Agenda

• Executive Summary
  → Forecast Results
  → Sales/Peak/Customer Graphics

• Economic Discussion
  → Labor
  → Population/Migration/Housing

• Class Level Results
  → Residential
  → Commercial and Industrial
  → Irrigation
  → DERs and EVs
ADDITIONAL CONSIDERATIONS

• Energy Efficiency and Load Forecasting in 2021 IRP (01/12/2021)
  → Optionality of energy efficiency treatment

• Load Forecasting Technical Working Group (02/23/2021)
  → Peak contributions by class
  → Prior IRP sales forecast performance
  → Out of sample, “acid test” results for commercial and industrial, case for non tread stationarity in econometric models

• Future Discussions
  → Electrification. Base case load forecast still holds.
  → Solar hosting capacity analysis
  → Indicator variable analysis
  → Impacts of COVID-19
System Sales Historic Results

System Sales (000’s MWh)

- 2019 IRP
- Weather Adjusted

- '05-'08 1.8%
- '09-'11 (0.4)%
- '12-'20 0.7%
System Customer Forecast

System Customer Growth (12-month change)

- '05-'08: 2.6%
- '09-'11: 0.6%
- '12-'20: 1.9%

Customer Growth:
- 0.0%
- 1.0%
- 2.0%
- 3.0%
- 4.0%
- 5.0%

2021 IRP Forecast

'21-'40: 1.9%
All Growth Is Not Equal

Annual Average System Sales And Customer Growth Since Recession (2010) – Percent Change

Source: FERC Form 1 filings through 2019
System Peak Forecast Results

System Peak Results

MW

- 2019 IRP Peak Range
- Actual DR Adj
- 2021 IRP Peak 100 Percentile
- 2021 IRP Peak 0 Percentile
- 2021 IRP Peak 50th Percentile

2021 Forecast (2021 IRP): 4,470 MW
2019 Forecast (2019 IRP): 4,483 MW
Increase of ~50 MW/yr
System Peak Forecast Contributions

<table>
<thead>
<tr>
<th>Month</th>
<th>Residential</th>
<th>Comm/Ind</th>
<th>Irrigation</th>
<th>Specials</th>
</tr>
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<tbody>
<tr>
<td>Jan</td>
<td>38%</td>
<td>20%</td>
<td>15%</td>
<td>3%</td>
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<td>Feb</td>
<td>42%</td>
<td>18%</td>
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<td>Mar</td>
<td>38%</td>
<td>20%</td>
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</tr>
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<td>Apr</td>
<td>42%</td>
<td>18%</td>
<td>13%</td>
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</tr>
<tr>
<td>May</td>
<td>38%</td>
<td>20%</td>
<td>15%</td>
<td>3%</td>
</tr>
<tr>
<td>Jun</td>
<td>42%</td>
<td>18%</td>
<td>13%</td>
<td>3%</td>
</tr>
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<td>Sep</td>
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</tr>
<tr>
<td>Oct</td>
<td>42%</td>
<td>18%</td>
<td>13%</td>
<td>3%</td>
</tr>
<tr>
<td>Nov</td>
<td>38%</td>
<td>20%</td>
<td>15%</td>
<td>3%</td>
</tr>
<tr>
<td>Dec</td>
<td>42%</td>
<td>18%</td>
<td>13%</td>
<td>3%</td>
</tr>
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</table>
Macroeconomic Drivers
Comparative Analysis: Idaho’s Labor Market

Percent Job Loss Post WWII Recessions

Demand Caps Supply
Home Values Surge in Mountain West

Q3 Ending 2020 Top 100 US Cities Home Value Growth

SOURCE: Zillow research. Zillow Home Value Index (ZHVI) of single-family homes through 09/30/20. Author's calculations.
Class Forecasts
Residential Sales Historic

Residential Sales (000's MWh)

- 2019 IRP
- Weather Adjusted

- '06-'08: 1.6%
- '09-'11: (0.7)%
- '12-'20: 1.0%
Residential Sales Forecast

Residential Sales (000’s MWh)

- 2019 IRP Forecast
- 2021 IRP Forecast
- Weather Adjusted

Residential Sales (000’s MWh)
Residential Use Per Customer

Use Per Customer Forecast (weather adjusted kWh/Cust)

• Currently expanding UPC is expected to return to a steadily eroding pattern by end of 2021 and held larger into mid 20's.

• Strong pull down from both organic and company sponsored EE.
2020 Residential COVID Impacts

Estimated COVID-19 Impacts
Weather Sensitive Residential Load

Average Increase ~7%

Mar: +3.2%, Apr: +7.3%, May: +7.4%, Jun: +6.3%, Jul: +7.9%, Aug: +7.3%, Sep: +6.9%, Oct: +5.6%, Nov: +8.0%, Dec: +7.5%

Expected
Actual
C/I Econometric Modeling

Weather Data
Economic Data
Utility Data

IPC Commercial and Industrial Data
Industrial Services Model
Comm Large Manu
Comm Large Services
Comm Services Model
Unique Industrial Models
Comm Manu'ing Model

IPC Industrial Sales Forecast
Dependent Variable = Annual Sales
Architecture = Econometric
Training Start = early 1990's

IPC Aggregate C/I Sales Forecast
"Bolts"

Ag.Model
Mfg. Model
Svc. Other Model
Svc. Base Model

Architecture = Econometric
Training Start = early 2000's
Dependent Variable = Annual Sales
Commercial and Industrial Sales History

Commercial and Industrial Sales (000's MWh)

- 2019 IRP
- Weather Adjusted

- '06-'08: 1.5%
- '09-'11: (0.2)%
- '12-'20: 0.7%
Commercial & Industrial Sales Forecast

Commercial & Industrial Sales (000’s MWh)

- 2019 IRP
- 2021 IRP
- Weather Adjusted

* Over 2% represents pre-DSM adjustments
C/I Sales - Historical Impact of EE

Annual Energy Efficiency in Commercial and Industrial (x/special contracts)

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual Sales (GWh)</th>
<th>Annual Sales + DSM (GWh)</th>
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<tbody>
<tr>
<td>JAN13</td>
<td>5,800</td>
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<tr>
<td>JAN14</td>
<td>6,000</td>
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<td>JAN15</td>
<td>6,200</td>
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<td>JAN19</td>
<td>7,000</td>
<td></td>
</tr>
<tr>
<td>JAN20</td>
<td>7,200</td>
<td></td>
</tr>
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</table>

COMPANY SPONSORED EE

Actual Sales

GWh

JAN13 JAN14 JAN15 JAN16 JAN17 JAN18 JAN19 JAN20
Special Contracts Sales Forecast

**Special Contracts (class sum in aMW)**

**Forecast Notes**

- Planned projects to increase demand.
- Significant expansion in 2026.
- Other growth slow and steady.
- Future growth consideration in 2021-2025 scaled.
- Forecasts for Special Contracts configured per communications with plant engineers/managers.
Irrigation Sales Forecast

Irrigation Sales Forecast (annual GWh)

- 2013 – 2,100 GWh

Forecast Notes

- '21-'40 0.6%
- '21-'40 0.8%

Probability band suggests sales can be higher or lower by 225 GWh due to primarily 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.

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## Net Metering Assumptions

### Net Metering Forecast

<table>
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<tr>
<th>Net-Metering Forecast</th>
<th>2021</th>
<th>2025</th>
<th>2030</th>
<th>2040</th>
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### Notes:
2. Modeled the impact of roof-top solar (NM) on the sales forecast, avg reduction in summer billing demand ~8%
3. Current 1.3% residential customer saturation, 2021 2.1%
Electric Vehicle Forecast

Idaho Power Electric Vehicle Forecast

Unit Forecast

- 50,000
- 45,000
- 40,000
- 35,000
- 30,000
- 25,000
- 20,000
- 15,000
- 10,000
- 5,000

Actual
2021IRP

2,620kWh/yr/car
Recap

Regional Economics Matters

→ Fast down, swoosh back up

→ Fundamentals (land and people) are still there

→ Idaho impact less than national, migration continues to look strong

Residential Use-Per-Customer (UPC) & Cust

→ UPC near term premium, returns to ~1.0%/yr

→ Stronger customer growth in long term

C/I cycles back but some hit persists

→ Commercial class rebounds, will take several quarters.

→ Potential longer hits to retail & commercial space

→ Large load expansions in 2021+ manufacturing and food

Risks, the “D”s

→ Dynamic macroeconomic playing field

→ Degrees, Droplets, Drought or Weather

→ DERs and Efficiency