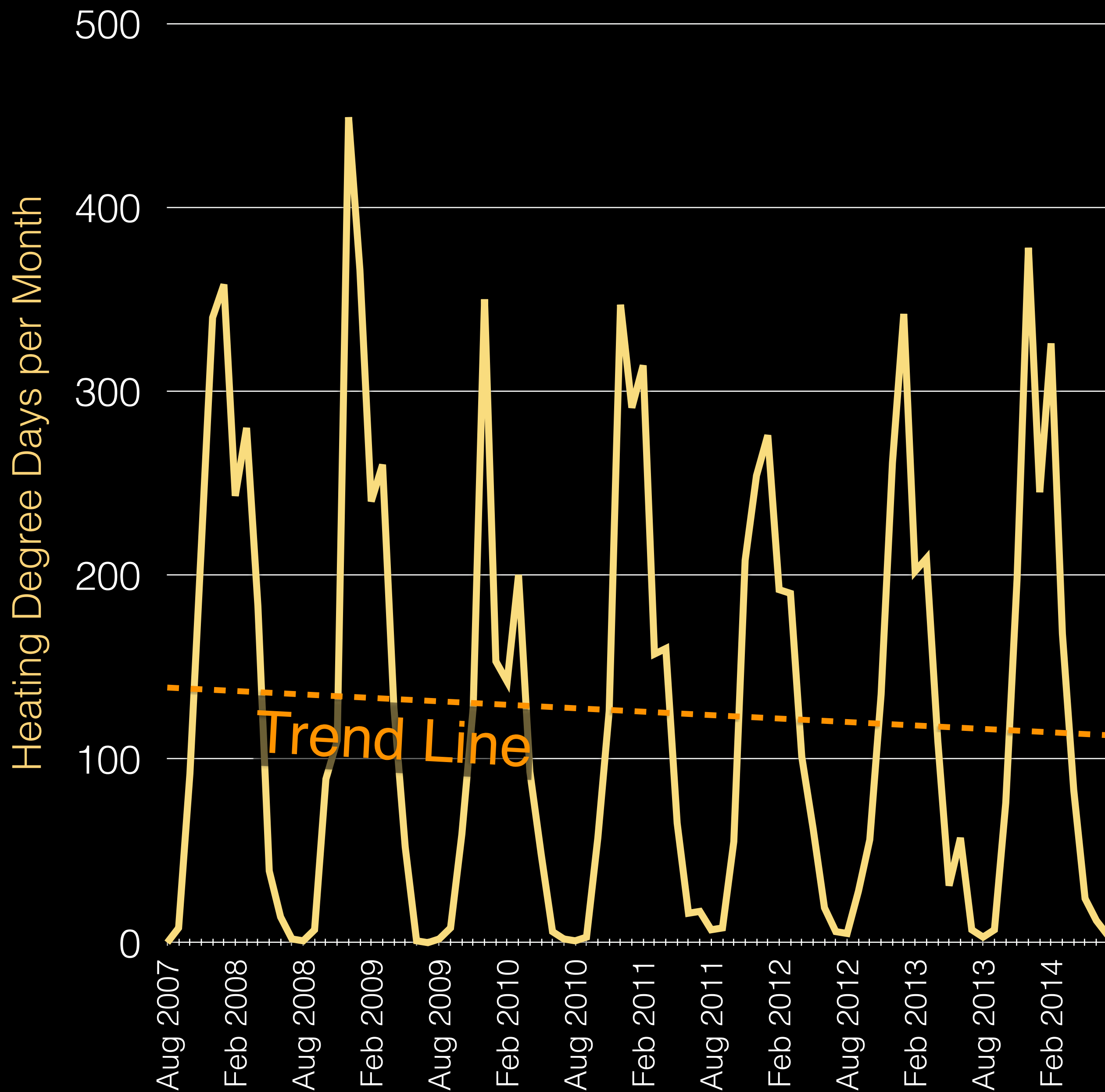
*“Temperature over land and ocean surfaces for October 2014 was the highest on record for the month since record keeping began in 1880.”*

National Oceanic and Atmospheric Administration (NOAA)

*“Seattle is already on pace to make it  
the warmest year on record.”*

KOMO News, 2014

# Climate: Changed



## Trend

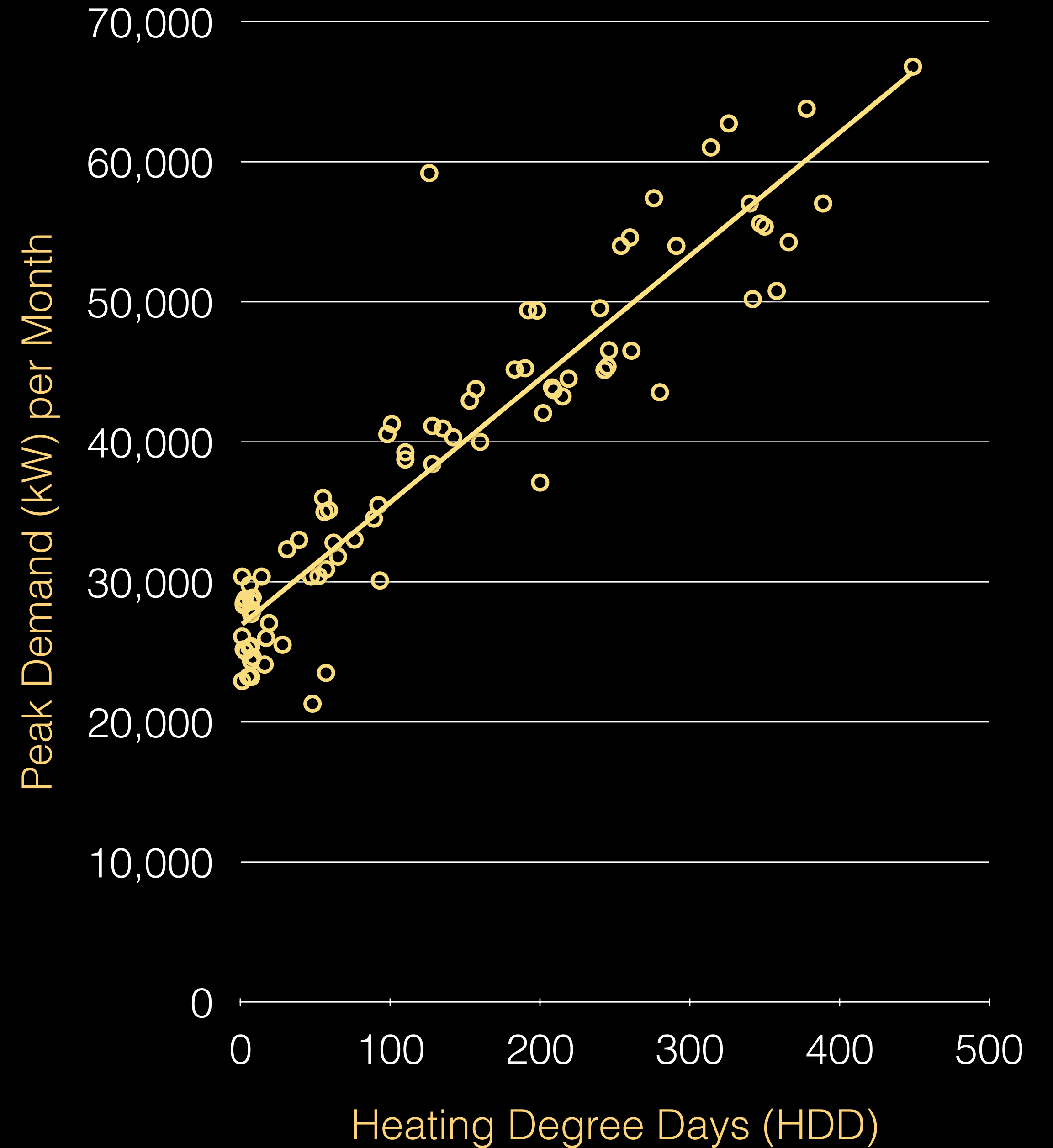
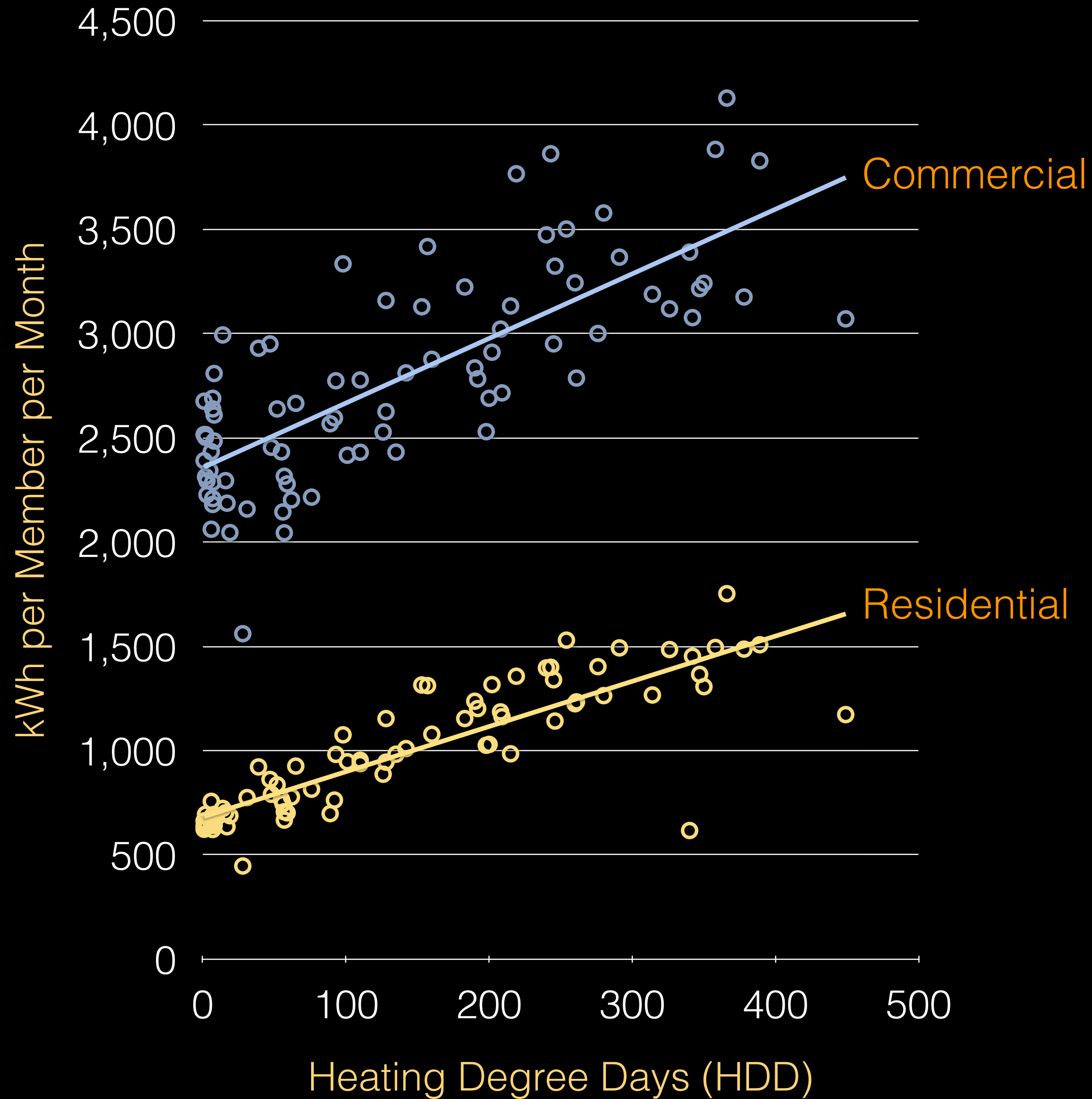
- **Heating Degree Days**  
Down 19% in 7 years  
Winters have been warming
- **Near Term**  
El Niño: 65% chance onset  
this winter
- **Long Term**  
Climate Change: Persistent  
regional warming



*Most homes and businesses in San Juan County heat with electricity. It is the cleanest, lowest cost form of energy.*

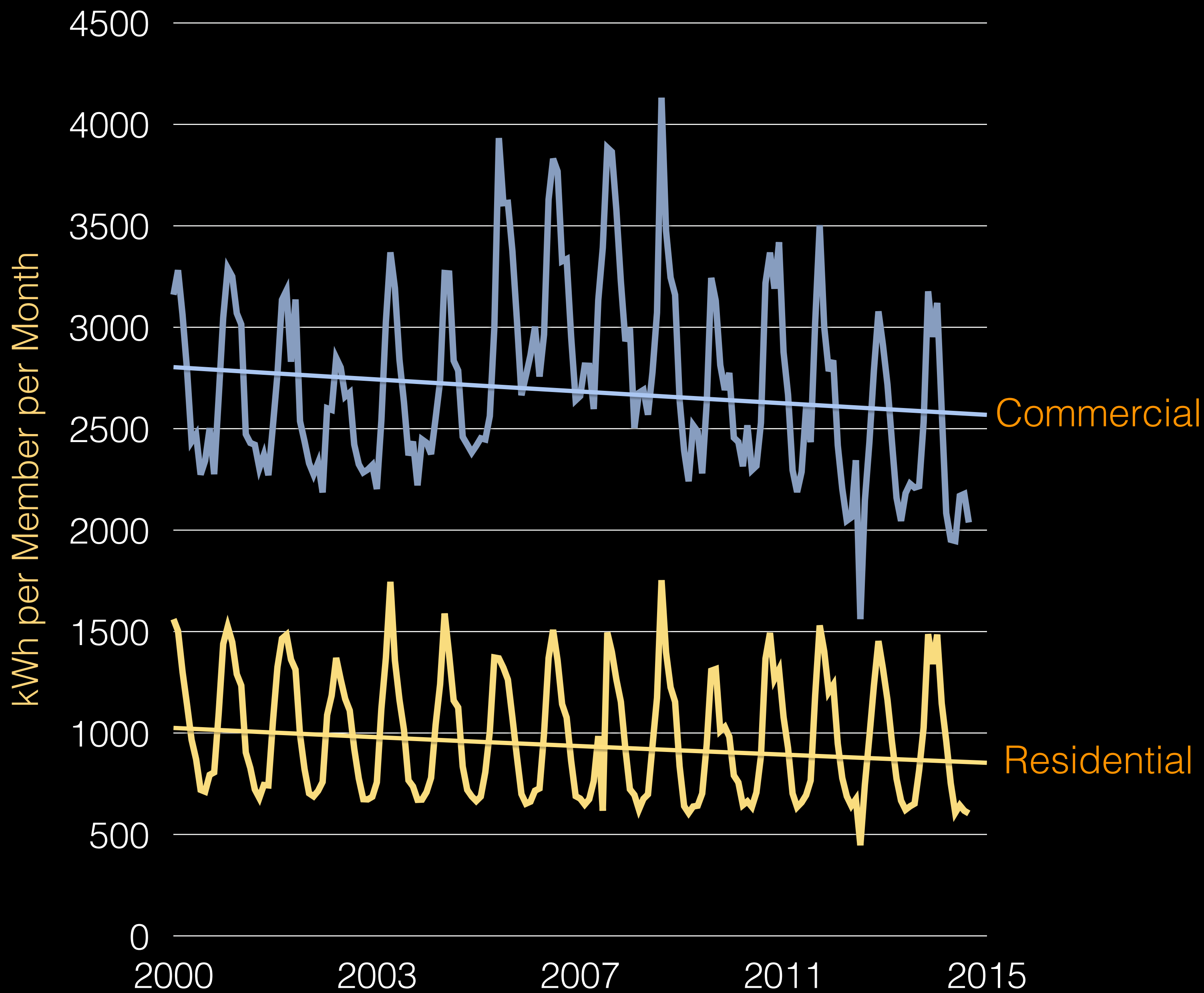
*So when temperatures are warmer, there is a dramatic reduction in the demand for electricity.*

# Energy Consumption versus Weather



*Between warming weather and OPALCO's successful energy efficiency programs, home and business energy use has fallen steadily.*

# Energy Consumption Trend



## Trend

- **Residential**  
Slow steady decline
- **Commercial**  
More dramatic decline since recession and major Energy Efficiency program successes
- **Drivers**  
Energy Efficiency programs + warming world



*Because most of OPALCO's revenue comes from usage - with declining usage, revenue is unable to support operation and maintenance of OPALCO infrastructure.*

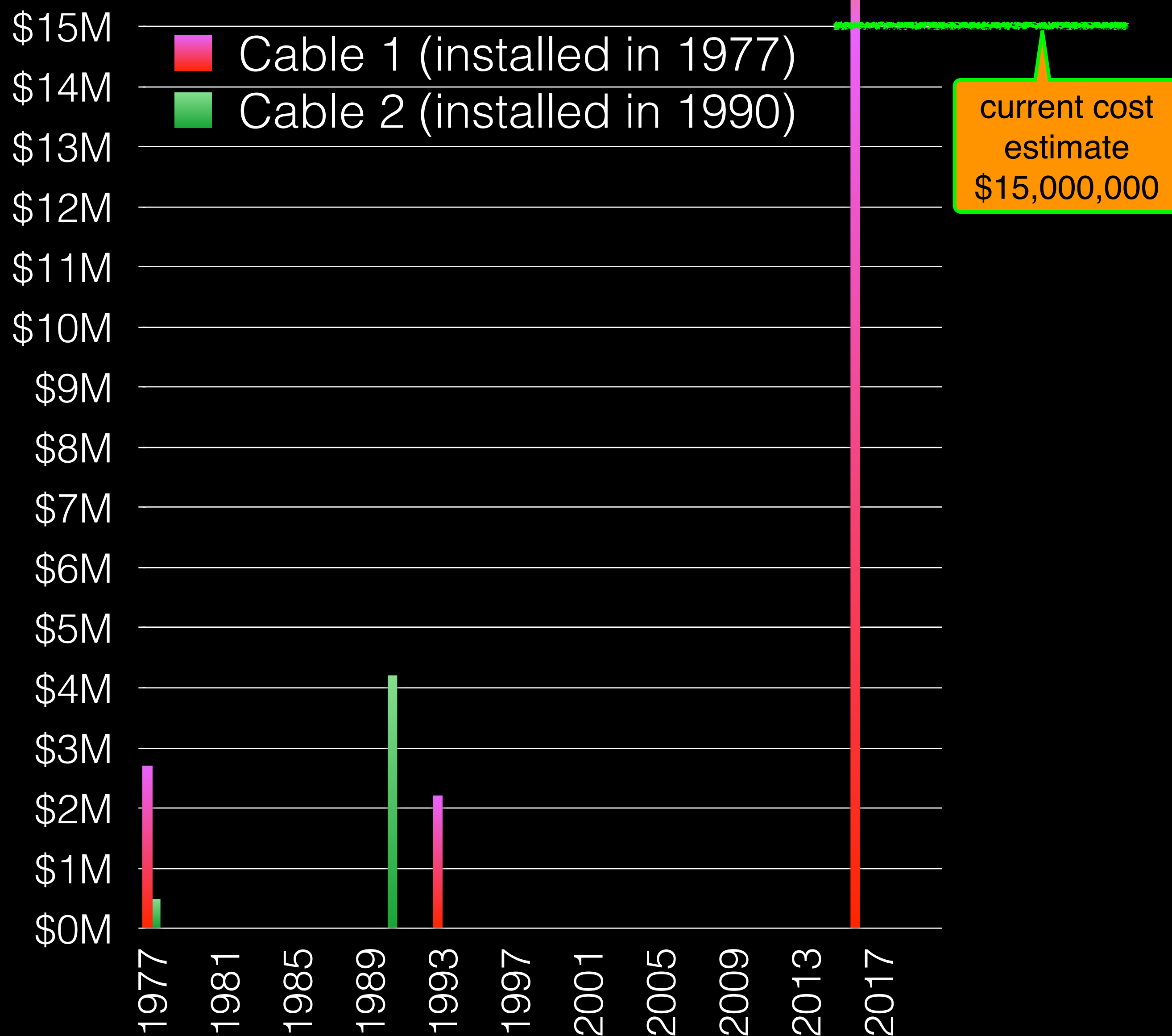
*During our Cost of Service Analysis, it was determined that about 75% of the cost of electricity come from fixed charges like cables, substations, etc. And yet, our facility charge, which theoretically should represent the fixed costs, bills for less than half of that.*

# Fixed Expense Challenges

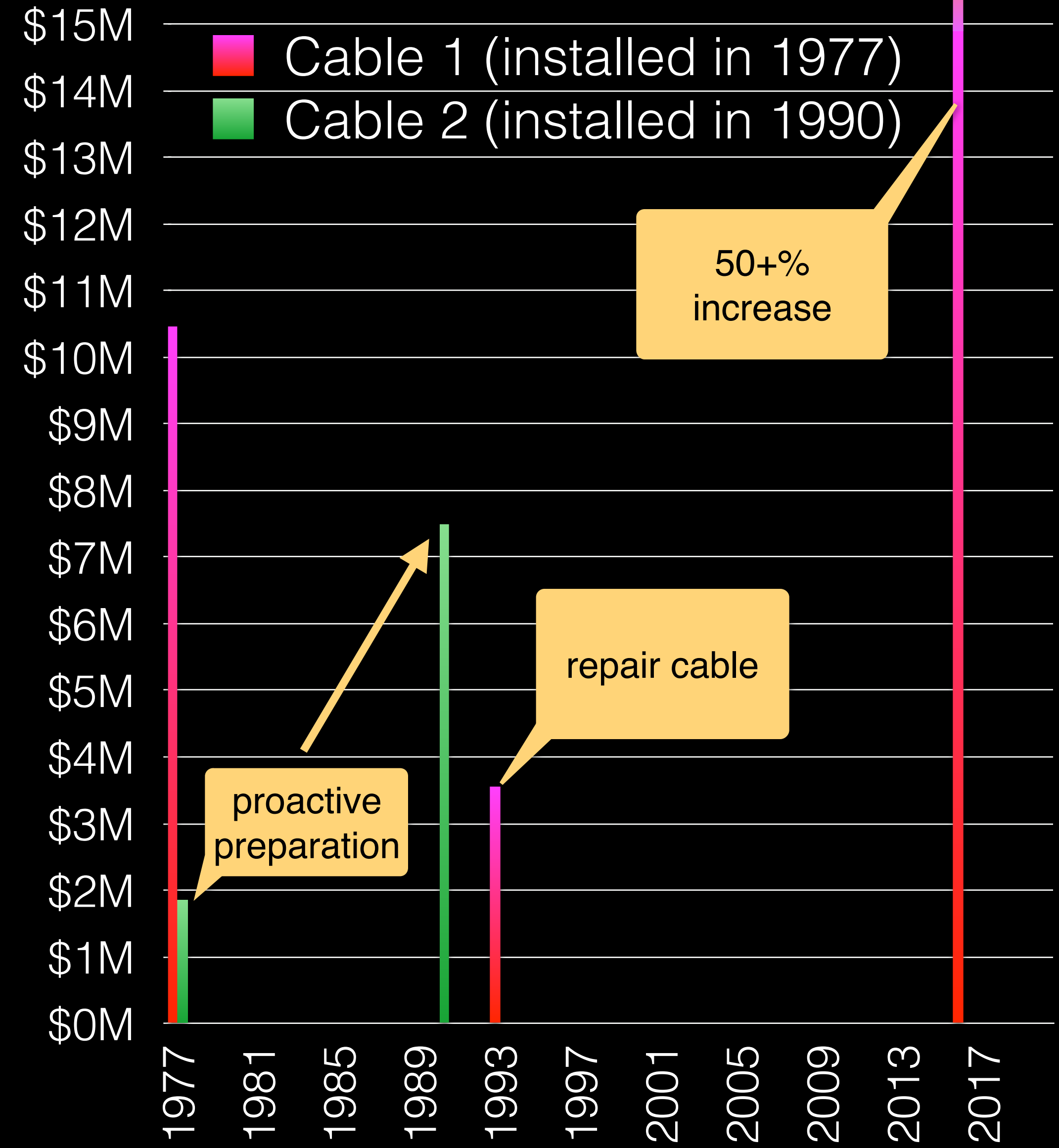
*OPALCO costs are rising dramatically due to very expensive submarine cable replacement.*

# Lopez - San Juan Submarine Cable

## Actual Cost



## Inflation Adjusted Cost





*OPALCO is in the process of submitting a \$15 million RUS loan for replacing the Lopez-San Juan submarine cable. In order for us to obtain RUS loan funds, we need to meet the required financial loan covenants.*

*Key among them...*

*Revenue Stability*

# Strategic Challenges

- Living in a pristine environment requires extra care and cost
- Infrastructure costs are going up fast
- Our warming temperatures and more efficient homes and businesses use less energy, so revenues are falling

**In an environment of increasing cost and decreasing revenue, members still expect reliable, responsive service**

# Recommendations

*OPALCO has just completed a comprehensive 9 month rate analysis and Cost of Service study.*

*All electrical infrastructure and electricity costs are funded through rates.*

*We design our rates to ensure reliable service and revenue stability.*



# Rate Structure Objectives

- ✓ • Rates Should **Meet Revenue Requirement**
- ✓ • Rates Should Provide **Revenue Stability** to the Utility and **Rate Stability** to the Customer

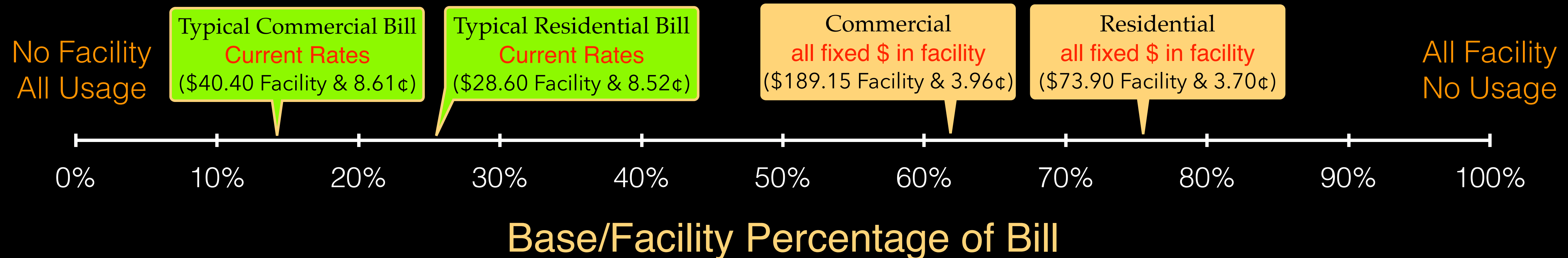
Meeting sustainable revenue requirements supports all other OPALCO objectives and initiatives, including:

- **Maintain and operate our utility**
- Reliable electricity
- Self funding strategic programs
  - Energy efficiency & conservation
  - Local renewable energy generation
  - Education programs
- Low income member support
- Supporting local economy
  - Employees, contractors, construction, broadband infrastructure

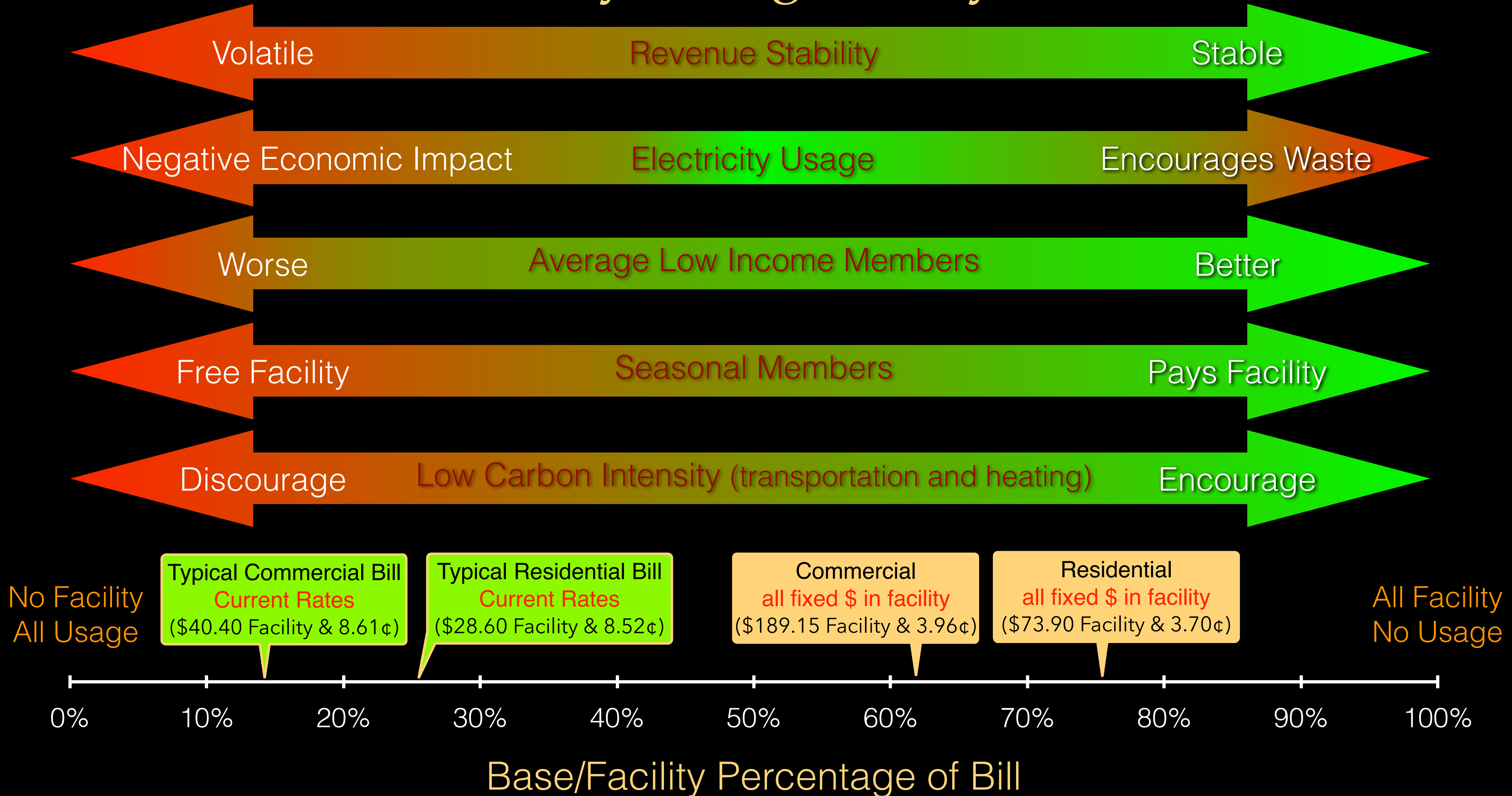
# Facility Charge Analysis

*“OPALCO’s current facility charge is less than half the actual fixed costs of the facility.”*

Cost of Service Analysis by EES Consulting



# Facility Charge Analysis

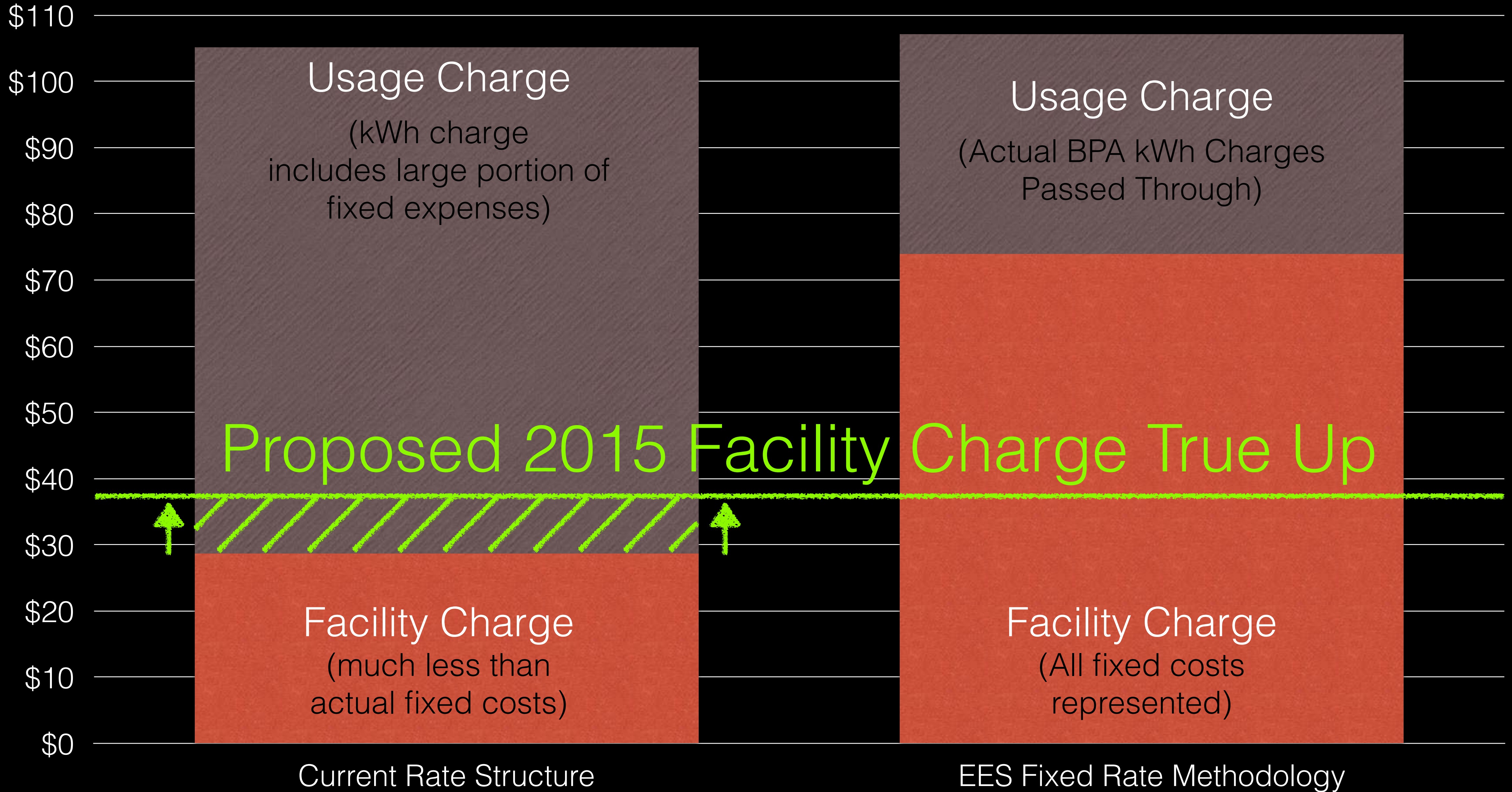


*The 2015 rate increase holds usage rates steady, while  
truing up the facility charge.*

*This will help pay for forthcoming infrastructure costs,  
which are fixed in nature, and not usage related.*



# 2014 Typical Residential Bill





# Recommendations

## Follow Policy 29 Energy Rate Design

Rates will be developed and implemented that:

- Meet revenue requirements and are cost-based;
- Dramatic rates changes are to be implemented over time;
- Generate margins which meet long-term financial objectives and lender requirements and as per the Cooperative's strategic directives;
- Decrease revenue volatility to counter warming temperature trends and reduction in energy usage. Facility: Utilize a fixed cost methodology whereby the facility charge collects the Cooperatives' fixed expenses;
- Demand: Implement a demand element which reflects the costs associated with variable need for system capacity for all member classes as the phase out / replacement of existing meters progresses; Energy: Implement a variable mechanism that passes energy costs to members based on their usage;
- Rate increases necessary to meet budgetary revenue requirements are to be applied to the facility charge component of member bills until facility charge collects the Cooperatives' fixed expenses.

\$3,000,000

Total \$2.62 M (2015 Revenue Increase)

\$2,500,000

\$130,000

Extra Billing Month (February)

\$590,000

Rate Structure Changes

Seasonal blocks, kWh Changes, Block thresholds, Demand

\$2,000,000

\$1,500,000

\$1,000,000

\$1,900,000

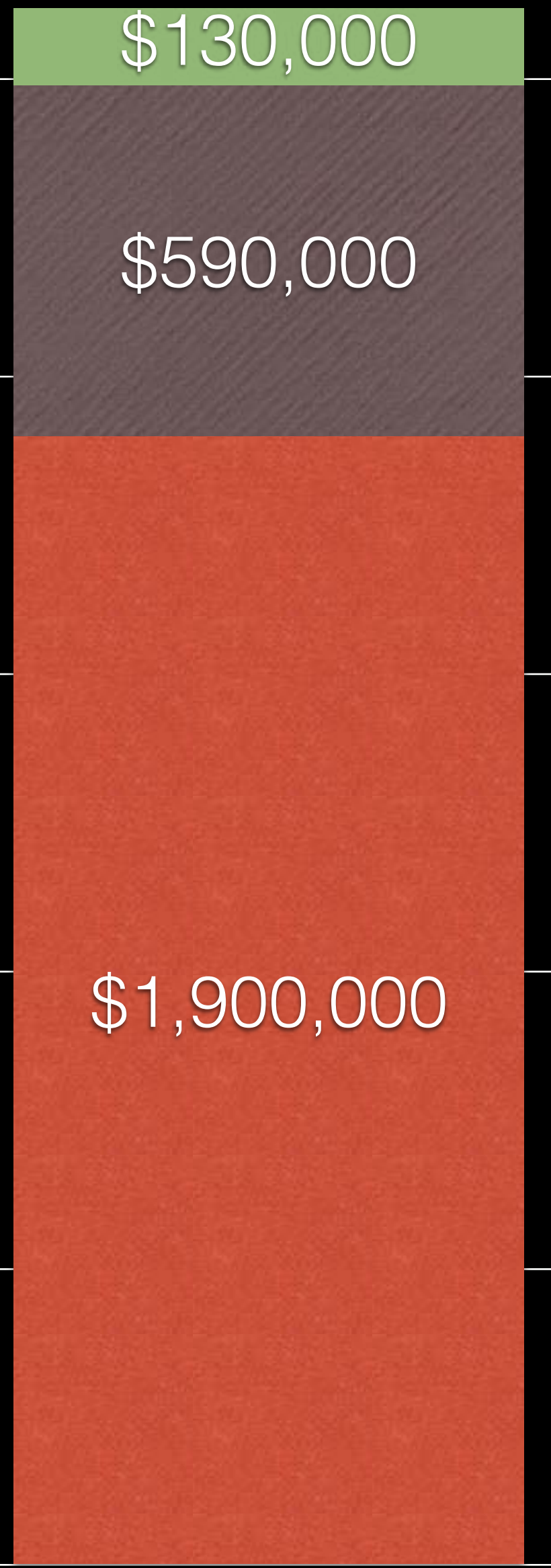
Facility Charge True Up

all rate classes

\$500,000

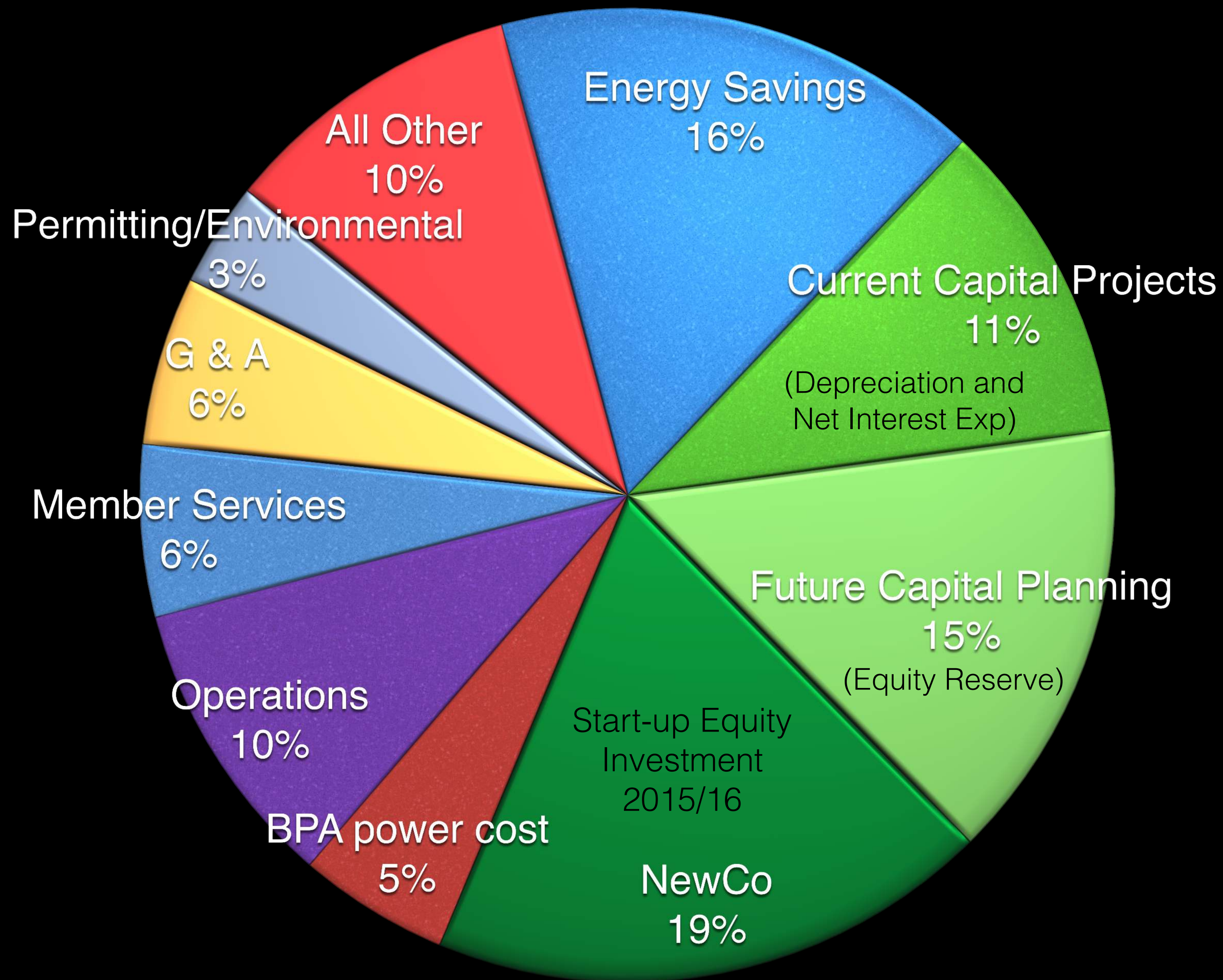
\$0

2015 Estimated Revenue Increase Components





# 2015 Budget Rate Increase Drivers



## Notes

Operating Revenue \$2.62 M

12% Revenue Increase

9% Typical Member Rate Increase (1,000 kWh/month)



# 2015 Typical Residential Bill Increase Components



## Notes

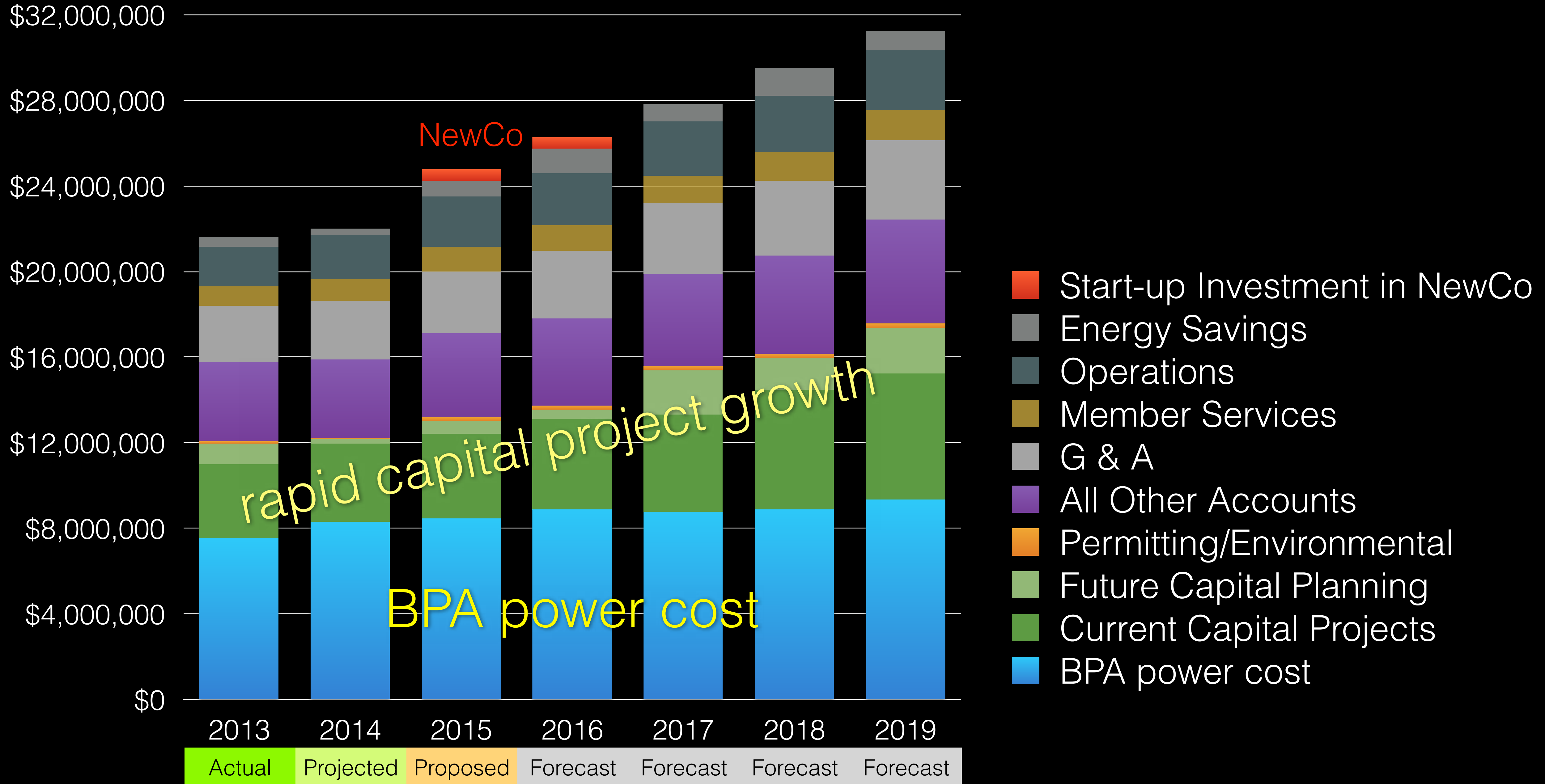
Please note, NewCo component is NOT a flat \$3 monthly charge. It is proportional to total amount billed and averages about \$3 per member per month for 24 months.

For example, a typical 1,000 kWh residential bill, in 2014 has been \$113.80

In 2015, it would increase \$10.10 to \$123.90. Of that increase, the NewCo component would be about \$2 for 24 months (approximately 19% of \$10.10). The rest of the increase (81%) is to make up for last year's revenue shortfall, prepare financially for our upcoming submarine cable installation, and cover operational increases.

The good news is, we still have some of the lowest cost (per kWh) and cleanest electricity in the nation due to the mostly hydroelectric generation we get from BPA.

# Revenue Allocation





Thank You!