# 2024 Distributed Energy Resources Annual Report

**April 2025**

# INTRODUCTION

Idaho Power Company ("Idaho Power" or "Company") presents its annual Distributed Energy Resources ("DER") Status Report to the Idaho Public Utilities Commission ("Commission") as required by Order Nos. 32846[1] and 32925[2], Order No. 34955[3], and Order No. 36159[4]. The report begins with a brief regulatory update on recent orders impacting the compensation structure applicable to customers with DERs, followed by an update on current participation levels and growth rates since the Company's last DER Status Report filed with the Commission in April 2024. Next, the report discusses system reliability considerations, and provides an update on meter aggregation activity, credit transfers, and accumulated excess net energy credits. Finally, it concludes with a discussion on system upgrades caused by on-site generation customers and provides an update of the ongoing operations and maintenance ("O&M") costs associated with those upgrades.

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[1] *In the Matter of the Application of Idaho Power Company for Authority to Modify its Net Metering Service and to Increase the Generation Capacity Limit*, Case No. IPC-E-12-27, Order No. 32846 at 19 (July 3, 2013).

[2] *Id.,* Order No. 32925 at 7 (Nov. 19, 2013).

[3] *In the Matter of Idaho Power Company's Application to Establish Tariff Schedule 68 – Interconnections to Customer Distributed Energy Resources*, Case No. IPC-E-20-30, Order No. 34955 at 11 (Mar. 9, 2021).

[4] *In the Matter of Idaho Power Company's Application for Authority to Implement Changes to the Compensation Structure Applicable to Customer On-Site Generation Under Schedules 6, 8, and 84 and to Establish an Export Credit Rate*, Case No. IPC-E-23-14, Order No. 36159 at 2 (Apr. 30, 2024).

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# I. CUSTOMER GENERATION IN IDAHO

## Regulatory Background

Over the last several years, Idaho Power, as directed by the Commission, has engaged in a series of cases related to studying the costs and benefits of on-site generation on the Company's system. In 2019 and 2020, the Commission established "legacy" and "non-legacy" status for residential and small general service customers and commercial, industrial, and irrigation customers, respectively.[5] Through their orders, the Commission found that legacy customers will continue to participate in net energy metering (one-for-one kWh credit for excess net energy) under certain criteria through 2045[6] and non-legacy customers would be subject to future changes to the program fundamentals, including to the compensation structure applied to excess energy. The Commission also ordered the Company to undertake a comprehensive study process before any changes applicable to non-legacy customer compensation would be considered.[7]

Idaho Power undertook this study process throughout 2021 and 2022.[8] Ultimately, the Commission found the Company had complied with its previous orders by acknowledging the Company's October 2022 Value of Distributed Energy Resource study.[9] In that order, the

[5] *In the Matter of the Petition of Idaho Power Company to Study the Costs, Benefits, and Compensation of Net Excess Energy Supplied by Customer On-Site Generation*, Case No. IPC-E-18-15, Order No. 34509 at 10 (Dec. 20, 2019*); In the Matter of Idaho Power Company's Application for Authority to Modify Schedule 84's Metering Requirement and to Grandfather Existing Customers with Two Meters*, IPC-E-20-26, Order No. 34854 at 10 (Dec. 1, 2020).

[6] *In the Matter of the Petition of Idaho Power Company to Study the Costs, Benefits, and Compensation of Net Excess Energy Supplied by Customer On-Site Generation, Case No. IPC-E-18-15*, Order No. 34546 at 9 (Feb. 5, 2020*); In the Matter of Idaho Power Company's Application for Authority to Modify Schedule 84's Metering Requirement and to Grandfather Existing Customers with Two Meters*, Case No. IPC-E-20-26, Order No. 34854 at 10 (Dec. 1, 2020).

[7] *In the Matter of the Application of Idaho Power Company for Authority to Establish New Schedules for Residential and Small General Service Customers with On-Site Generation*, Case No. IPC-E-17-13, Order No. 34046 at 22 (May 9, 2018).

[8] *In the Matter of the Application of Idaho Power Company's Application to Initiate a Multi-Phase Collaborative Process for the Study of Costs, Benefits, and Compensation of Net Excess Energy Associated with Customer On-Site Generation,* Case No. IPC-E-21-21; *In the Matter of Idaho Power Company's Application to Complete the Study Review Phase of the Comprehensive Study of Costs and Benefits of On-Site Customer Generation & For Authority to Implement Changes to Schedules 6, 8, and 84 for Non-Legacy Systems,* Case No. IPC-E-22-22 .

[9] *In the Matter of Idaho Power Company's Application to Complete the Study Review Phase of the Comprehensive Study of Costs and Benefits of On-Site Customer Generation & for Authority to Implement Changes to Schedules 6, 8, and 84*, Case No. IPC-E-22-22, Order No. 35631 at 31 (Dec. 19, 2022).

Commission also directed the Company to file a new case requesting to implement changes to its on-site generation offering.[10]

On May 1, 2023, Idaho Power filed Case No. IPC-E-23-14, where it sought to implement changes to the on-site generation offering, which included a modified compensation structure (net billing) that would be applicable to non-legacy on-site generation customers. Under net billing, customers continue to offset their usage with all on-site production consumed on-site and are compensated per kWh exported with an avoided cost-based export credit rate ("ECR") that varies based on the season and time of export. In Order No. 36048, the Commission approved the Company's filing, with modifications, and authorized new program parameters to take effect with non-legacy customers' January 2024 billing period.[11] In that same order, the Commission directed Idaho Power to meet with Staff to discuss the feasibility of implementing a surcharge to recover the ongoing costs of system upgrades and to submit its findings to the Commission by means of a compliance filing.[12] On March 28, 2024, Idaho Power submitted a compliance filing setting forth the results of its evaluation, pursuant to which the Company did not believe it was advisable to implement a surcharge at that time. Instead, the Company recommended collecting additional data and expanding its reporting requirements to help assess whether and when seeking to recover ongoing O&M caused by system upgrades may be warranted. More specifically, the Company proposed to document and assess the quantity and cost of all upgrades for on-site generation customers, as part of its annual DER Status Report. The Commission accepted the Company's filing as complying with the requirements set forth in Order No. 36048.[13]

As a result of the recent changes to the Company's on-site generation offering, this year's DER Status Report contains additional elements related to: (1) meter aggregation (as 2024 was the first-year non-legacy customers were eligible to transfer financial credits), and (2) updated reporting requirements related to the quantity and cost of all upgrades for on-site generation customers, along with an approximation of their associated ongoing operations and maintenance costs.

[10] *Id.*

[11] *In the Matter of Idaho Power Company's Application for Authority to Implement Changes to the Compensation Structure Applicable to Customer On-Site Generation Under Schedules 6, 8, and 84 and to Establish an Export Credit Rate*, Case No. IPC-E-23-14 Order No. 36048 at 6 and 18 (Dec. 29, 2023).

[12] *Id.,* at 7.

[13] *In the Matter of Idaho Power Company's Application for Authority to Implement Changes to the Compensation Structure Applicable to Customer On-Site Generation Under Schedules 6, 8, and 84 and to Establish an Export Credit Rate*, Case No. IPC-E-23-14 Order No. 36159 at 1 (Apr. 30, 2024).

## Current Participation (Exporting Systems)

As of December 31, 2024, Idaho Power had 19,323 total active and pending On-Site Generation Exporting Systems ("Exporting Systems")[14] with a cumulative nameplate capacity of 188.68 megawatts ("MW") in its Idaho service area. All new systems interconnected in 2024 were solar photovoltaic ("PV").

### *Legacy Systems*

Table 1 provides the total number of active Exporting Systems with legacy status in the Company's Idaho jurisdiction by resource type and customer class.

**Table 1 Legacy- Idaho Active Exporting Systems as of December 31, 2024**

| Customer Segment | Solar PV | Wind | Hydro/Other | Total |
|---|---|---|---|---|
| **Schedule 6** | | | | |
| Residential | 5,055 | 21 | 7 | **5,083** |
| **Schedule 8** | | | | |
| Small General | 43 | - | 2 | **45** |
| **Schedule 84** | | | | |
| Commercial & Industrial | 162 | - | 1 | **163** |
| Irrigation | 207 | - | - | **207** |
| **Total** | **5,467** | **21** | **10** | **5,498** |

Table 2 provides the total nameplate capacity of active Exporting Systems with legacy status in the Company's Idaho jurisdiction by resource type and customer class.

**Table 2 Legacy- Idaho Active Exporting Systems Nameplate Capacity (MW) as of December 31, 2024**

| Customer Segment | Solar PV | Wind | Hydro/Other | Total |
|---|---|---|---|---|
| **Schedule 6** | | | | |
| Residential | 39.66 | 0.10 | 0.07 | **39.82** |
| **Schedule 8** | | | | |
| Small General | 0.30 | - | 0.05 | **0.34** |

[14] Exporting Systems take service under the terms of Schedule 6, Residential Service On-Site Generation ("Schedule 6"), Schedule 8, Small General On-Site Generation ("Schedule 8"), and Schedule 84, Large General, Large Power, and Irrigation On-Site Generation ("Schedule 84") and are designed to transfer excess energy to the Company.

| Customer Segment | Solar PV | Wind | Hydro/Other | Total |
|---|---|---|---|---|
| **Schedule 84** | | | | |
| Commercial & Industrial | 5.60 | - | 0.03 | **5.62** |
| Irrigation | 19.50 | - | - | **19.50** |
| **Total** | **65.05** | **0.10** | **0.14** | **65.30** |

*Note: Totals may not sum due to rounding.*

## *Non-Legacy Systems*

Table 3 provides the total number of active and pending Exporting Systems with non-legacy status in the Company's Idaho jurisdiction by resource type and customer class.

**Table 3 Non-Legacy- Idaho Active and Pending Exporting Systems as of December 31, 2024**

| Customer Segment | Solar PV | Wind | Hydro/Other | Total |
|---|---|---|---|---|
| **Schedule 6** | | | | |
| Residential | 13,599 | 1 | 1 | **13,601** |
| **Schedule 8** | | | | |
| Small General | 35 | - | - | **35** |
| **Schedule 84** | | | | |
| Commercial & Industrial | 102 | - | - | **102** |
| Irrigation | 87 | - | - | **87** |
| **Total** | **13,823** | **1** | **1** | **13,825** |

Table 4 provides the total nameplate capacity of active and pending Exporting Systems with non-legacy status in the Company's Idaho jurisdiction by resource type and customer class.

**Table 4 Non-Legacy- Idaho Active and Pending Exporting Systems Nameplate Capacity (MW) as of December 31, 2024**

| Customer Segment | Solar PV | Wind | Hydro/Other | Total |
|---|---|---|---|---|
| **Schedule 6** | | | | |
| Residential | 105.31 | 0.002 | 0.004 | **105.31** |
| **Schedule 8** | | | | |
| Small General | 0.33 | - | - | **0.33** |
| **Schedule 84** | | | | |
| Commercial & Industrial | 4.49 | - | - | **4.49** |
| Irrigation | 13.26 | - | - | **13.26** |
| **Total** | **123.38** | **0.002** | **0.004** | **123.38** |

*Note: Totals may not sum due to rounding.*

## *Total Systems*

Figures 1 and 2 detail the cumulative customer Exporting System counts and nameplate capacity, respectively, by customer class in the Company's Idaho jurisdiction regardless of legacy status, from 2015 through the end of calendar year 2024 (including pending applications).

**Figure 1 Cumulative Exporting System Counts by Customer Type, 2015 – 2024**

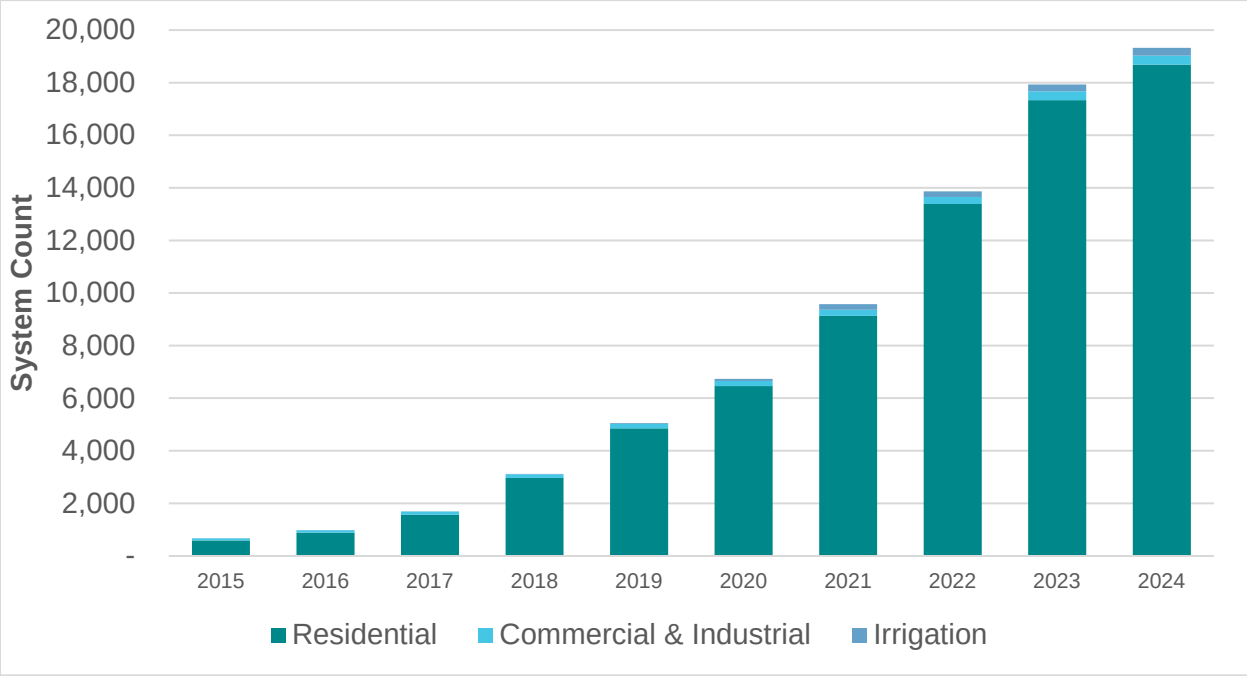
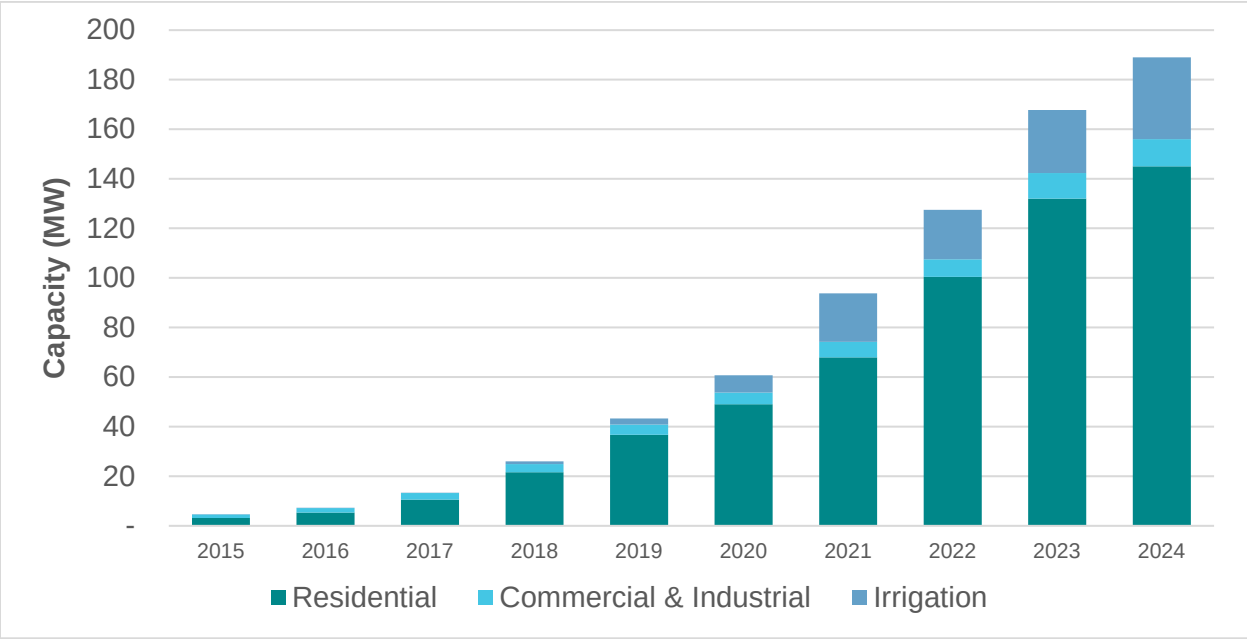


**Figure 2 Cumulative Exporting System Capacity by Customer Type, 2015 – 2024**



# II. SYSTEM RELIABILITY CONSIDERATIONS

There are 698 electrical distribution circuits in the Company's service area. Considering all customer-owned on-site generation installations across all jurisdictions, all rate classes, and all resources, as of December 31, 2024, there were 19,185 active, customer-owned on-site generation systems. These systems total approximately 182.8 MW on 538 distribution circuits.

## Installation Concentration versus Capacity

The circuits containing the greatest number of customer-owned on-site generation systems are in Ada and Elmore County, with the densest concentrations in southeast and south Boise and north Mountain Home. The largest *number* of customer-owned on-site generation systems connected on a single distribution circuit is 255, with a total rated capacity of 1,707 kilowatts ("kW"). This circuit primarily serves residential customers in Boise.

The distribution circuit in Idaho with the greatest customer-owned on-site generation *capacity* primarily serves irrigation and rural customers in the Magic Valley and has a total of 30 solar PV systems with a total rated capacity of 2,823 kW (average system size 94 kW). This circuit has a summer peak load of approximately 7,200 kW. The distribution circuit in Idaho with the second-highest customer-owned on-site generation capacity also serves irrigation and rural customers in the Magic Valley and has a total of 68 solar PV systems with a total rated capacity of 1,970 kW (average system size is 29 kW). This circuit has a summer peak load of approximately 19,400 kW.

There are 20 circuits with total customer-owned on-site generation capacity greater than 1,000 kW. Those 20 circuits hosted a total of 29.4 MW of generation. Twelve of these circuits are in the Magic Valley (one serves industrial and residential customers, and all others serve irrigation and rural customer loads). Of the remaining, five are in Ada County, two in Canyon County, and one in Elmore County, all of which primarily serve residential customers.

The customer-owned on-site generation connected capacity on the Company's distribution system as a percent of the total system peak load in 2024 was 4.7 percent. The Company has managed the impacts on these circuits, when necessary, by requiring customer-funded distribution upgrades pursuant to Rule H and, in very rare instances, requiring customer-funded substation upgrades.

## Smart Inverter Installation

All new systems applying to interconnect are required to install smart inverters[15] to support the distribution system's ongoing stability and reliability. As of January 1, 2024, Idaho Power requires inverters to comply with the IEEE 1547-2018 certification[16] which meet all smart inverter requirements as defined by the Institute of Electrical and Electronics Engineers ("IEEE"). The IEEE Standard 1547 establishes the technical standard for interconnection and interoperability of distributed energy resources and Idaho Power is an active participant in the review process of this standard which is expected to be updated and revised in 2026.

[15] Order No. 34955 issued in Case No. IPC-E-20-30 approved Schedule 68, effective March 23, 2021. Schedule 68 requires smart inverter functionality to be enabled for all new applications for customer generation.

[16] Underwriters Laboratories Standard for Safety 1741 – Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources, Supplement B.

# III. 2024 EXCESS NET CREDIT TRANSFERS

## Meter Aggregation Eligibility- Legacy

Schedules 6, 8, and 84 provide legacy customers with Exporting Systems the ability to submit requests to transfer excess net energy credits annually. Applications must be received by January 31 and the Company applies the following criteria for legacy systems to all requests received from legacy customers:

i. The account subject to offset is held by the customer; and

ii. The meter is located on, or contiguous to, the property on which the Designated Meter (the meter psychically connected to the Exporting System) is located. For the purposes of the tariff, contiguous property includes property that is separated from the premises of the Designated Meter by public or railroad rights of way; and

iii. The meter is served by the same primary feeder as the Designated Meter at the time the customer files the application for the Exporting System; and

iv. The electricity recorded by the meter is for the customer's requirements; and

v. For customers taking service under Schedule 6, or Schedule 8 credits may only be transferred to meters taking service under Schedule 1, Schedule 6, Schedule 7, or Schedule 8. For Schedule 84 customers taking service under Schedule 9, Schedule 19, or Schedule 24, credits may only be transferred to meters taking service under Schedule 9, Schedule 19, or Schedule 24.[17]

## Meter Aggregation Eligibility- Non-Legacy

Schedules 6, 8, and 84 also provide non-legacy customers with Exporting Systems the ability to submit requests to transfer excess net financial credits annually. Applications must be received by January 31 and the Company applies the following criteria for non-legacy systems from Schedules 6, 8, and 84 to all requests received from non-legacy customers:

i. The account subject to offset is held by the customer; and

ii. The electricity recorded by the meter is for the customers' requirements.

[17] Schedule 84 is an "adder" in Idaho Power's billing system. Schedules 9, 19, and 24 customers take service under those primary schedules and those with on-site generation have 84 added to their primary service schedule.

## Customer Communication

In November 2024, prior to the credit transfer window opening on December 1, Schedule 6, 8, and 84 customers with excess net energy or net financial credits were sent a postcard reminding them of the meter aggregation process, a list of important things to note about the transfer process, the deadline for them to apply, and a phone number to contact. The postcard also contained a web address which contains the requirements and an online form. This postcard was sent to a total of 5,861 legacy and non-legacy customers.

In January 2025, the Company sent an email or provided a bill message on Schedule 6, 8, and 84 customers' bills to inform them of when the transfer window closed and to provide a link to a webpage where customers could find more information. Lastly, in January the Company also sent an email reminder to 121 customers who submitted transfer requests in 2023 but had not yet submitted a request for 2024. This email reminded these customers of the meter aggregation process and deadline and provided a link for them to submit a transfer request.

## Credit Transfer Requests for Calendar Year 2024

As of the application deadline, January 31, 2025, the Company received 344 applications for transfer. Of the total transfer requests, 231 applications were from legacy customers and 113 were from non-legacy customers. The applications were reviewed against the applicable aggregation criteria and the Company determined that 303 of the requests were eligible for transfer based on the aggregation criteria. Of the eligible transfer requests, 201 were from legacy customers and 102 were from non-legacy customers.

The total amount of kWh credits transferred was 14,693,176 kilowatt-hours ("kWh") generated from Exporting Systems taking service under Irrigation (89 percent), Large General (seven percent), Residential (four percent), and Small General (one percent) rate schedules. The 14,693,176 kWh were transferred to customers taking service under Irrigation (77 percent), Large General (eight percent), Residential (four percent), and Small General (less than one percent) rate schedules.

The total amount of financial credits transferred was $16,989 from Exporting Systems taking service under Large General (81 percent) and Residential (19 percent) rate schedules. The $16,989 was transferred to customers taking service under Irrigation (three percent), Large General (81 percent), Residential (nine percent), and Small General (eight percent) rate schedules. [18]

[18] Totals may not sum due to rounding.

The Company received 41 applications that were ineligible for transfer based on the following:

**Legacy**

- Four applications requested a transfer to a meter that was not on contiguous property.
- One application was not on the same feeder.
- Two applications requested to transfer to rate schedules that do not qualify.
- 12 failed due to two or more of the criteria not being met.
- 11 applications did not qualify for other reasons.[19]

**Non-Legacy**

- Four applications had no excess credits.
- Two applications were from meters that were not an on-site generation service meter (a "designated meter").
- Five applications did not qualify for other reasons.

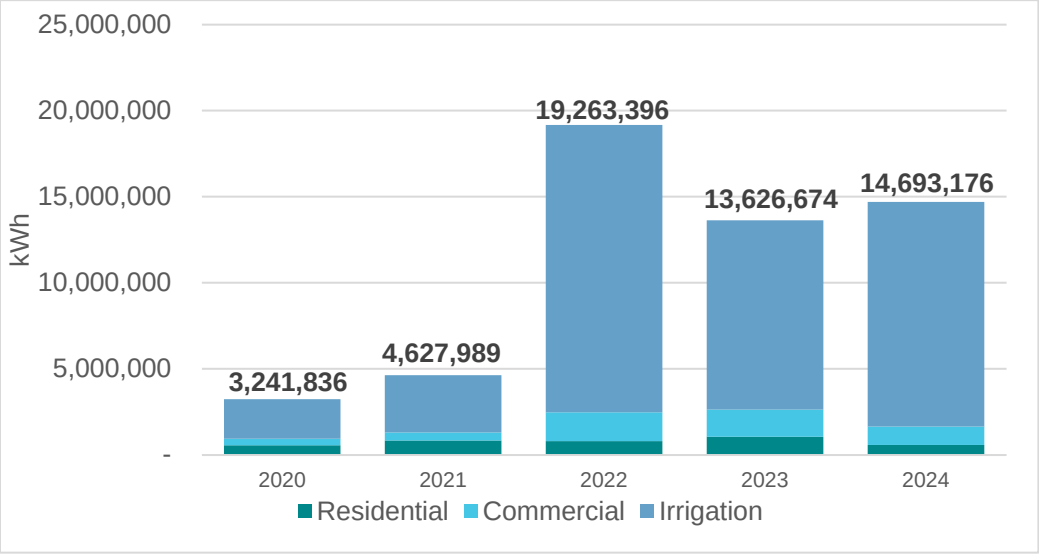
The Company sent letters to all customers whose requests were ineligible for transfer explaining the reason for the denial.

[19] Other reasons include a variety of scenarios, examples include: applications that were canceled by the customer, duplicate requests, or requests to transfer to and from the same meter.

## Credit Transfer Magnitude- Legacy

Figure 3 shows the total excess kWh credit transfers for the last five years (2020 through 2024) by customer class.

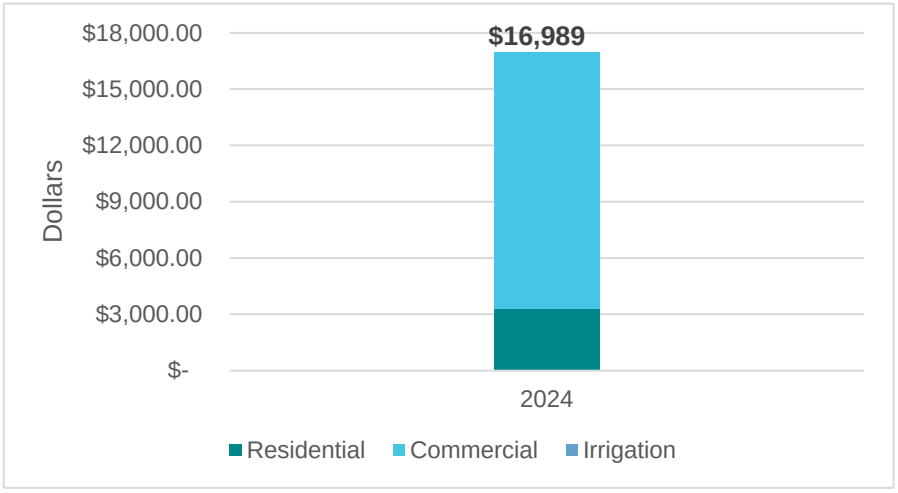
**Figure 3 Excess Net Energy kWh Credit Transfers by Customer Class, 2020 – 2024**




## Credit Transfer Magnitude- Non-Legacy

This was the first year non-legacy customers could request to transfer excess net financial credits. Figure 4 shows the total excess net financial credit transfers for 2024, by class.

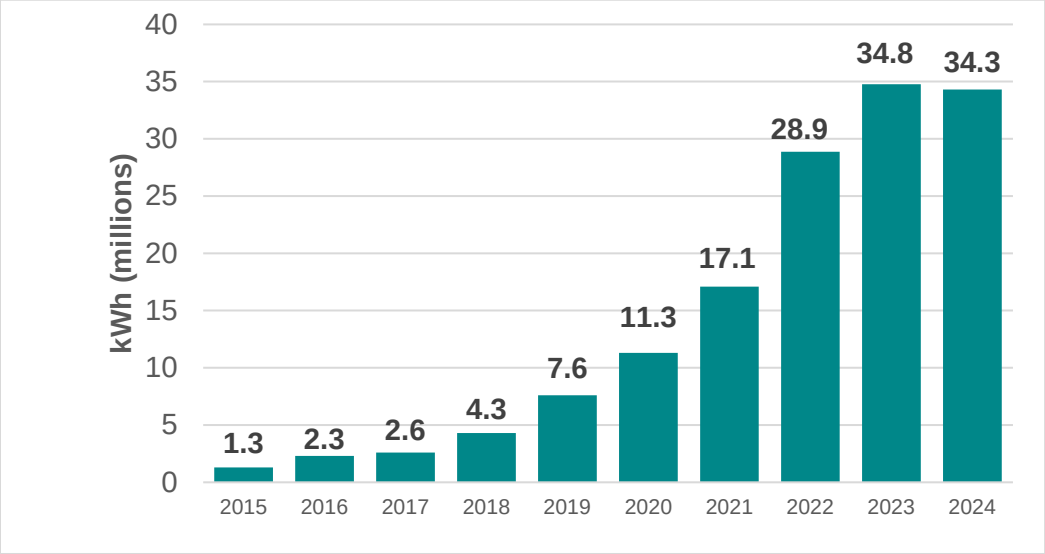
**Figure 4 Excess Net Financial Credit Transfers by Customer Class, 2024**



## Accumulated Excess Net Energy Credit Balances

Figure 5 shows the accumulated excess net energy kWh credit balance for 2014 through 2024.[20]

**Figure 5 Accumulated Unused Excess Net Energy Credit Balance, 2015 – 2024[21]**




## Accumulated Excess Net Financial Credit Balances

In 2024, non-legacy customers began earning financial credits. At the end of 2024, the balance of accumulated excess net financial credits was approximately $0.45 million.

[20] In Order No. 32846, the Commission stated, "we find it fair, just, and reasonable for the kWh credit to indefinitely carry forward to offset future bills as long as the customer remains on the net metering service at the same generation site. Allowing the credits to carry forward indefinitely ensures that customers will be able to use their credits when they need them and thus receive the benefits of their systems."

[21] The accumulated excess net energy credit balance represents all unused credits as of December 31. It does not reflect the potential reduction due to future offset at the premise generated or transferred to another meter for offset.

# IV. SYSTEM UPGRADES AND O&M COSTS

## System Upgrades and O&M Costs

In 2024, 27 on-site generation projects out of approximately 2,150 systems were notified that transformer or feeder upgrades would be necessary as a result of the Feasibility Review. Of those 27 projects, 13 included an energy storage device. Ultimately, seven of the 27 projects chose to proceed with funding the upgrades. Four of the seven projects included a DC coupled energy storage device. Because DC coupled energy storage devices share an inverter with the on-site generation system, an upgrade would have been required even if the energy storage device had not been included with the project. Table 5 provides information for each of the seven projects, including the size of the project, the upgrade that was required, the total cost of that upgrade, and the estimated annual O&M.

**Table 5 System Upgrades and O&M Costs**

| Project | Customer Class | Size (kW AC) | Scope of Required Upgrade | Total Cost of Upgrade | Estimated Annual O&M |
|---|---|---|---|---|---|
| 1 | Residential | 22.8 | 10 kVa (single phase) to 25 kVa (single phase) | $4,195 | $0.42 |
| 2 | Residential | 24.46* | 25 kVa (single phase) to 50 kVa (single phase) | $3,259 | $0.33 |
| 3 | Residential | 23* | 15 kVa (single phase) to 50 kVa (single phase) | $5,659 | $0.57 |
| 4 | Residential | 23* | 25 kVa (single phase) to 50 kVa (single phase) | $5,769 | $0.58 |
| 5 | Irrigation | 100 | 75 kVa (three phase) to 150 kVa (three phase) | $10,792 | $1.08 |
| 6 | Residential | 15* | 25 kVa (single phase) to 50 kVa (single phase) | $1,131 | $0.11 |
| 7 | Irrigation | 260 | Feeder- two controllers updated from CL6s to CL7s | $10,400 | $1.04 |

*Project has DC coupled battery

# V. CONCLUSION

The continued expansion of on-site generation on Idaho Power's system highlights the evolution of the Company's electrical grid, along with the importance of evaluating service provisions and pricing to ensure safe, reliable, and fair-priced electricity. Idaho Power will continue to monitor customer generation and keep the Commission informed of its impact on system reliability.