MOMENTUM SAVINGS QUARTERLY CALL

HAPPY DAY OF THE DEAD

NOV 1 2023

Roll call and Icebreaker

What was your favorite Halloween costume this year?

AGENDA

Market Research Portfolio 2023-2028 Strategic Plan

01

02

Project Updates

Results from the Annual Lighting Survey (2022)

03

04

Wrap up and Questions

01

Market Research Portfolio 2023-2028 Strategic Plan

PRICIPLES

Study What Matters

BPA prioritizes studying markets with high value to BPA and the region. BPA's research aims to have the greatest impact on BPA's and the region's market intelligence about energy efficiency.

Be Consistent in Methods

BPA uses a structured research process and follows a consistent analytical framework.

Use an Open, Accessible Process

BPA openly engages stakeholders and third-party reviewers to help improve accuracy and meet stakeholder needs.

Build Regional Market Intelligence

BPA's Momentum Savings research aspires to do more than quantify savings. It seeks to provide all stakeholders with actionable data and market insights to support planning and programmatic functions.

VISION

We aspire to provide strategic data, market insights, and analysis of Momentum Savings so that BPA can offer bold demand-side programs and policies that lead to an efficient, decarbonized, and resilient grid for all residents of the Pacific Northwest

PRIORITIES

Priority 1:
Quantify and report Momentum Savings to contribute to meeting BPA's resource needs.

Priority 2:
Generate market intelligence that helps programs and policy makers maximize impact and improve program equity.

Priority 3:
Integrate carbon and capacity/demand flexibility metrics into market research to fully communicate the value of demand-side resources.

Priority 4:
Study changes in electric load to support power planning.

PORTFOLIO WORKFLOW

Model building and updating

Annual Sales Data

Market Data Analysis

Level of Effort

Six-Year Period

02

Project Updates

Residential HVAC
Adjustable Speed Drives
Commercial HVAC
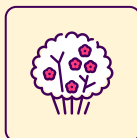Nonresidential Lighting

Residential HVAC: Market Model Update

Objective:
Update the model for 2022-2027 and produce savings forecast

Activities
- Update analysis period
- Analyze new RBSA Data
- Forecasting

Outcomes
- Analyze residential HVAC and building shell conditions in 2022 using RBSA III draft final data
- Compare 2022 stock insights with past trends
- Gather information to forecast how the residential HVAC stock will change in the next few years

Residential HVAC: 2022 HVAC Sales

Objective:
Analyze efficiency mix of residential HVAC sales collected by NEEA

Activities

- Coordination
- Analyze Data
- Publish Summary by end of year

Outcomes

- Efficiency mix of 2022 sales in air source heat pumps, mini-split heat pumps, gas furnaces, and central air conditioners.
- Additional insights include technology mix in 2022 HVAC sales, discussion of ducted mini-split heat pumps, and variable speed heat pump growth

Adjustable Speed Drives: Market Model Update

Objective:
Update the model for 2022-2027 and produce savings forecast

Activities

- Update analysis scope
- Analyze data
- Forecasting

Outcomes

- Add commercial pumps and fans to model scope
- Enhance pump/fan load profile and operating hour inputs using custom project metered data

Adjustable Speed Drives: Shipments Data Pilot

Objective:
Determine feasibility of collecting annual shipments data from drive suppliers in the Northwest

Activities

- Market Actor Outreach
- Determine Feasibility
- Collect Data

Outcomes

- Summary of data collected and lessons learned from the pilot
- Characterization of market actors by size, sector, market niche
- Clearly defined scope for full-scale data collection effort
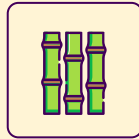
Commercial HVAC: Market Model Build

Objective:
Build market model for the commercial HVAC market

Activities

- Develop inputs and structure
- Collect data
- Program savings
- Engage market actors

Outcomes

- Completed a market model structure and wrote code that successfully tested its validity
- Reviewed permit data and inputted the results into the structure and segmentation
- Analyzed and inputted past CBSA data and participating in new study
- Completed segmentation study for buildings

Commercial HVAC: Building Simulations

Objective:
Determine inputs and sources needed to accurately simulate commercial building stock

Activities

- Finalize QA/QC process & data sources

- Map permit data and code requirements

- Establish performance curves

- Run initial simulation
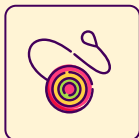
Outcomes

- Still to be determined

Nonresidential Lighting

Objective:
Build interim market model for the 2021 Power Plan

Activities

- Collect and analyze market data
- Develop new model platform
- Determine building and installed stock inputs

Outcomes

- Completed transition of model platform to Python
- Updated methodology for sales forecasting
- Completed building stock analysis, including a revised methodology, review of data sources, and comparison of previous modes
- Attended the 2023 LightFair and collected annual sales data of which is discussed in the next

03

Results from the Annual Lighting Survey

2022 Survey of Northwest Electrical Distributors

SURVEY OVERVIEW

48 — Total Distributors

24 — 2022 Participcants

+1 — 2022 New Participants

~40% — Market Share Representation

2018-2022 — Years Covered

SURVEY HIGHLIGHTS

67%

67% of all unit sales in 2022 were LEDs

0%

There was a 0% change in total unit sales between 2021 and 2022, marking a potential stabilization in sales volumes following COVID-19.
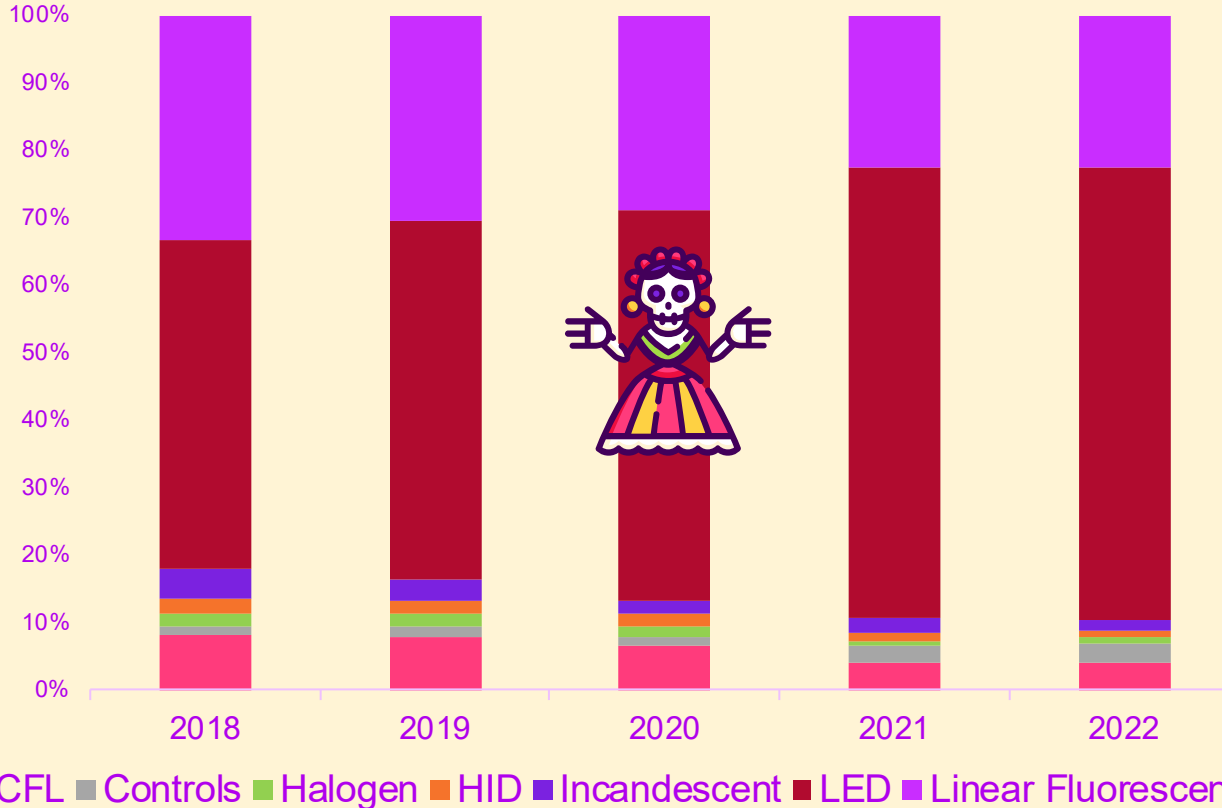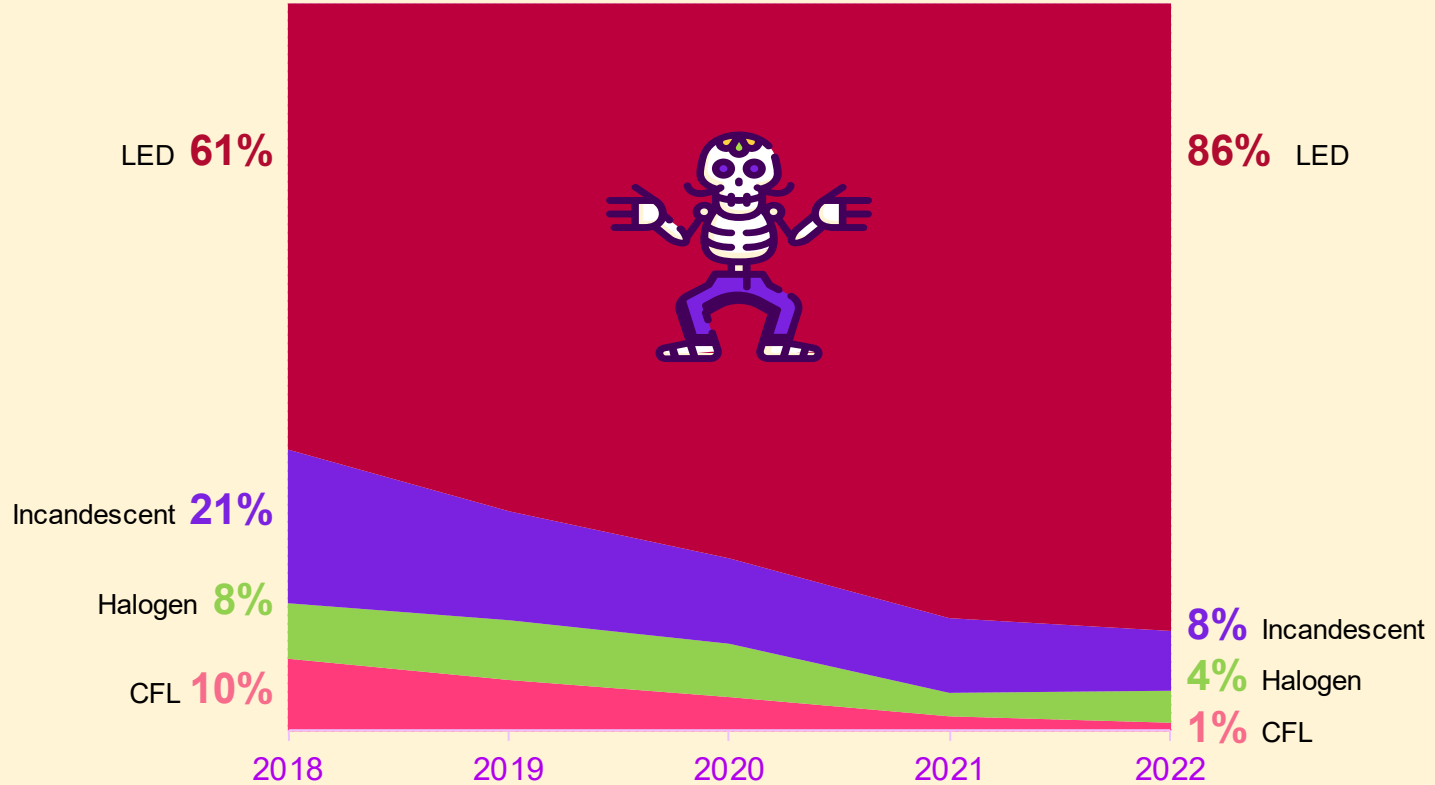
52%

52% of 4ft T8 sales were TLEDs, representing a continued shift away from the once dominant linear fluorescent lamp.
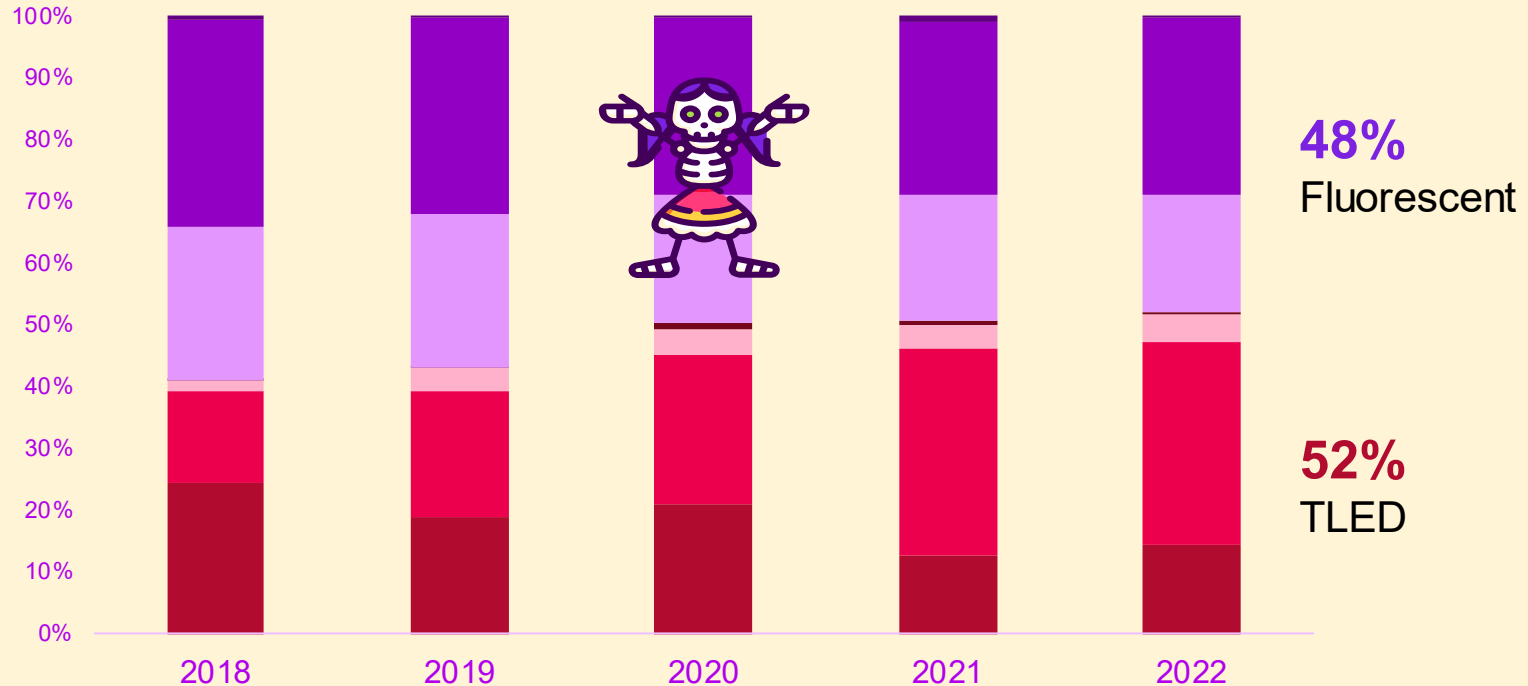
Percent of Unit Sales by Technology Type

Screw in Lamp Sales by Type

LED **61%**

Incandescent **21%**

Halogen **8%**

CFL **10%**

86% LED

8% Incandescent

4% Halogen

1% CFL

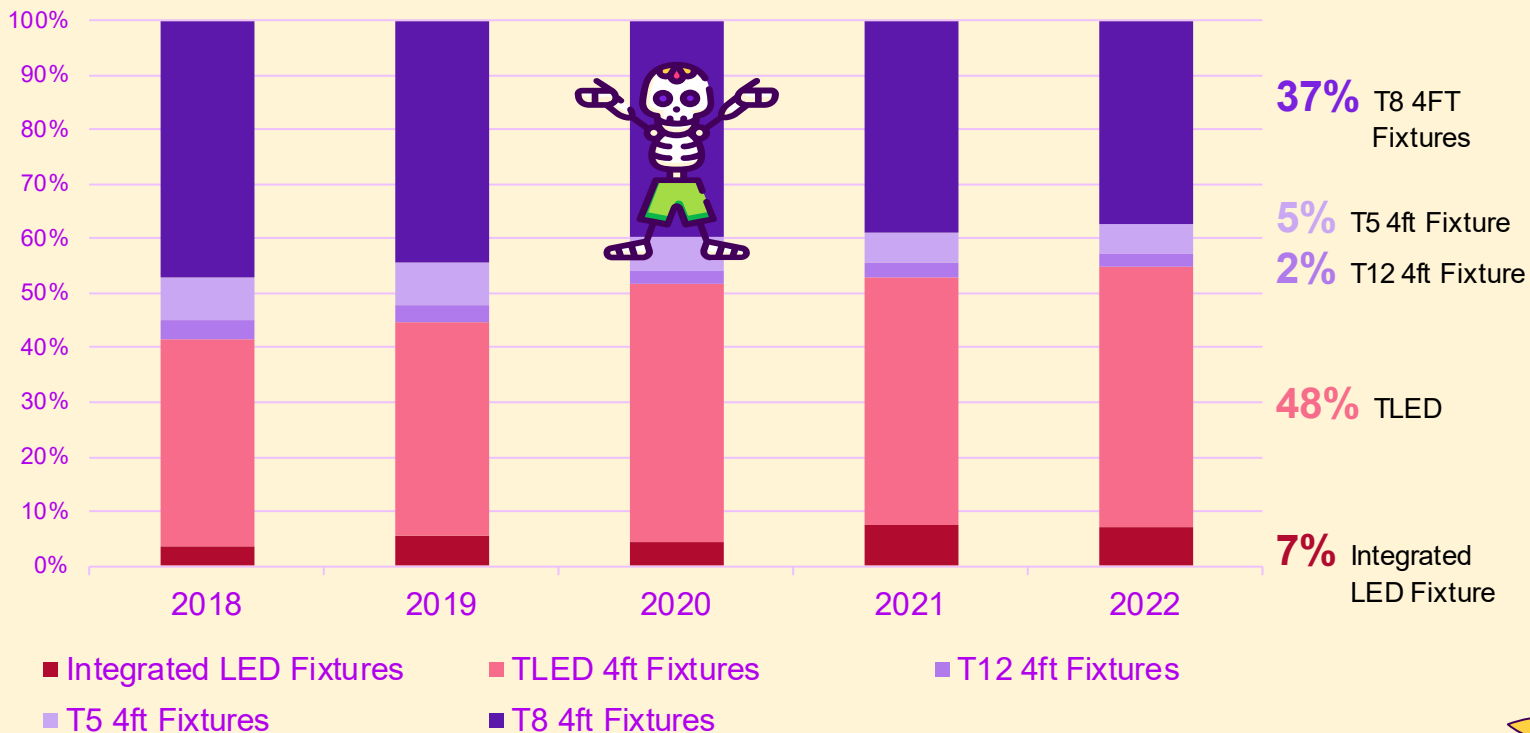2018 2019 2020 2021 2022

Percent Linear Lamp Sales by Type

48%
Fluorescent

52%
TLED

Legend:
- LFL 4ft T8 Series 700 32W
- LFL 4ft T8 Series 800 32W
- LFL 4ft T8 Series 800 RW
- TLED UL Type C - Remote Driver
- TLED UL Type A+B - Dual-Mode/Hybrid
- TLED UL Type B - Ballast Bypass
- TLED UL Type A - Plug-and-Play/Direct Replacement

Percent of Ambient Linear Lamp and Fixture Sales by Type

FOR FULL REPORT & SALES DATA

Visit the Momentum Savings website at:

https://www.bpa.gov/energy-and-services/efficiency/market-research-and-momentum-savings/lighting-market-research

QUESTIONS??

THE MOMENTUM SAVINGS TEAM

Bonnie Watson

bfwatson@bpa.gov

Team Lead

Joan Wang

jjwang@bpa.gov

Residential HVAC
Adjustable Speed Drives

Juan Carlos Blacker

jcblacker@bpa.gov

Commercial HVAC
Nonresidential Lighting

THANK YOU!