



Quick Lighting

Commercial/Industrial T12 retrofit program
funded in part by federal stimulus money

www.seattle.gov/light/conserve

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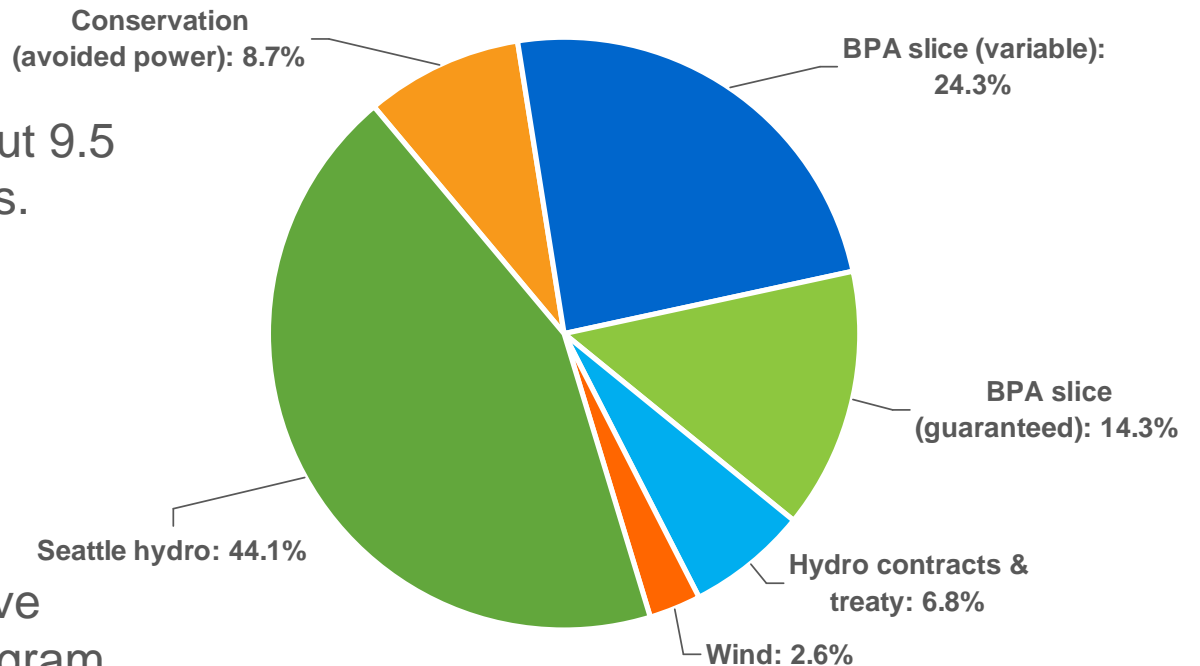
Manager, Conservation Resources



City Light: Effect of energy conservation program (2007)

Seattle City Light supplies about 9.5 million MWh to retail customers.

In the absence of the cumulative effects of our conservation program, which has been running for 30 years, we would have to supply about another 1 million MWh per year.



Commercial & Industrial conservation program

- In 2009, conservation at small, medium and large C/I customers combined accounted for about 60 million kWh of total conservation contracts.*
- Of that, about 30 million kWh in savings were achieved through lighting projects.

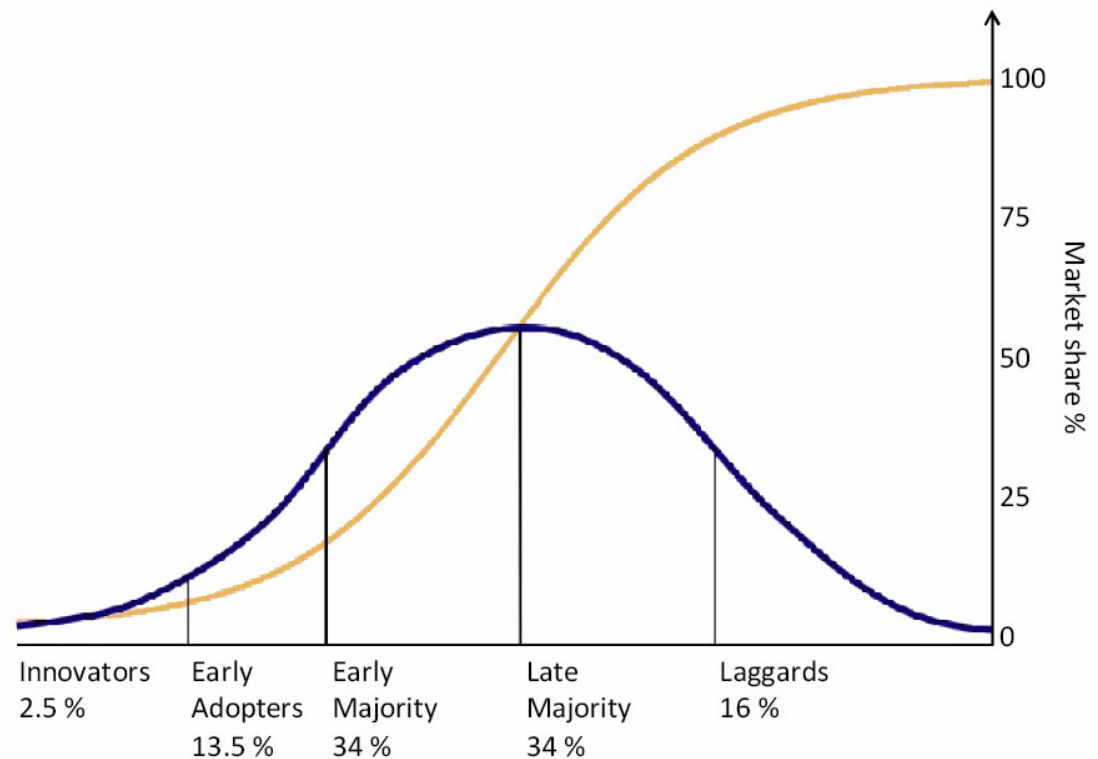
Quick Lighting: A program aimed at T12 retrofits

- About 17 million kWh of the 30 million kWh were attributable to the “Quick Lighting Upgrade Initiative.”
- Quick Lighting is intended to accelerate retrofits of fixtures that use T12s before the new federal standards (effective 7/14/2012) effectively phase out the current generation of T12s.

* Measured in terms of contracts for retrofits signed during the year. There can be a lag of up to three years from the time a contract is signed until the retrofit is completed; therefore, these numbers may not exactly match the numbers from the previous slide.

Philosophies of utility programs

- Most utility programs provide incentives for new technologies - those in the “innovator” or “early adoption” stage, with a goal, in part, of helping to create a large enough market for innovative technologies to drive costs down.
- Incentives are then abandoned, on the theory that the majority will adopt the technology now that it makes economic sense.
- But what about the laggards, who ignore new technologies?



Customers not using T8s are slow adopters

- If T8s are not in use, that customer is at least in the “late majority” stage and may even be in the “laggard” stage.
 - T8s have been around long enough that it should, in theory, they should have been widely adopted by now – especially given that utility subsidies have also been available for years.
 - Paybacks for these projects are frequently under two, or even under one, year.
- The usual reasons for slow adoption of energy-conserving technologies apply, e.g.:
 - Customer isn’t interested in lighting as long as lights work
 - Customer doesn’t know how much lights cost
 - Customer has other things to do

Replacing T12 lamps, one-for-one with T8 lamps, is unsatisfactory

- Replacing 4, 34W T12s with 4, 32W T8s, saves **8 watts per fixture**.
- Retrofitting the entire fixture from a 4-lamp T12 fixture with 34W lamps and magnetic ballasts, to a 3-lamp T8 fixture with 28W T8s and standard electronic ballasts, saves **78 watts per fixture**.
 - Light quality will be satisfactory in most indoor environments.

Without utility help now, what will happen in 2012?

- Customers who still have T12s are not paying attention to their lighting.
 - In 2012, will these customers call lighting contractors to retrofit their fixtures to maximize energy savings from the use of T8 technology, e.g. conversion to electronic ballasts, use of lower wattage lamps, and use of fewer lamps?
 - Or, will the people who buy lamps just start buying 32W T8s instead of 34W T12s?
 - How much harder will it be for utilities and their trade allies to identify fixtures that need to be retrofitted once the large-diameter T12 tubes disappear from fixtures?
- If a customer hasn't changed from T12 to T8 technology yet, **utilities need to encourage them to do so NOW**, before it becomes more difficult to even find the fixtures that need to be retrofitted.
 - Fortunately, well-thought-out T12 to T8 conversions are exceptionally cost-effective
 - The utility can often (depending on its energy conservation objectives) afford to pay the entire cost of the retrofit.

Quick Lighting and the federal stimulus package

- The City of Seattle was awarded \$6.2 million for energy efficiency projects, of which \$750,000 was allocated to the Quick Lighting program, to help accelerate these conversions.
- This funding is being used to pay for eight additional staff required to: identify projects, work with contractors, inspect results, coordinate program activities and process the additional contracts.
 - Six part-time assistant energy management analysts (field staff)
 - One full-time program coordinator
 - One full-time contracts administrator
- Marketing materials specific to the program and expenses associated with the temporary staff are also funded.
- Job creation: 8 direct, estimated 20 or so indirect (contractor employees)
- Incentives paid by utility; meets federal desire for matching funds

Quick Lighting Upgrade Initiative: Program highlights

- Limited-time offer to encourage local trade allies to aggressively pursue T12 to T8 retrofits
- City Light will offer up to the entire cost of the job for 52 common, cost-effective, lighting retrofits, principally 34W T12 to 28W T8, conversions.
 - Costs were determined in part by surveying contractors. Flat-rate incentives for each qualifying fixture were set based on an analysis of bids, actual costs from previous jobs, estimates of costs based on prevailing wages and estimated cost-effectiveness (Total Resource Cost).
- Conversions of incandescent to CFL and non-LED exit sign to LED exit signs were added to the program because they are cost-effective at full cost, and easy to identify as part of the same contracting jobs
- City Light's normal C/I lighting incentive program, which pays up to 70% of the cost of other conversions, is still available and can be combined with the Quick Lighting incentives (e.g., if a customer wants to convert some overhead lights to 6-lamp T5s).

Program development

- Program launched as pilot, July 2009
 - Initial program paid up to the full cost, based on flat-rate incentives for fixture conversions, for most T12 to T8 retrofits (not new fixtures), incandescent to CFL conversions, and conversions to LED exit signs.
- Pilot results analyzed and changes made to improve results and cost-effectiveness, November 2009. Changes included:
 - Encouraging contractors and customers to give more consideration to the capabilities of T8 technologies, by providing higher incentives for lamp reductions and requiring the use of 28W, rather than 32W, T8 lamps for the 100% incentive. (The standard program incentive is still available for 32W conversions.)
 - Adding 11 new conversions and eliminating 2 cost-ineffective conversions (again, the standard program incentive, based on kWh saved, is still available for the eliminated items).
 - (In process): Development of case studies demonstrating customer satisfaction with lower lamp counts/lower wattages.

Quick Lighting program results, July – December 2009

- Highlights

- Average incentive cost \$0.269 per first-year kWh
- Maximum TRC: \$0.499 (estimated equivalent total resource cost – well under maximum)
- Utility costs: Typical program costs \$0.20/kWh plus about 8 cents administrative costs. With the administrative costs of program funded by the federal stimulus package, the QL program is expected to be cost-competitive with our normal program.
- Each utility will need to analyze cost effectiveness based on its own situation

	Contracts or rebates	kWh saved	Incentives
Small businesses	363	7,229,991	\$2,082,959
Medium businesses	107	8,615,378	\$2,208,919
Large businesses	5	1,082,775	\$276,140
Totals	475	16,928,144	\$4,568,018