Commercial and Industrial Mid-year 2015 Fluorescent Lighting Measure Changes

June 3, 2015

EnergyTrust of Oregon

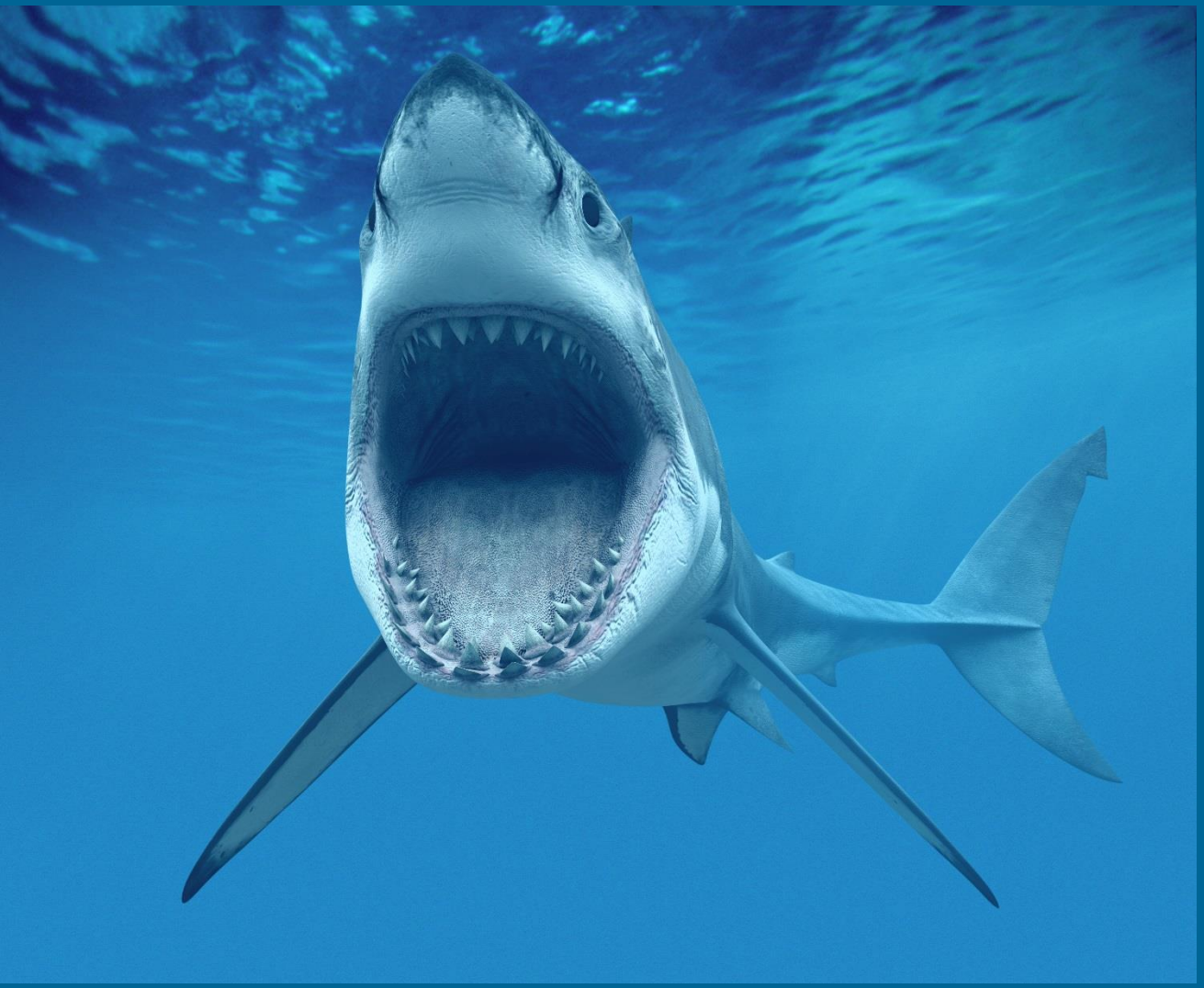
Agenda

- Federal Standards Affect Baselines
- High-level cost effectiveness impacts
- Measures that are no longer cost-effective
- Proposed Measure Solutions
- Relative Impact

Federal Standards Affect Baselines

2012 Federal Lamp Standard (no teeth)

- Proved inconsequential due to federal allowances to continue manufacturing otherwise outlawed products
- T12 to T8 project savings unaffected by standard



Federal Standards Affect Baselines

2014 Federal Ballast Standard

- This time it actually matters
- Took effect November 2014
- Programs allowed ~6 months to deplete existing ballast stock

This impacts cost-effectiveness

- Requires all electronic ballasts manufactured to be 5.8%-10.8% more efficient than past standards, reducing savings
- Measure life of existing ballasts is approximately 7 years. Savings after that point are calculated from more efficient ballasts.

Lighting measures that are no longer cost-effective

T12 to T8

- 2 lamp T12 to 2 lamp T8, HBF or NBF
- 1 lamp T12 tp 1 lamp T8, HBF, NBF, or LBF

T12 to RW T8

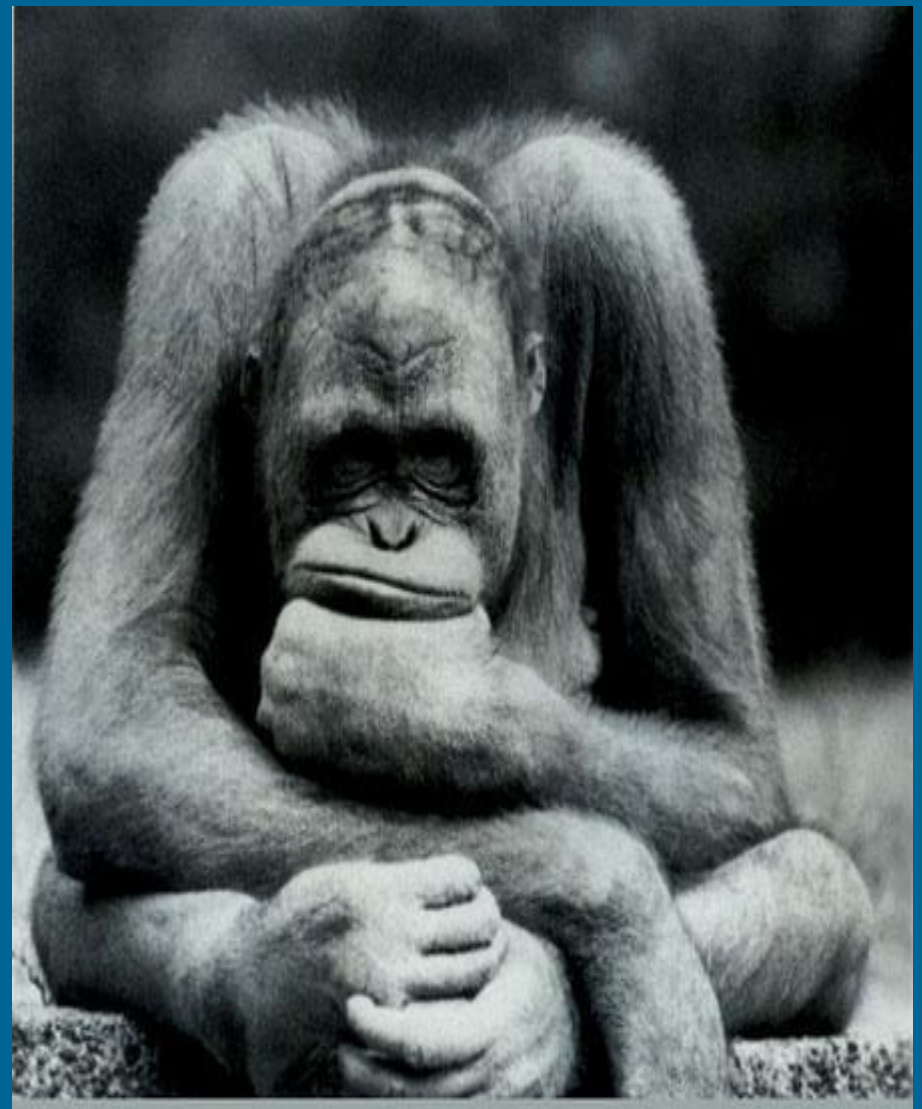
- 2 lamp T12 to 2 lamp 28W T8 lens kit and LBF
- 1 lamp T12 to 1 lamp 28W T8, HBF, NBF, or LBF

T8 to RW T8

- 2 lamp T8 to 2 lamp 28W T8, HBF or NBF
- 1 lamp T8 to 2 lamp 28W T8, HBF, NBF, or LBF

LED

- 2 lamp T12 to 35W LED
- 2 lamp T8 to 35W LED



But we still have measure options

1. 3 or 4 lamp 4’ T12 fluorescent fixture to reduced watt T8 and new ballast.
2. 3 or 4 lamp 4’ T8 fluorescent fixture to reduced watt T8 and low ballast factor.
3. De-lamp from 4’ T12 lamps to two T8 lamps with a new ballast.
4. De-lamp from 4’ T8 lamps to two reduced watt T8 lamps with a low ballast factor.
5. 4’ or 8’, T12 or T8 fluorescent fixture to tube LED with new T8 ballast or external/internal driver configurations.
6. 4’ or 8’, T12 or T8 fluorescent fixture to tube LED retrofit kit; removes existing ballast and uses bi-pin tombstone for providing power or mounting to the lamps.
7. Fluorescent fixture to new LED fixture or fixture retrofit kit; tombstones are removed.
8. Tube LED re-lamp only (no ballast change-out required).

2015 YTD Program Savings by Technology

Aggregate EB, PE & MF data through May 14, 2015

Lighting Technology	kWh Percentage of Savings	kWh Savings	Incentive
LED Fixture	26%	5,496,369	$863,891
Exterior LED Fixture	19%	3,995,791	$614,778
LED Street Lighting	15%	3,235,973	$339,090
LED lamps	10%	2,118,027	$263,598
Controls (w/Custom)	7%	1,502,275	$336,255
T5HO (Mostly Highbay)	**7%**	1,483,859	$252,943
32 Watt HP T8	**5%**	1,154,160	$231,559
6 Lamp T8 Hibays	**3%**	711,000	$122,465
Reduced Wattage T8	**2%**	523,023	$93,153
LED Recessed downlight	2%	436,101	$84,326
LED Lamp - Custom	2%	347,021	$40,971
HP T8 Lens Kit	**1%**	120,978	$14,437
Other (odd sizes, fixtures/lamps)	0%	102,617	$3,972
LED Cooler Case Lighting	0%	74,760	$13,600
"Other" Lighting Measures	0%	54,336	$10,627
LED Exit	0%	40,405	$2,520
CFL (all types)	0%	9,407	$81
Induction	0%	7,336	$1,267
T8 Reflector Kit	**0%**	6,944	$1,440
Total	100%	21,420,595	$3,382,465

Thank You

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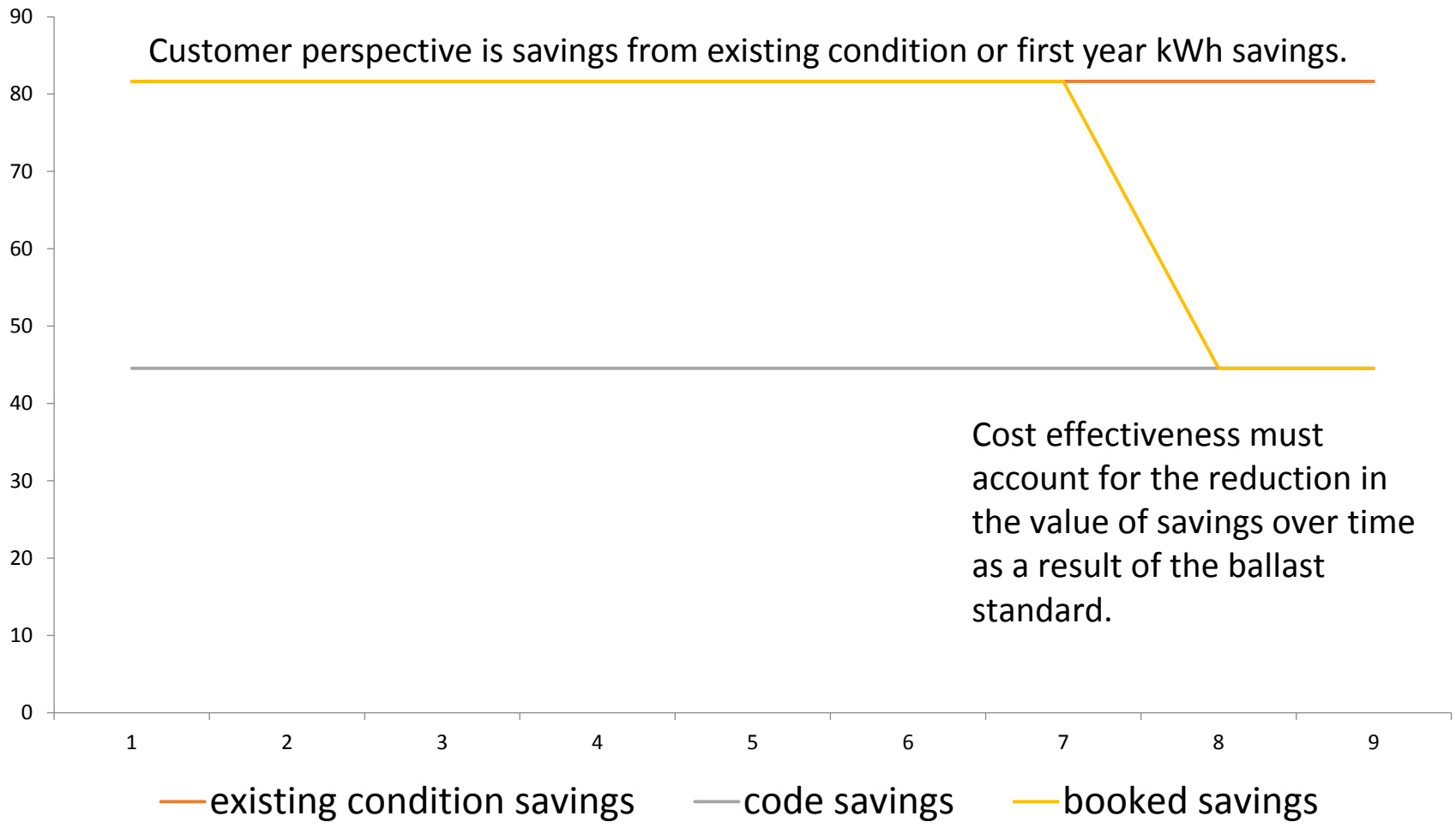
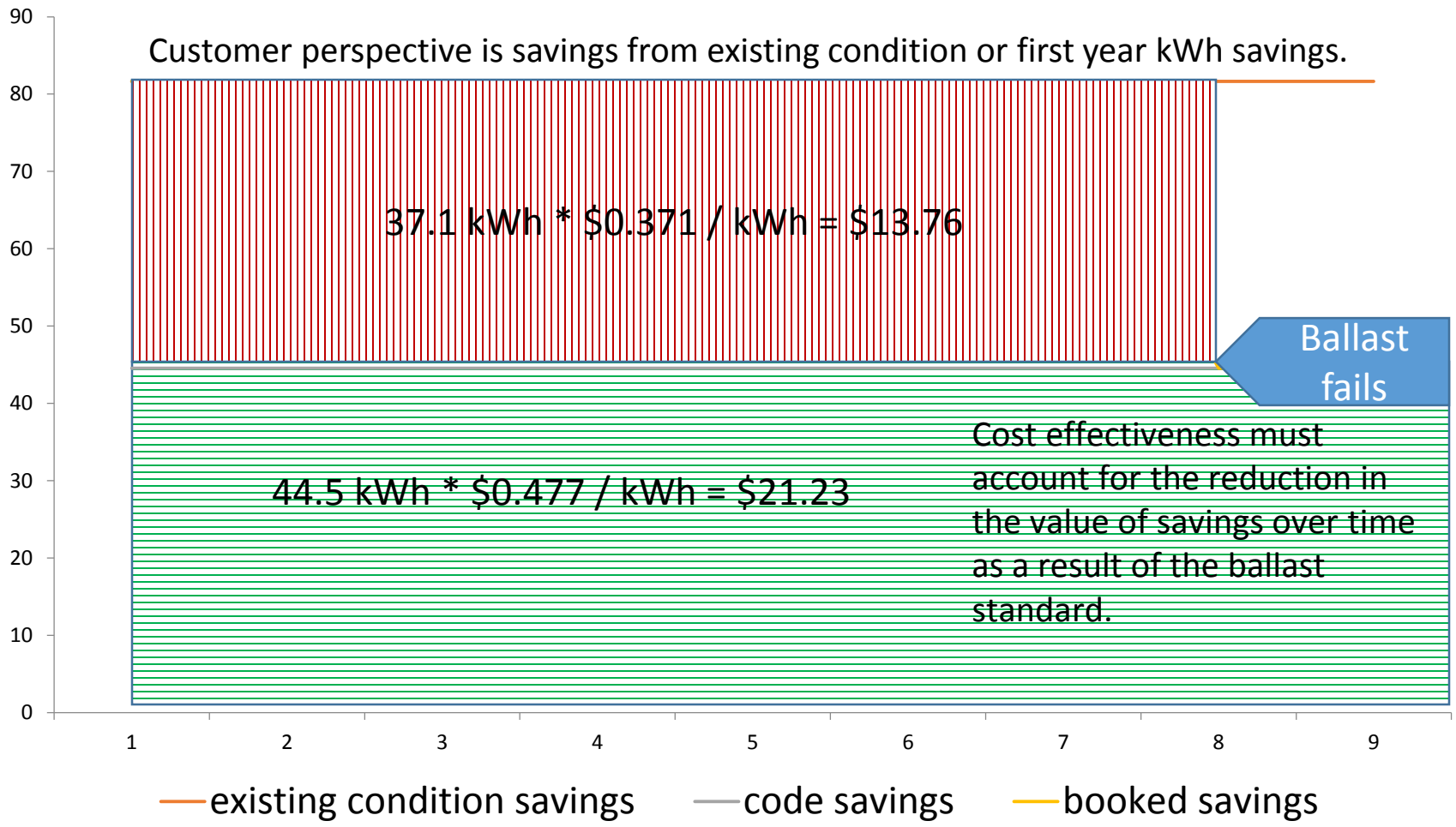
EnergyTrust of Oregon

Combining the existing condition and code baselines



Combining the existing condition and code baselines