

# 2023 IRP Sales and Load Forecast — Update

2023 IRP Advisory Council

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March 9, 2023

# Agenda

01

## Executive Summary

- ✓ System sales/peak/customer graphics

03

## Class-Level Results

- ✓ Review of updated classes

02

## Economic Discussion

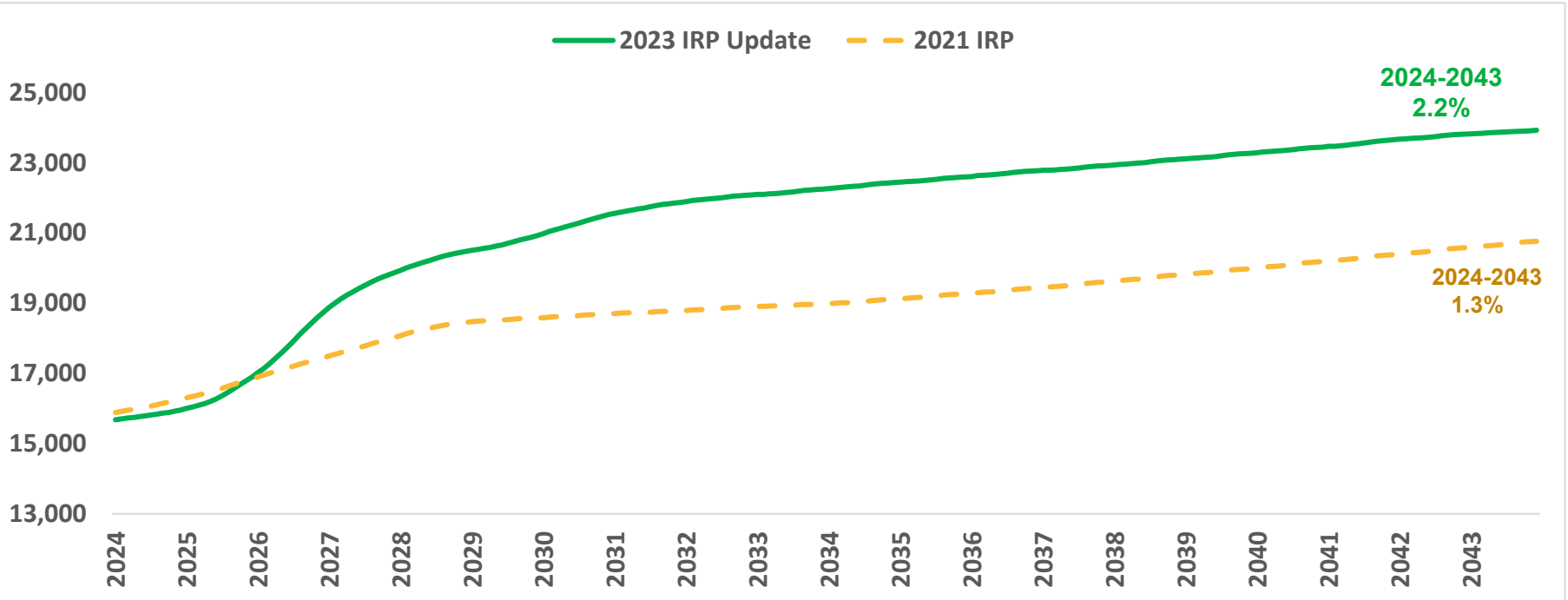
- ✓ Economic headline points
- ✓ New housing in Idaho Power service area
- ✓ Inflation
- ✓ Demographic backbone

# System Sales Forecast Results

01

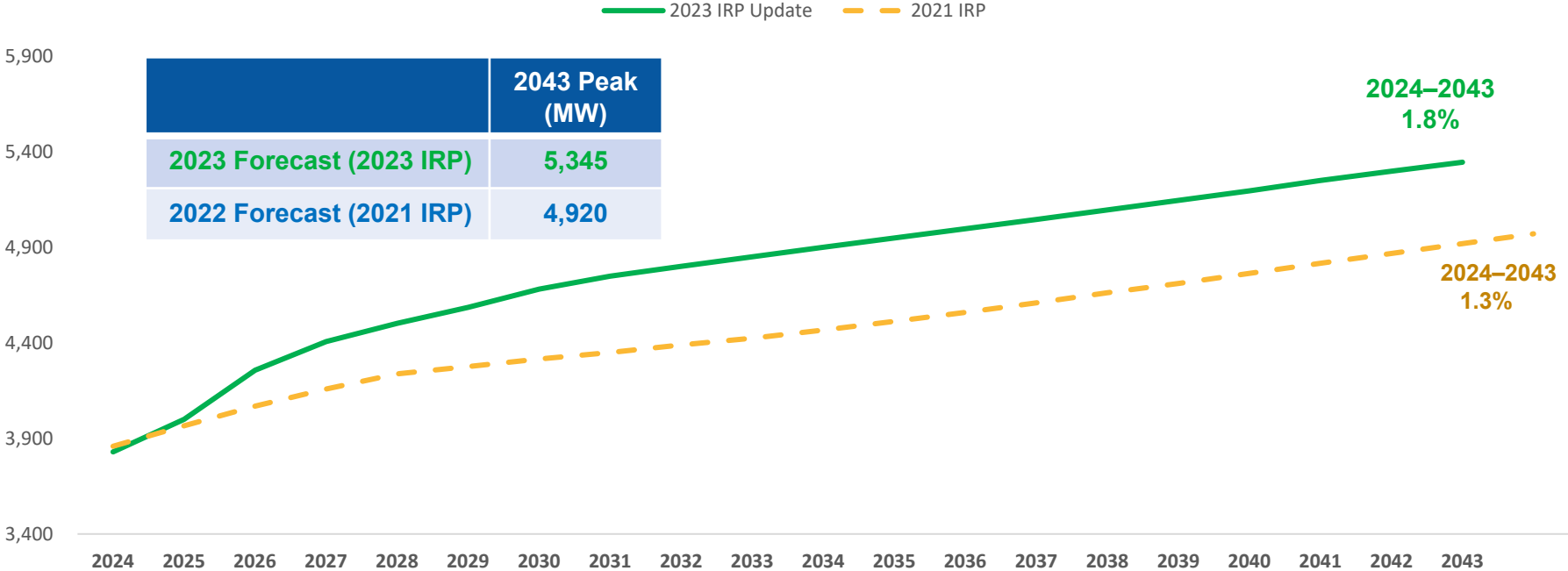
Executive Summary

System Sales (Gigawatt-Hours [GWh])



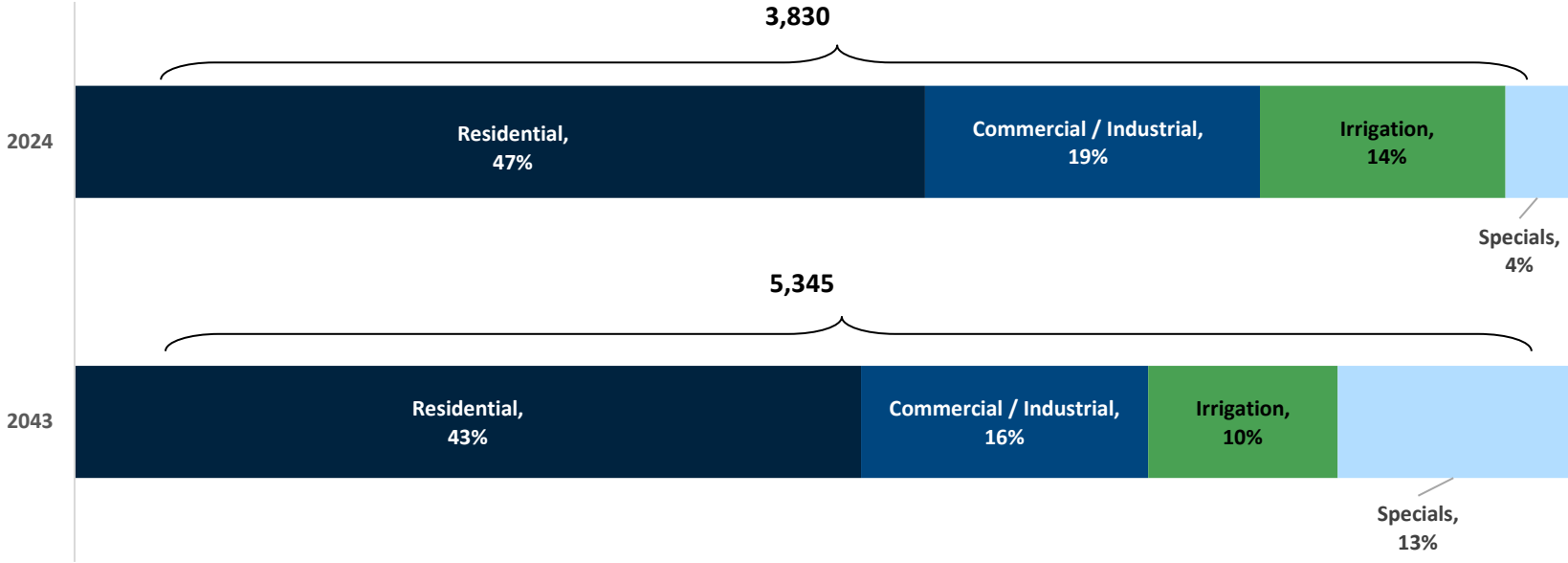
# System Peak Forecast Results

## System Peak (70<sup>th</sup> Percentile MW)



# System Peak Forecast Contributions

Customer Class Compositional Analysis of System Coincident Peak (MW) at 70<sup>th</sup> Percentile

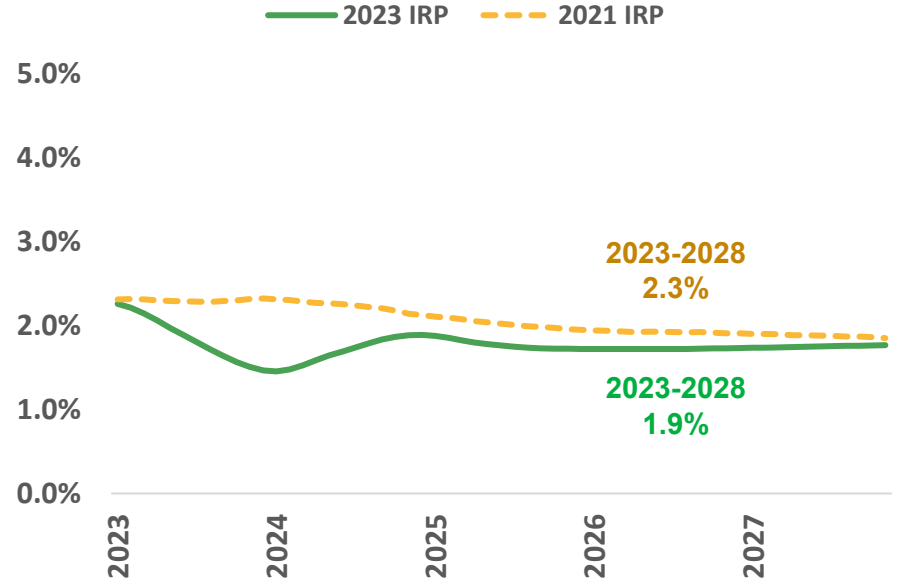
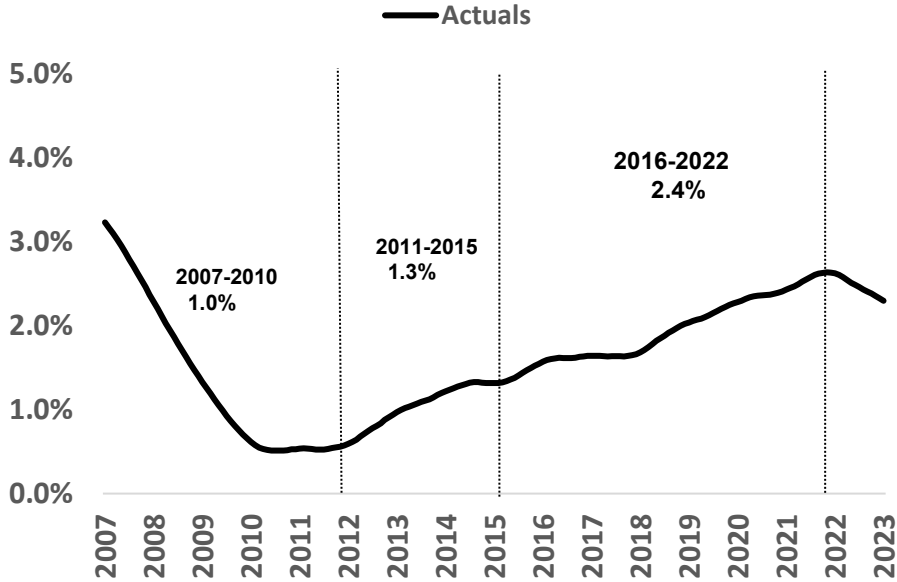


# System Customer Forecast

01

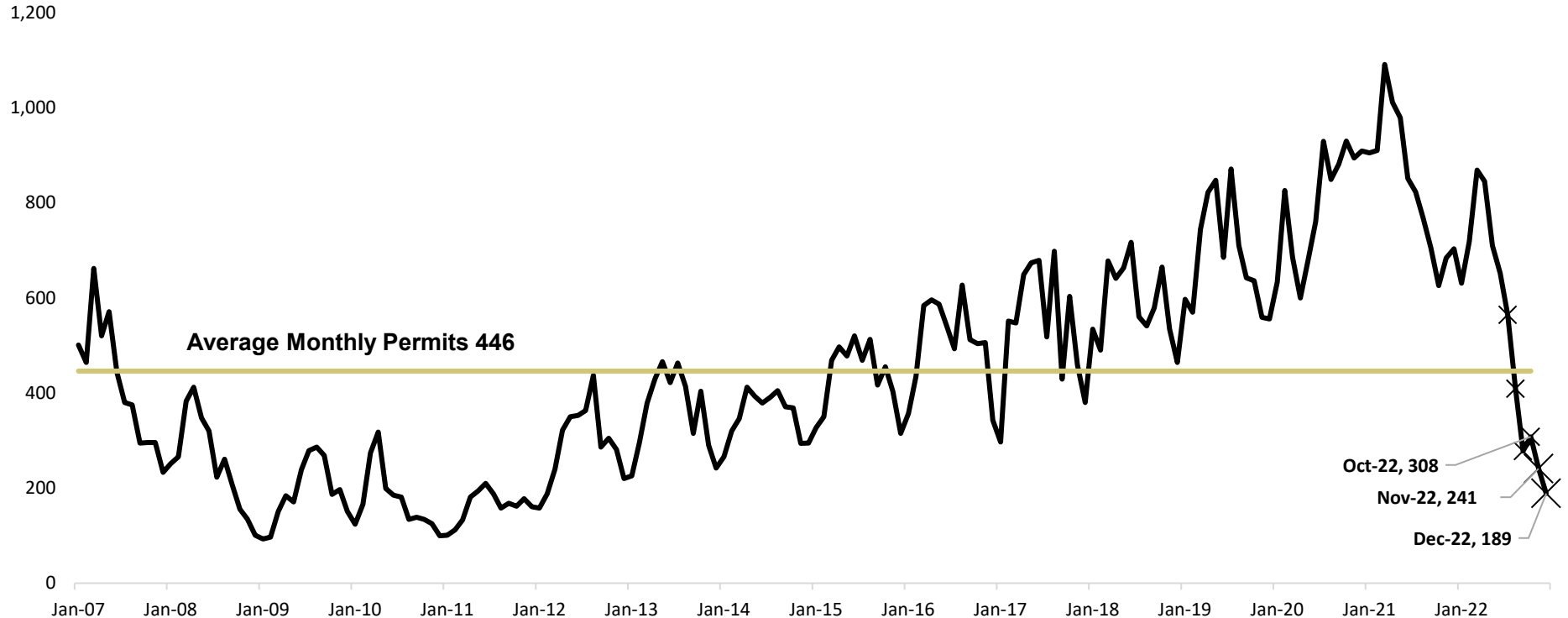
Executive Summary

### System Customer Growth (12 month % change)



# Residential Permits

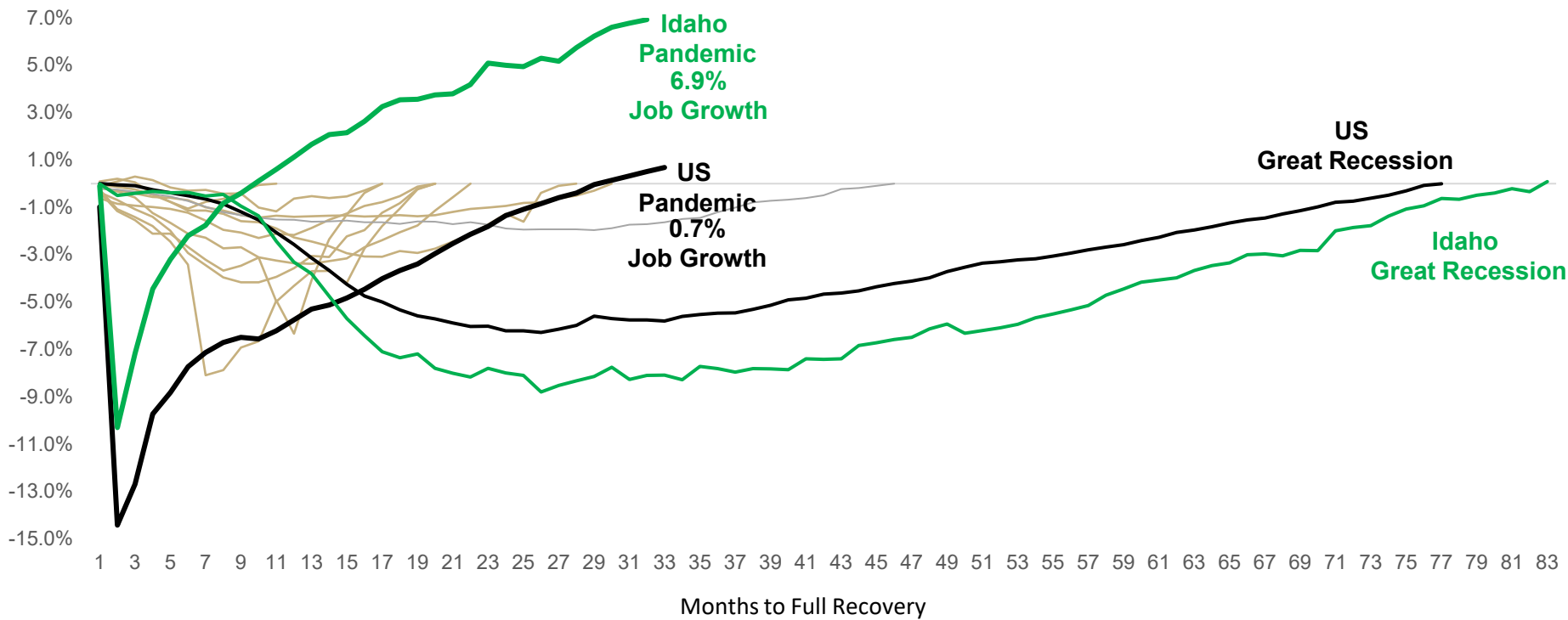
## Southern Idaho Monthly Residential Permits



Residential permits include detached single family homes, mobile homes, apartments/condos, and multi-plex developments.

# Comparative Analysis: US to Idaho

## Percent Job Loss Post WWII Recessions

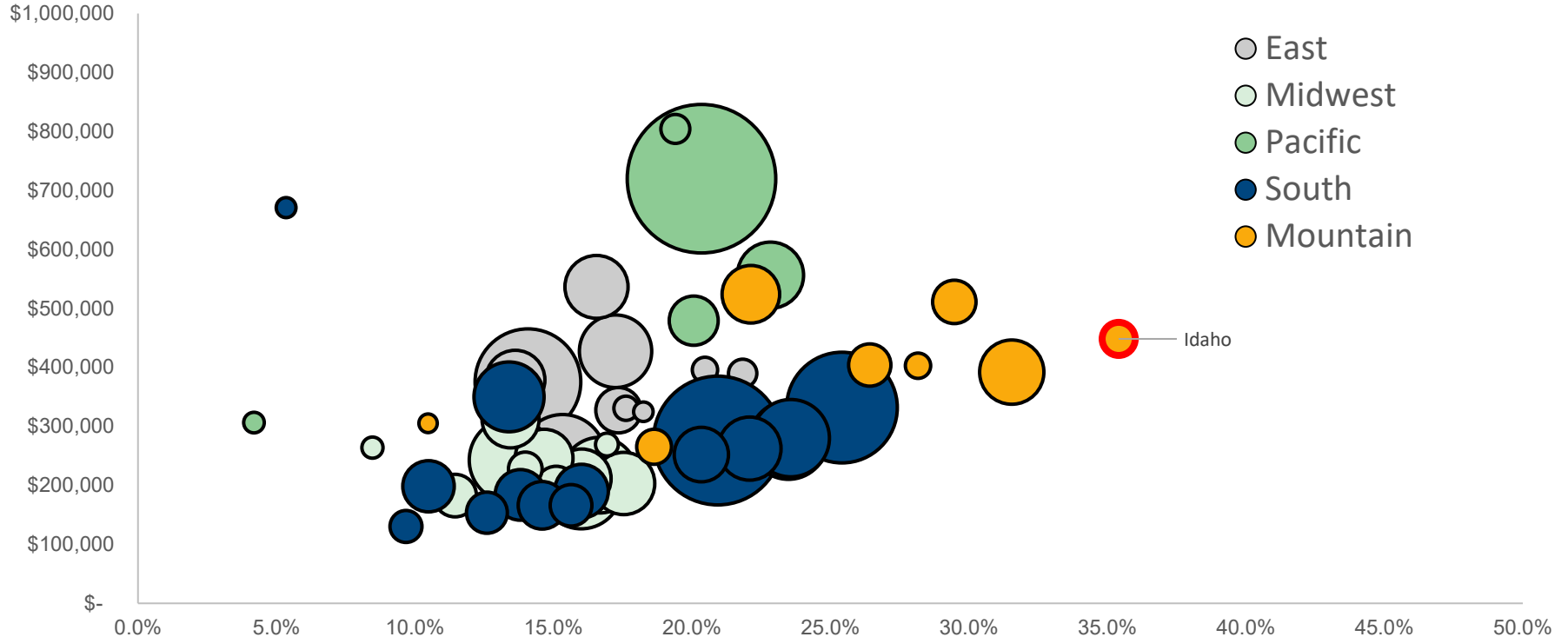


Source: U.S. Bureau of Labor Statistics (BLS): Current Employment Statistics (CES), Quarterly Census of Employment and Wages (QCEW). Actual data through Nov. 2022, Nov. 2022 preliminary estimates



# 2021 Regional Home Value Growth

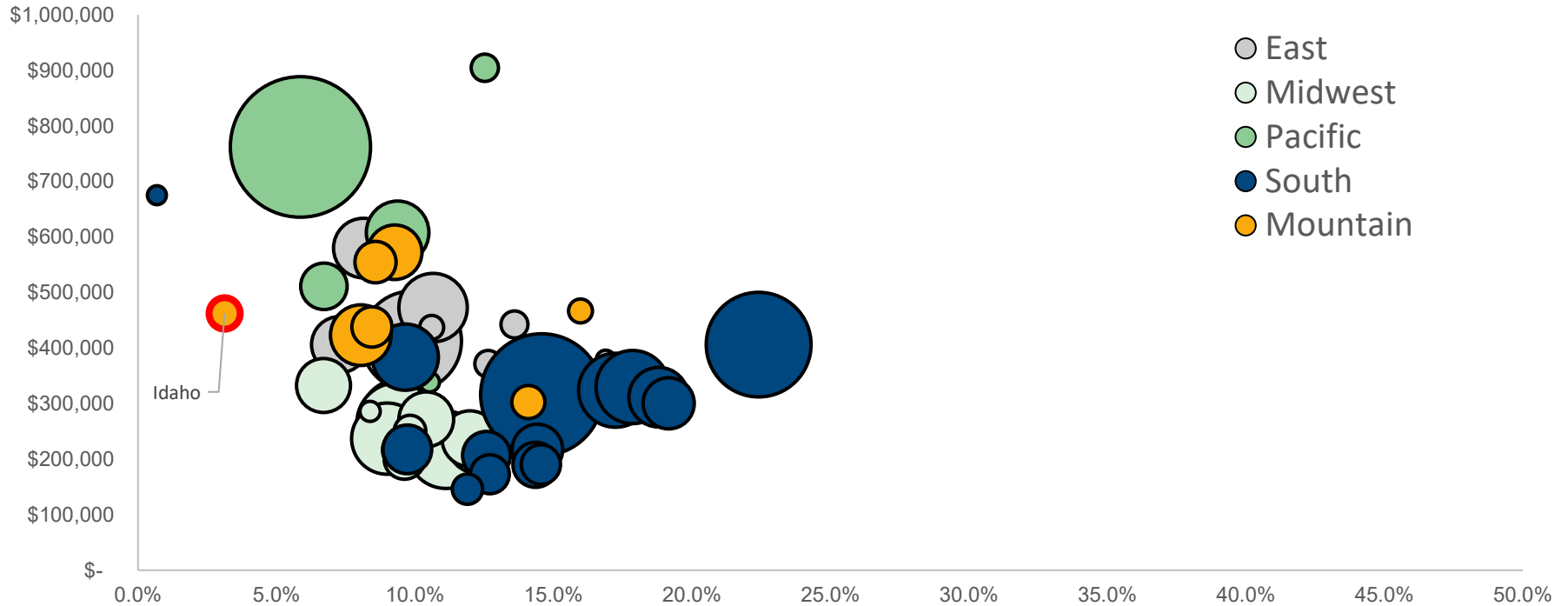
## Nov. 2021 State Home Value Growth



Source: Zillow research. Zillow Home Value Index (ZHVI) of single-family homes through Nov. 30, 2021. Author's calculations.

# 2022 Regional Home Value Growth

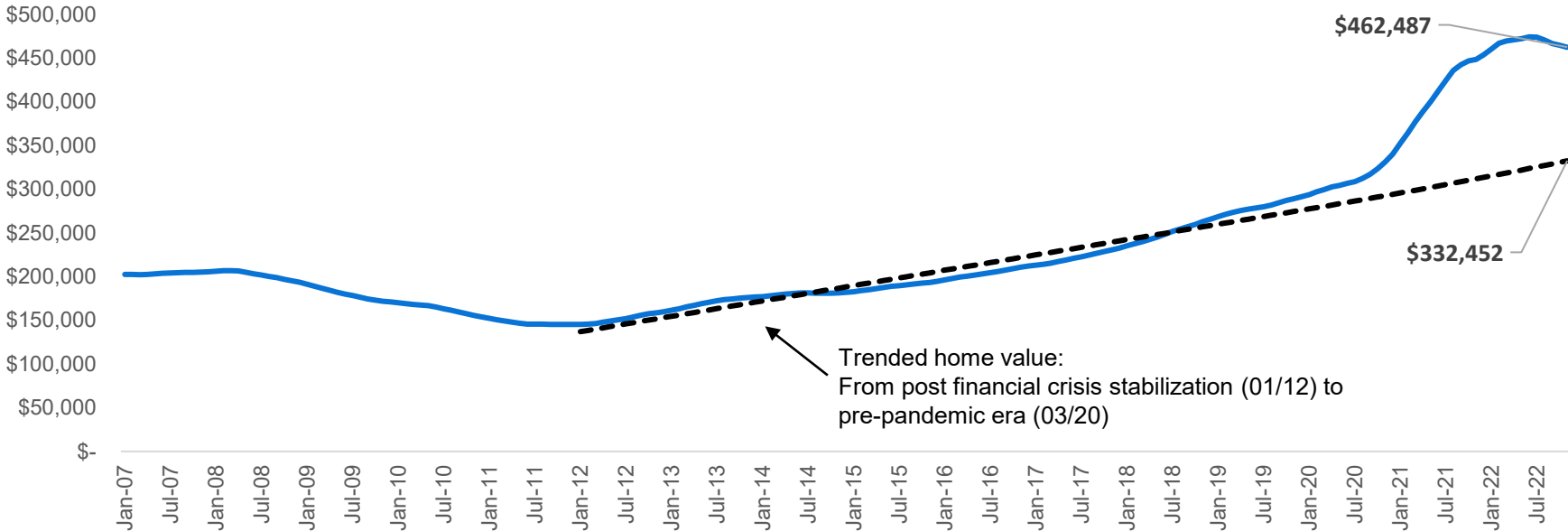
## Nov. 2022 State Home Value Growth



Source: Zillow research. Zillow Home Value Index (ZHVI) of single-family homes through Nov.30, 2022. Author's calculations.

# Idaho Home Values Still High

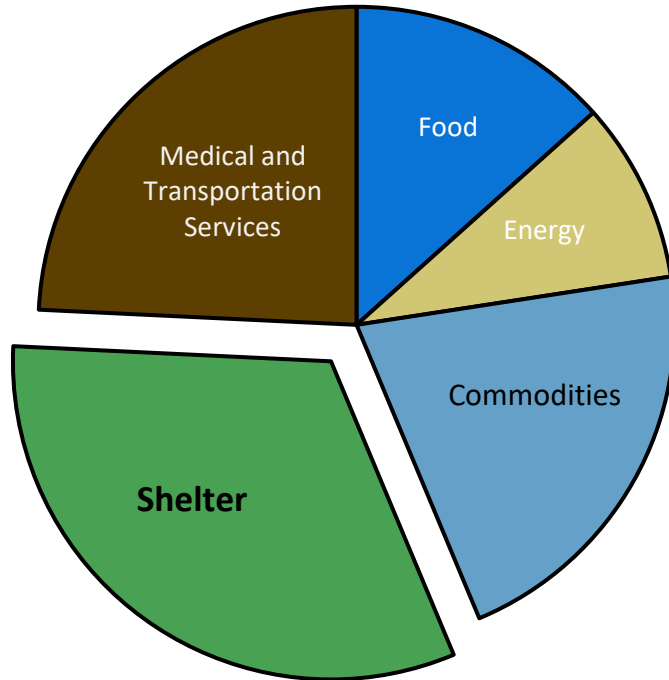
## Idaho Residential Home Values



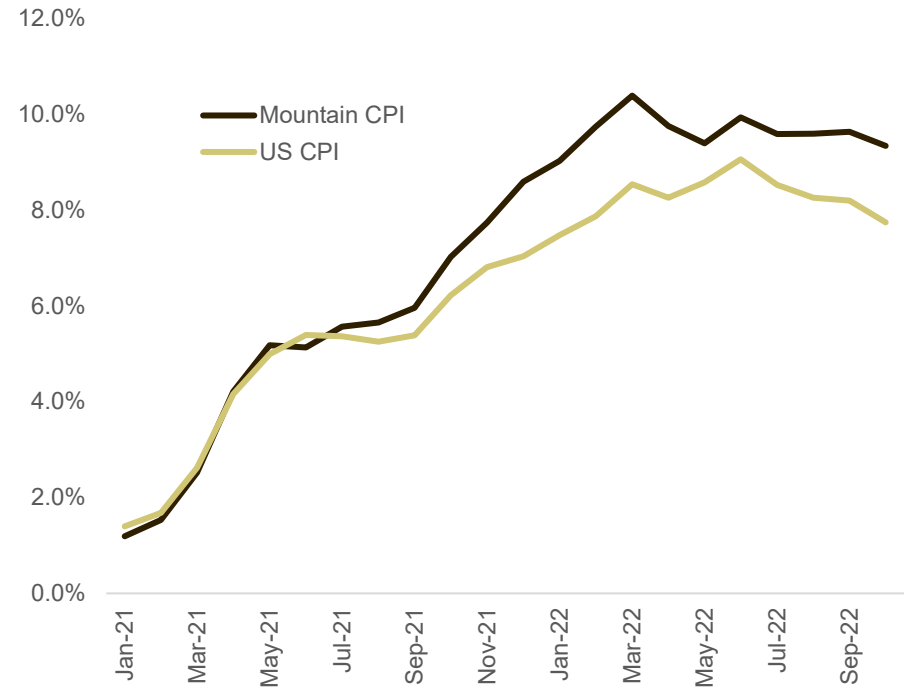
Source for home values: Zillow research. Zillow Home Value Index (ZHVI) of single-family homes.  
Source for income: U.S. Bureau of Economic Analysis (BEA); U.S. Bureau of Labor Statistics (BLS) Wage and salary disbursements: Total, (Mil. USD, SAAR).  
Author's Calculations.

# Inflation's Intricacies

## Composition of the CPI Basket of Goods



## Regional CPI



# Age Demographics of Idaho

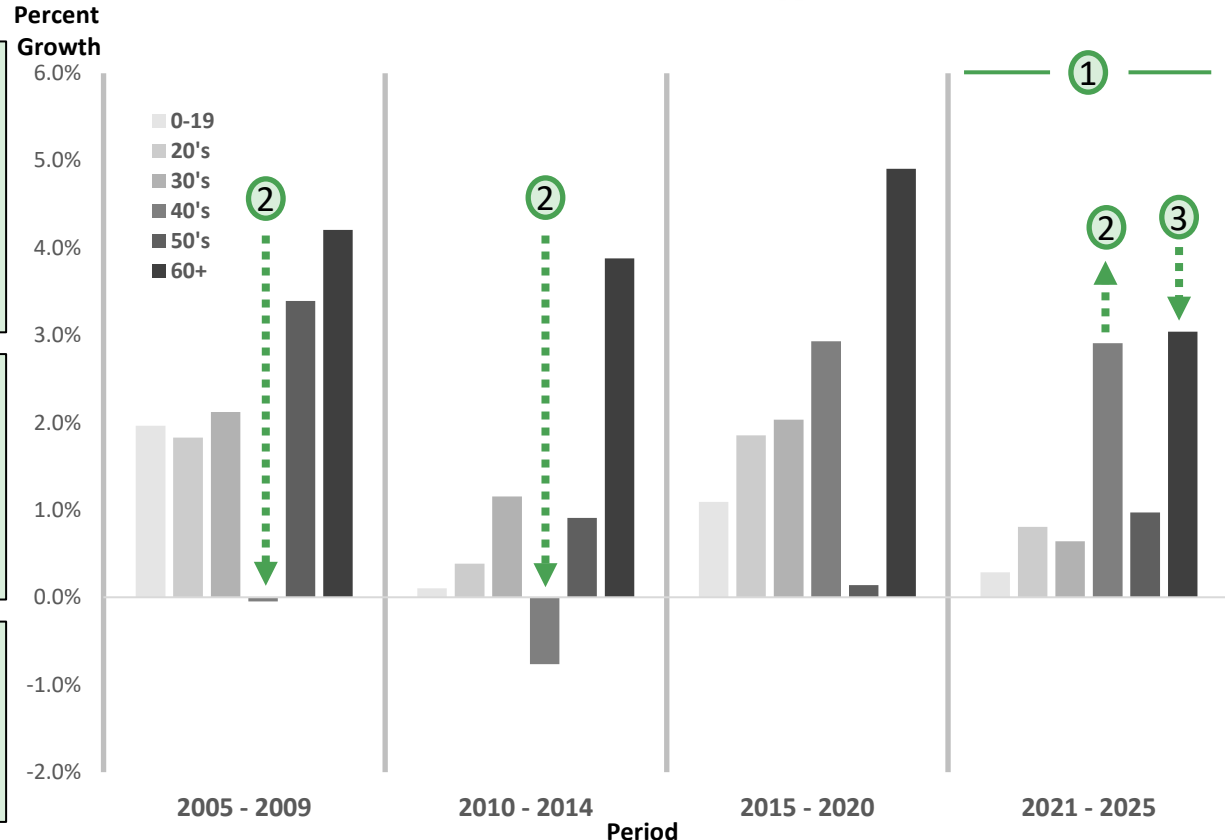
02

Economic Discussion

Continued above-average growth in labor force that has, since the onset of the pandemic, expanded more in percentage terms than 45 other states is certainly being fueled, at least in part, by residents moving into Idaho. ①

The growing popularity of Idaho among younger generations, coupled with expanding and diversifying employment opportunities, will support continued in-migration. ②

Rising mortgage rates and rents, combined with weak equity markets, may deter some retirees from relocating. ③





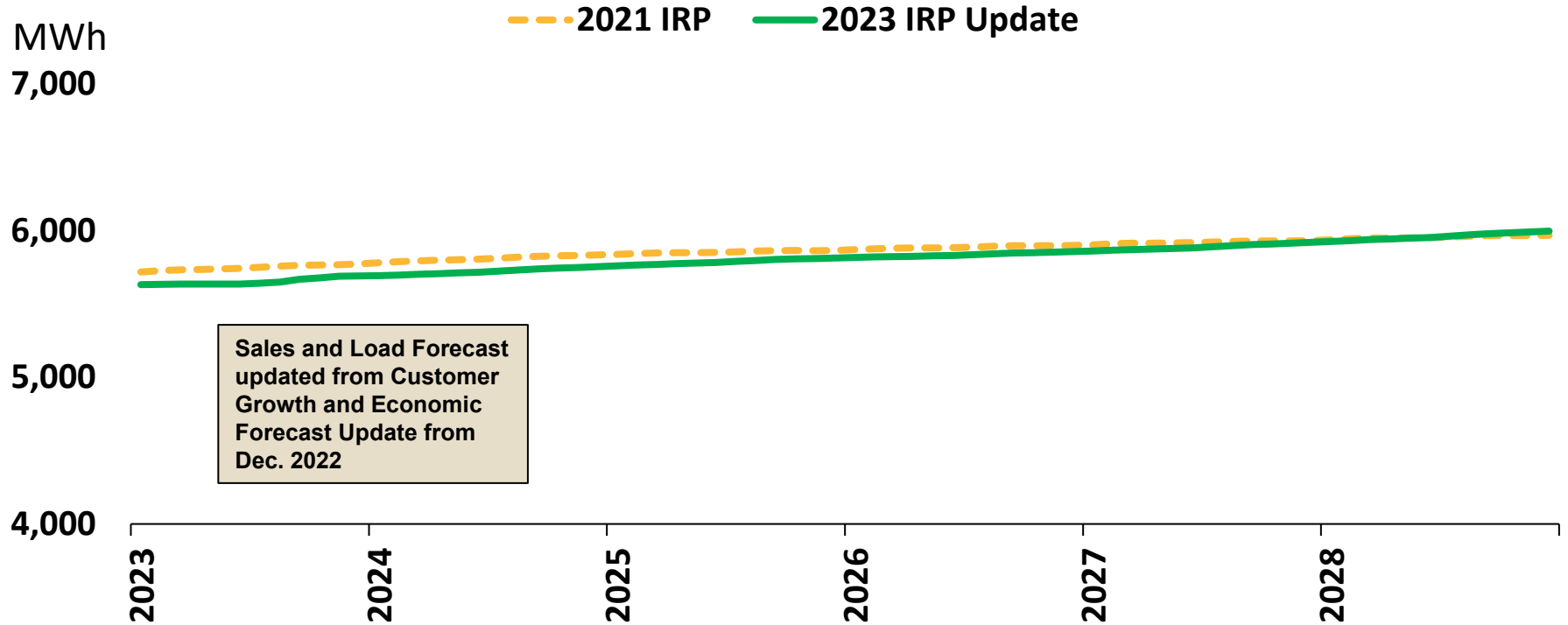
# **Class-Level Results**

# Residential Sales Forecast

03

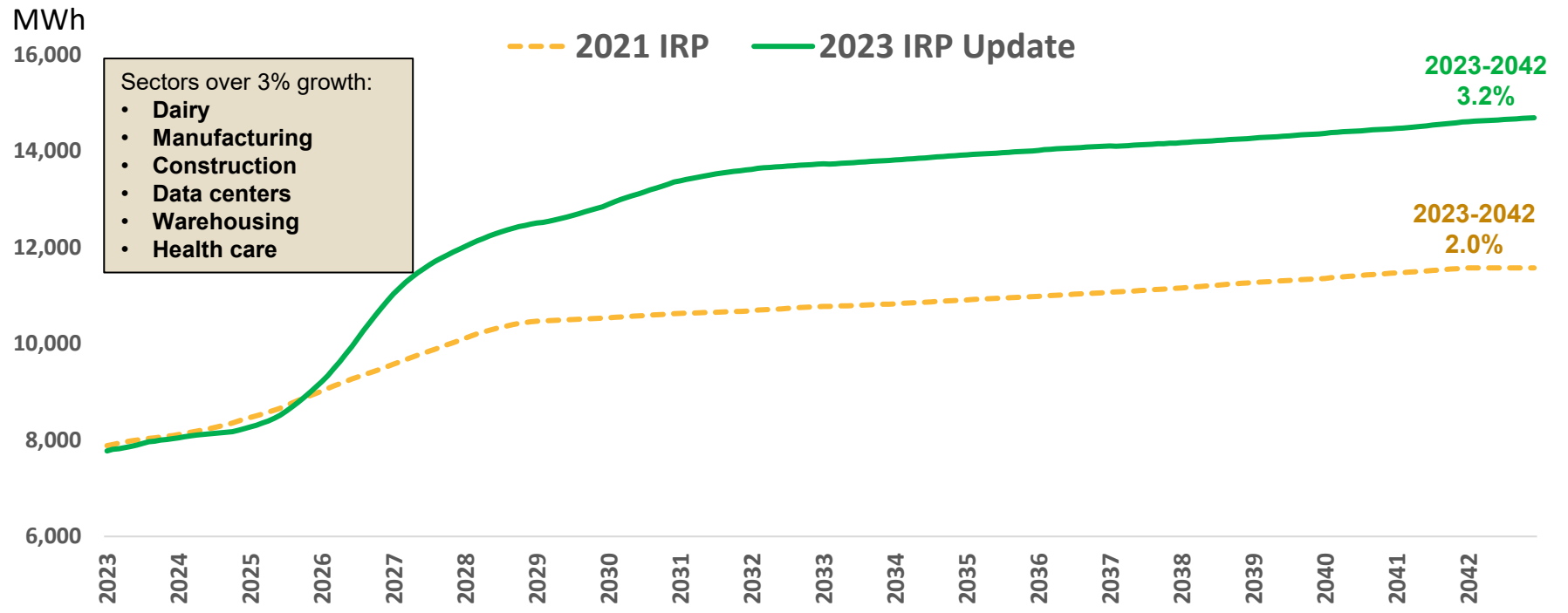
Class-Level Results

## Residential Sales (GWh)



# C/I (Including All Firm Load) Sales Forecast

## Commercial and Industrial and Additional Firm Load Sales (GWh)



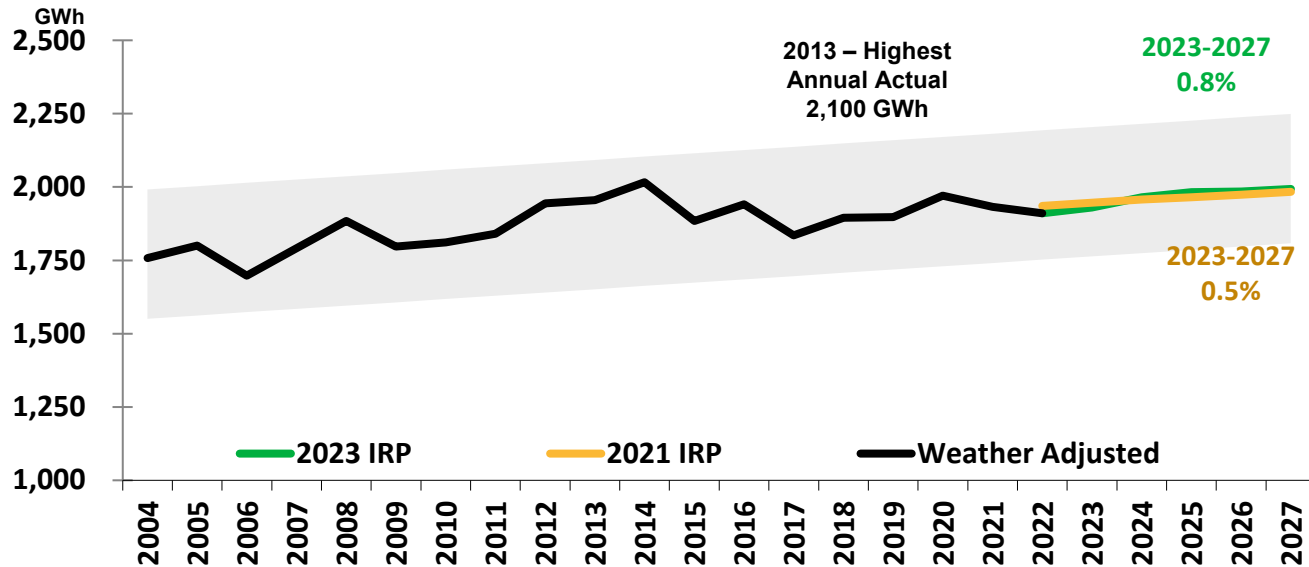


# Irrigation Sales Forecast

03

Class-Level Results

## Irrigation Sales Forecast (Annual GWh)



## Forecast Notes

- **Weather sensitive:** Sales can be higher or lower by 225 GWh primarily due to weather.
- Main drivers include temperatures and **precipitation, crop prices, agricultural output, and crop cycle water intensity** (alfalfa and corn).
- **Below 20-year trend:** As forecast places more weight on near-term results and impact from on-site generation

# Additional Considerations



## Load Sensitivities

### → Rapid Electrification

- To include building electrification (e.g., heat pumps and heat pump H<sub>2</sub>O) as well as a geothermal heat pump configuration.
- Aggressive electric vehicle saturation (over ~150k baked into base).
  - Electrification load shape has been shifted to include some off-peak charging.

### → Load Flattening

Targeted residential load with a shift of 10% from peak to other hours.

### → Extreme Weather

More frequent and extreme multi-day heat and cold events, higher peaks.