

**GOVERNMENT OF PUERTO RICO  
PUERTO RICO PUBLIC SERVICE REGULATORY BOARD  
PUERTO RICO ENERGY BUREAU**

**NEPR**

**Received:**

**Jun 20, 2023**

**11:02 PM**

**IN RE:**  
INFORMES DE PROGRESO DE  
INTERCONEXIÓN DE LA AUTORIDAD  
DE ENERGÍA ELÉCTRICA DE PUERTO  
RICO

**CASE NO. NEPR-MI-2019-0016**

**SUBJECT:**

Motion Submitting Responses in Compliance with Bench Order Issued at the Hearing Held on May 18, 2023, and the Resolution and Order of June 2, 2023

**MOTION SUBMITTING RESPONSES  
IN COMPLIANCE WITH THE BENCH ORDER ISSUED AT  
THE HEARING HELD ON MAY 18, 2023, AND THE  
RESOLUTION AND ORDER OF JUNE 2, 2023**

**TO THE PUERTO RICO ENERGY BUREAU:**

**COME NOW, LUMA ENERGY, LLC** as Management Co., and **LUMA ENERGY SERVCO, LLC** (collectively, LUMA), through the respective undersigned legal counsel and respectfully state and submit the following:

1. The captioned proceeding involves oversight by this Honorable Puerto Rico Energy Bureau (“Energy Bureau”) of procedures to handle requests for interconnections of distributed generation systems and microgrids to the Transmission and Distribution System (“T&D System”), pursuant to Acts 57-2014 and 17-2019.

2. Since July 2020, this Energy Bureau has required that the Puerto Rico Electric Power Authority (“PREPA”) submit quarterly progress reports on interconnections. *See* Resolution and Order of July 21, 2020. The docket of this proceeding also reveals that the Energy Bureau has held several compliance hearings.

3. On May 7, 2021, the Energy Bureau issued a Resolution and Order in which it took notice of the transition process underway between LUMA and PREPA (“May 7<sup>th</sup> Resolution and Order”). On June 1, 2021, LUMA assumed its role as Operator of the T&D System per the terms of the Puerto Rico Transmission and Distribution System Operation and Maintenance Agreement dated June 22, 2020, as supplemented by the Puerto Rico Transmission and Distribution System Supplemental Terms Agreement. In the May 7<sup>th</sup> Resolution and Order, the Energy Bureau ordered that LUMA shall file the quarterly progress reports that the Energy Bureau has required in this proceeding. *See* May 7<sup>th</sup> Resolution and Order on page 1.

4. On August 27, 2021, this Energy Bureau issued a Resolution and Order directing LUMA to file a copy of the presentation to be offered in every compliance hearing with every Interconnections Progress Report. On April 21, 2023, the Energy Bureau entered a Resolution and Order instructing LUMA and its representatives to attend a Virtual Technical Conference to be held on May 18, 2023, at 10:00 a.m., to discuss the Progress Reports and other information requested by the Energy Bureau for its evaluation.

5. On May 18, 2023, the compliance hearing for this instant proceeding was held. During the presentation, the Commissioners made various requests for information from the LUMA representatives. The Independent Consumer Protection Office (“ICPO”) made other requests for information as well (“May 18<sup>th</sup> Bench Order”).

6. On May 19, 2023, the ICPO filed a *Moción en Cumplimiento de Orden Emitida Durante la Vista de Cumplimiento Celebrada el 18 de mayo de 2023*, whereby it requested LUMA to provide certain information of those expedited cases in which it has been required from the proponent to carry out infrastructure improvements as a result of a supplementary study.

7. On June 2, 2023, the Energy Bureau entered a Resolution and Order granting the ICPO's request. Further, it ordered LUMA to provide the information requested in the May 18<sup>th</sup> order and the information responsive to the ICPO's request within the next fifteen (15) days.

8. In compliance with the May 18<sup>th</sup> Bench Order and the June 2<sup>nd</sup> Order, LUMA respectfully requests that this Energy Bureau receive and accept the responses to the requests for information posed during the compliance hearing and the June 2<sup>nd</sup> Order, hereby submitted as Exhibit 1 to this Motion. LUMA also includes a revised version of the presentation shown at the May 18<sup>th</sup> compliance hearing as Exhibit 2 to this Motion. Finally, LUMA submits a revised version of the Interconnections Progress Report for the quarter of January through March 2023 and the DG Data file, submitted as Exhibit 3 to this Motion. The Interconnections Progress Report submitted for January through March 2023 omitted to include the information concerning the renewable energy portfolio for the natural year 2022, which is renewed yearly in March. Additionally, the DG Data file has modifications to its graphics, and it was added a net consumption billed example.

**WHEREFORE**, LUMA respectfully requests that the Energy Bureau **take notice** of the aforementioned; **accept** the responses to the requests for information posed during the compliance hearing and the June 2<sup>nd</sup> Order as Exhibit 1 to this Motion, the revised version of the presentation shown at the May 18<sup>th</sup> compliance hearing as Exhibit 2 to this Motion, and a revised version of the Interconnections Progress Report for the quarter of January through March 2023, and the DG Data file, submitted as Exhibit 3 to this Motion; and **deem** LUMA complied with the May 18<sup>th</sup> Bench Order.

**RESPECTFULLY SUBMITTED.**

In San Juan, Puerto Rico, this June 20<sup>th</sup>, 2023.

I hereby certify that I filed this motion using the electronic filing system of this Energy Bureau and that I will send an electronic copy of this motion to the attorney for PREPA, Joannely Marrero-Cruz, [jmarrero@diazvaz.law](mailto:jmarrero@diazvaz.law). Notice will also be sent to the Office of the Independent Consumer Protection Office, Lcda. Hannia Rivera Diaz, [hrivera@jrsp.pr.gov](mailto:hrivera@jrsp.pr.gov), and to counsel for the Puerto Rico Solar Energy Industries Association Corp. (“SESA”), [javrua@sesapr.org](mailto:javrua@sesapr.org).



**DLA Piper (Puerto Rico) LLC**  
500 Calle de la Tanca, Suite 401  
San Juan, PR 00901-1969  
Tel. 787-945-9132  
Fax 939-697-6102

*/s/ Yahaira De la Rosa Algarín*  
Yahaira De la Rosa Algarín  
RUA NÚM. 18,061  
[yahaira.delarosa@us.dlapiper.com](mailto:yahaira.delarosa@us.dlapiper.com)

Exhibit 1

# Exhibit 1: DG Interconnection Progress Report – Energy Bureau’s Bench Order Requests

NEPR-MI-2019-0016

June 20, 2023

# DG Interconnection Progress Report – Energy Bureau’s Bench Order Requests NEPR-MI-2019-0016

## INTRODUCTION

On April 13, LUMA Energy submitted to the Energy Bureau of the Puerto Rico Public Service Regulatory Board a document entitled Motion Submitting Interconnection Progress Report for January 2023 through March 2023 (hereinafter, “April 13th Motion”) and the Presentation for Next Compliance Hearing. In the April 13th Motion, LUMA informed the status of the interconnection processes. It included the presentation of the May 18th, 2023, technical conference in compliance with the Energy Bureau's R&O of April 21, 2023 (hereinafter, April 21st order”). The April 21st Order required LUMA to appear for a Technical Conference on May 18, 2023, to discuss the progress reports submitted with April 13th Motion. During the Technical Conference held on May 18, 2023, the Independent Office for Consumer Protection (“ICPO”) made several requests for information to LUMA. Among them, the ICPO requested specific information on the interconnections that require further supplemental study. During the May 18, 2023 technical conference, the Energy Bureau required the ICPO to submit the requested information in writing. On June 2, 2023, the Energy Bureau directed LUMA to respond to ICPO’s questions and the bench orders given during the technical conference.

## 1.0 Energy Bureau Requests

### REQUEST

1. Time each process step takes according to Regulation No. 8915, for projects under 25 KW.

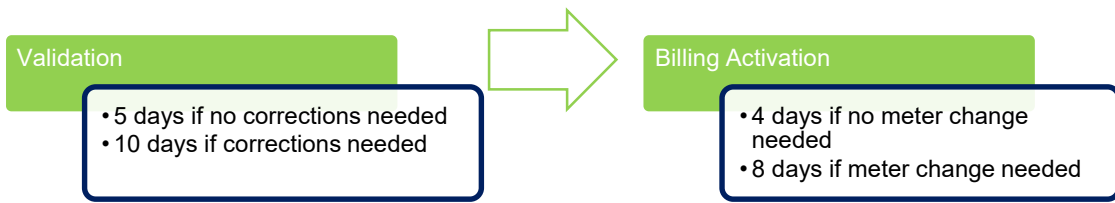
### RESPONSE

LUMA can estimate the duration of the key process steps, as provided in Figure 1. However, LUMA does not currently have the ability to track each individual step of the process.

First, the time between when the case is filed in the DG Portal, and a LUMA employee validates the case is an average of 5 days. This entails how long it took to review and validate the case and determine whether it is complete or needs corrections from the customer.

It then takes an average of 10 days to pass the validation. This includes both the cases returned to the customer for corrections, and the cases passed validation on their first review. If the cases did not require corrections, the average time would be lower (i.e., roughly 5 days).

After validation, the case moves to “billing activation”. The average time to complete billing activation is 4 days per case, if the case does not require a new meter. If the case does require a meter change, the average time to complete a meter change by the low voltage team is 4 days.



**Figure 1: Process steps for projects under 25 KW**

## REQUEST

2. Data on the time each step takes according to Regulation No. 8915 on projects over 25 KW.

## RESPONSE

Projects over 25 KW follow a different process for net energy metering activation. There are 3 major steps in the process: the study, the endorsement, and the inspection. Each step requires iterations between the developer and LUMA due to information requests and validation and site visits necessary for these larger, more complex types of projects. This can cause cases over 25 KW to take longer for net metering activation than projects under 25 KW. Figure 2 shows the average time to complete each step. Cases under inspection are pending completion.



**Figure 2: Projects over 25 KW process steps.**

The January to March 2023 Quarterly Report included information on several inspections in progress and pending completion within the next quarter. The cases considered on this average are limited to those cases within this quarter.

## REQUEST

3. Include the average time of connection for cases over 25 KW.

## RESPONSE

Annex 1 of the January-March 2023 Quarterly Report shows that 8 cases over 25 KW were completed during that quarter. It took an average of 208 days to complete these cases. It should be noted that this timeline includes the time it took for the customer to install the system and finalize the required interconnection paperwork. The cases considered here include those initiated this quarter and the previous quarter.

## REQUEST

4. New DG Portal status and the estimated date when it would be ready for the public.

## RESPONSE

The new DG Portal is projected to be completed by August 2023. LUMA is committed to completing and launching the new DG Portal. The new DG Portal features improve the customer experience and provide efficiencies in processing. LUMA is working diligently to ensure that the launch is successful, and thus the remaining steps to launch are focused on quality control, ensuring adequate training, awareness, and communication for DG developers. Additionally, completing the remaining regression testing and system integrations will improve the overall quality and customer experience at launch.

## REQUEST

5. Revise for percentages of variance in the graph on January-March 2023 Quarterly Report, page 18.

## RESPONSE

See Annex 2. All the graphs have been changed to show the same periodicity approved by the Energy Bureau starting with the September 20, 2022, filing. The percentage of variance was deleted because the production of renewables has seasonality trends and must be compared with the same time frame from the previous year, not with the previous quarter, as was submitted.

## REQUEST

6. Include a footnote clarifying the net metering client's credit in the January-March 2023 Quarterly Report, pages 16 and 17.

## RESPONSE:

See Annex 3, pages 16 and 17. A footnote was added: "Consumo neto facturado = Consumo de sistema AEE - exportaciones aplicadas a cada cliente, aquellos clientes que las exportaciones son mayores al consumo del sistema de AEE/LUMA se le aplica la cantidad igual a ese consumo. (ver ejemplos a continuación)"

## REQUEST

7. For the 32% of cases that waited more than 30 days to have the net energy metering agreement reflected on their electric bill in the January-March 2023 Quarterly Report, page 9 provides a breakdown of those cases with delays attributable to client actions and those that experienced delays attributable to LUMA.

## RESPONSE

The DG Portal only allows for exporting the status of pending cases. For those pending cases, the DG Portal indicates whether it is pending completion based on customer or LUMA action. This information is provided in the January – March 2023 DG Quarterly Filing; Annex 1 Quarterly Report Data (See Table 1). The data shows that 73% of the cases currently pending longer than 30 days are awaiting customer action, and 27% for LUMA action.

BACKLOG AT END OF PERIOD	#	Proportion %
Pending Cases Due to Client's Action	1,759	73%
Pending Cases Due to LUMA's Action	650	27%
<b>Total, Quantity of Cases with 30 days or more</b>	<b>2,409</b>	<b>100%</b>

Table 1. Reporte de Progreso de Interconexiones Data file, Tab C. V

## REQUEST

8. Information regarding the average days it takes for the approval of regular flow cases.

## RESPONSE

Annex 1 of the January to March 2023 Quarterly Report shows that 22 cases were completed in the last quarter using the Regular flow. It took an average of 240 days to complete these cases. It should be noted that this timeline also includes the duration for the customer to install the system and complete the required interconnection paperwork.

## REQUEST

9. The number of cases requiring supplementary studies.

## RESPONSE

About 1,869 cases were evaluated to determine if a supplemental study was required. Of those cases, 957 were determined to require a supplemental study.

## REQUEST

10. The average amount of time to complete supplementary studies.

## RESPONSE

The duration of a supplemental study will depend on the data availability of the feeder and current demand measurement availability. Most supplemental studies take 60–120 days to be completed.

## REQUEST

11. Information regarding the number of cases pending NEM activation to be completed.

## RESPONSE

Of the 10,322 cases activated during the January to March 2023 quarter, 140 cases have been closed, and 10,182 are still pending completion. All 10,322 cases were activated with NEM (even if they are marked as pending completion in the DG Portal).

## REQUEST

12. Revise in the presentation, page 6, the *Aumento en el Número de Clientes con Medición Neta y Energía Renovable Distribuida*, and change authorization to activated.

## RESPONSE

The word authorization was changed to Activation on the (*Aumento en el Número de Clientes con Medición Neta y Energía Renovable Distribuida*) slide (p. 6).

The average for activation of the interconnection of expedited cases is 18 days.

## REQUEST

13. Regarding the 863 average days for cases discussed on November 1, 2022, please indicate the correct number of cases and the capacity represented.

## RESPONSE

The correct number of cases considered in November 2022 that took an average of 863 days to complete are 20 projects, with a total AC capacity of 1,122 kW. This number reflected LUMA's efforts to close cases pending and opened prior to LUMA's commencement of operations. As discussed in Request 3 above, during the January to March 2023 quarter, the average duration was reduced to 240 days.

## 2.0 ICPO Requests

### REQUEST

1. Number of cases that require supplemental studies.

### RESPONSE

Approximately 2,765 cases are pending supplemental study. Of these, approximately 1,242 cases are pending customer payment to perform a supplemental study.

### REQUEST

2. Distributed Generation capacity of projects pending supplemental studies.

### RESPONSE:

The 2,765 cases pending supplemental study represent approximately 16.3 MW of capacity. The 1,242 cases pending customer payment represent approximately 7.7 MW of capacity.

There are 46,000 cases awaiting pre-study (i.e., determining if the supplemental study is needed), representing 280 MW of capacity. LUMA is making efforts to automate pre-study activities. The first batches of these cases were processed effectively, and several thousands of cases could be processed through the pre-study application, currently conducted by an external consultant. This process requires certain GIS information that is not readily available in most cases. Efforts are underway to create additional batches for processing.

### REQUEST

3. LUMA estimated costs for System Distributed Interconnection improvements.

### RESPONSE:

LUMA has not yet recorded any network upgrades or improvements requested at this point for expedited cases.

A small number of projects over 25 KW at the Distribution level required some degree of mitigation or upgrade based on supplemental studies. These upgrades have been discussed with customers, who have agreed to limit their export capacity to avoid upgrades to the circuit. LUMA has also discussed with customers service transformers upgrades and offered the option to customers to limit the exports or pay for a new service transformer. In those five cases, customers decided to limit the export capacity.

## REQUEST

4. Cost justification for required improvements.

## RESPONSE

Costs related to improvements or mitigation measures vary on a case-by-case basis. Costs also vary depending on multiple factors, for example, voltage level, the ampacity of conductors, penetration level of distributed energy resources (DERs), feeder topology, and service transformer capacity, among others. Costs are calculated based on LUMA's cost of the equipment plus the labor required to implement the required improvements.

Exhibit 2



LUMAPR.COM

# Informe de Progreso de Interconexión de Sistemas de Generación Distribuida Trimestre enero a marzo 2023

NEPR-MI-2019-0016  
13 de abril de 2023

# Agenda

Resumen

Evolución de las Solicitudes

Evolución de la Generación: Fuentes de Energía Renovable



# Resumen



# Crecimiento de la energía renovable es parte de nuestra misión

LUMA y nuestro equipo de más de 3,000 compañeros trabajamos arduamente cada día para construir un sistema de energía más confiable, resiliente y limpio para los 1.5 millones de clientes a quienes tenemos el privilegio de servir.

- **LUMA apoya plenamente el crecimiento de la energía solar** en todo Puerto Rico: es lo que quiere el pueblo puertorriqueño y es por eso que estamos potenciando el crecimiento de la energía limpia y renovable.
- **Durante los 22 meses que LUMA comenzó operaciones los números han triplicado** LUMA ha trabajado estrechamente con el Negociado de Energía para acelerar la adopción de energía renovable para reducir la dependencia del combustible importado para generar electricidad.
- Los esfuerzos de LUMA para **modernizar la red eléctrica**, utilizando los fondos federales de recuperación y otros, también apoyan la **transformación sostenible del sector de energía con confiabilidad y a costos competitivos**

## Crecimiento de la energía renovable es parte de nuestra misión (Cont.)

- LUMA trabaja de cerca con la Agencias federales como (FEMA), el (DOE) y el (PREB) para lograr el Estudio de Resiliencia de la Red de Puerto Rico y Transición al 100% de Energía Renovable (PR100 ) que identificará estrategias para alcanzar el 100% de producción de energía renovable en Puerto Rico para el 2050.
- Trabajando juntos, podemos continuar acelerando la adopción de energía renovable y **lograr el sistema energético que la gente de Puerto Rico espera y merece.**
- Desde que se hizo cargo de las operaciones el 1 de junio de 2021, el equipo de **LUMA ha priorizado con éxito atender el atraso** en las conexiones solares y **ha logrado avances significativos** en esta área.
- LUMA ha simplificado el proceso de medición neta, **reduciendo los tiempos de espera** promedio a menos de 30 días.



## Aumento en el Número de Clientes con Medición Neta y Energía Renovable Distribuida

- Mas de 54,000 clientes con conexión de energía solar efectuada por LUMA.\*
- Un total de 333 MW desde el inicio de operaciones de LUMA.
- En promedio 3,400 activaciones mensuales de generación distribuida durante cada periodo.
- La energía solar residencial tiene una penetración de 2% del mercado eléctrico, ocupando la posición número 7 comparado a otros Estados y territorios.\*\*
- Puerto Rico tiene una de las mayores instalaciones de generación de energía solar de todo el Caribe. \*\*

<b>Promedio para activación de interconexión de casos expeditos</b>	<b>18 días</b>
<b>Clientes conectados en menos de 30 días</b>	<b>68%</b>

\*Hasta el 31 de marzo del 2023

\*\*EIA; diciembre del 2022



# Evolución de las Solicitudes

NEPR-MI-2019-0016  
13 de abril de 2023



# Solicitudes de Interconexión por Tipo de Proyecto

9,478 solicitudes sometidas durante Ene – Mar 2023

Tipo de Solicitud	May – Jul 2021	Ago – Oct 2021	Nov – Ene 2022	Feb – Abr 2022	May – Jul 2022	Jul – Sep 2022	Oct - Dic 2022	Ene - Mar 2023
Flujo Expedito (<25 kW)	3,095	4,483	5,306	5,238	8,360	10,412	9,730	9,401
Flujo Regular (<25 kW)	28	37	11	21	12	9	10	18
Mayores de 25 kW	24	23	9	20	27	19	29	55
Transmisión	3	5	3	4	3	1	1	4
<b>Total</b>	<b>3,150</b>	<b>4,548</b>	<b>5,329</b>	<b>5,283</b>	<b>8,402</b>	<b>10,441</b>	<b>9,770</b>	<b>9,478</b>

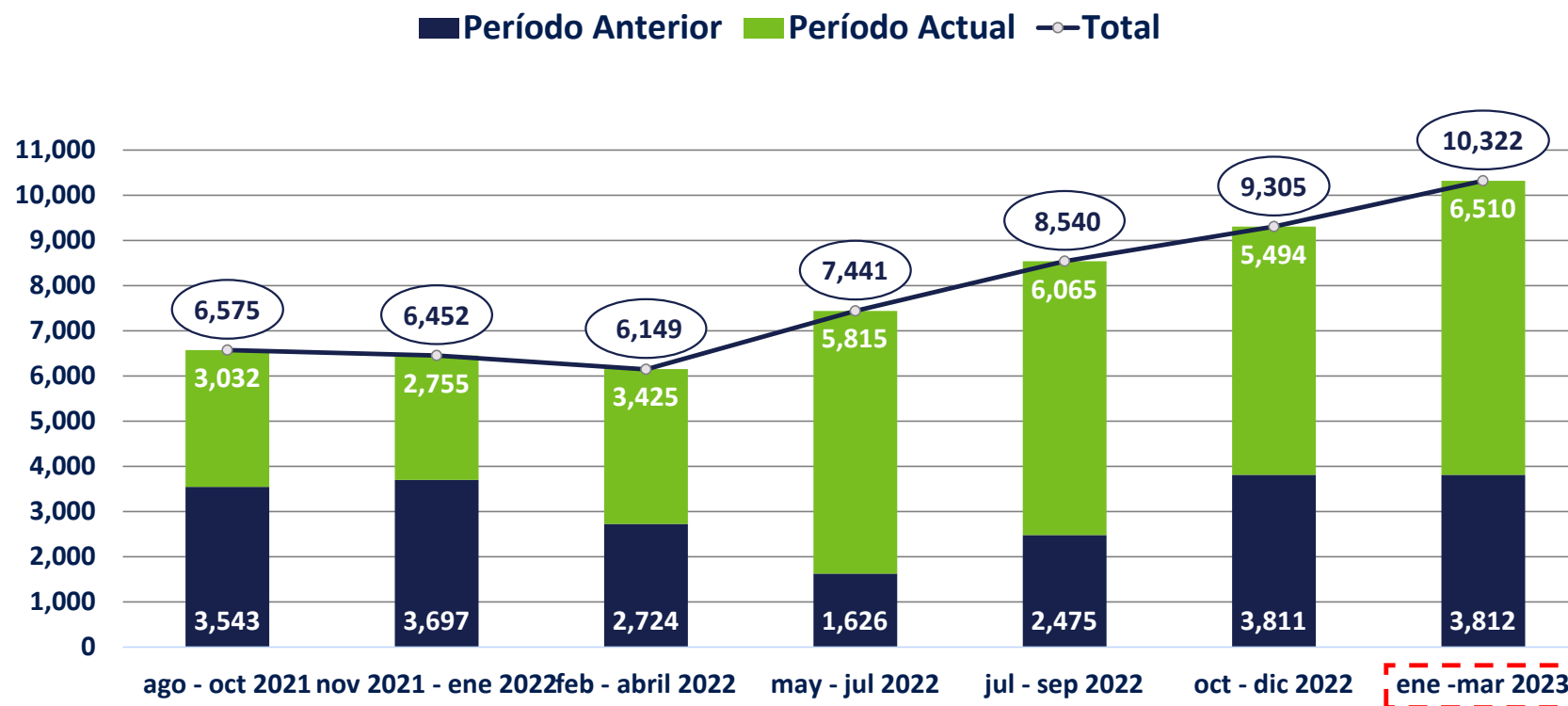
0.6 % de las solicitudes son mayores de 25k

# Solicitudes de Interconexión por Tipo de Cliente

99% de las solicitudes recibidas fueron del sector Residencial

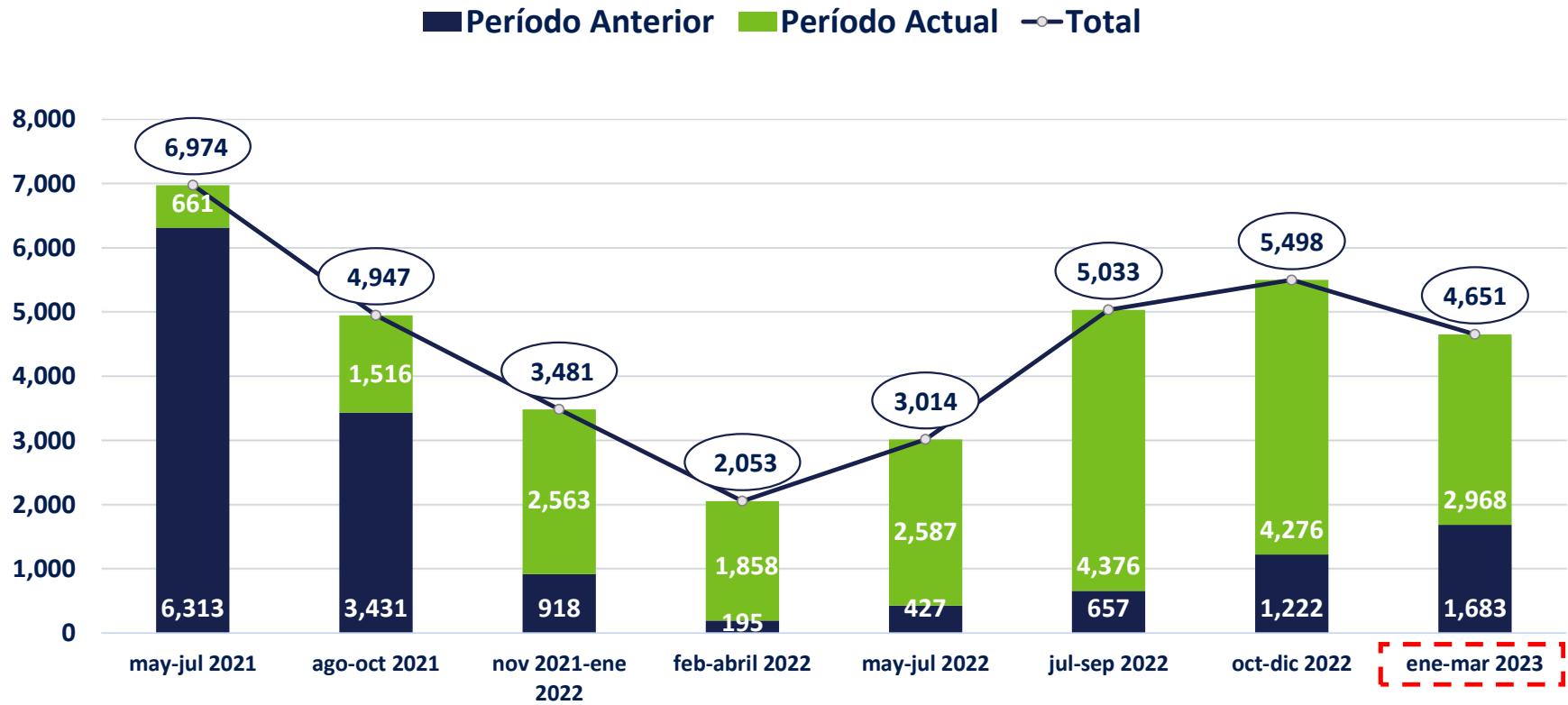
Tipo de Cliente	May – Jul 2021	Ago – Oct 2021	Nov 21– Ene 2022	Feb - Abr 2022	May - Jul 2022	Jul – Sep 2022	Oct – Dic 2022	Ene - Mar 2023
Residencial	3,080	4,437	5,296	5,266	8,373	10,405	9,687	9,380
Comercial	66	103	22	17	29	35	82	98
Industrial	4	8	0	0	0	1	1	0
<b>Total</b>	<b>3,150</b>	<b>4,548</b>	<b>5,318</b>	<b>5,283</b>	<b>8,402</b>	<b>10,441</b>	<b>9,770</b>	<b>9,478</b>

# Nuevos Clientes con Medición Neta



De los 10,322 casos interconectados, **10,299** fueron casos expeditos.

# Solicitudes Pendientes de Medición Neta



# Información sobre Tiempos Promedio para Interconexión y Medidores Bidireccionales

Requerimiento	Información
Promedio para autorización de interconexión de los sistemas menores de 25 kW (expeditos).	<b>18 días</b> 6,964 casos expeditos fueron activados en <u>menos</u> de 30 días durante enero hasta marzo 2023
Promedio transcurrido que cliente notifica a LUMA la interconexión de su sistema menor de 25 kW y que se refleja el acuerdo en la factura.	<b>21 días</b> 10,299 casos expeditos fueron activados durante enero hasta marzo 2023
Más de treinta (30) días de espera para reflejar el acuerdo en factura, posterior a la notificación de interconexión en el Portal (expeditos).	<b>32% Clientes</b> Total, casos expeditos activados = 10,299 Casos expeditos activados en menos de 30 días = 6,964= 68% Casos expeditos activados en más de 30 días = 3,335= 32%
Cantidad de medidores bidireccionales disponibles en los almacenes.	LUMA tiene suficiente inventario para satisfacer demanda. Al final del trimestre, había unos <b>3,246 metros</b> *bidireccionales en almacén.

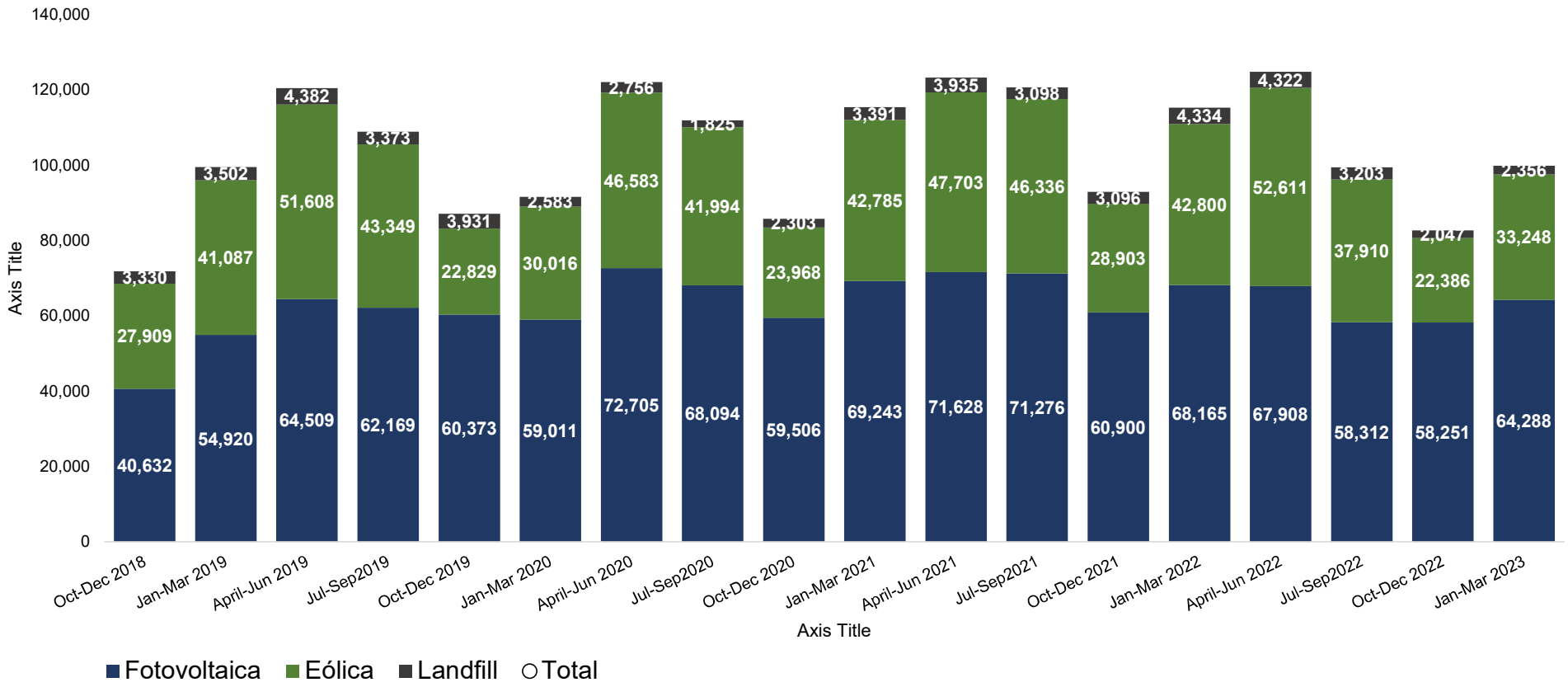
\*LUMA tiene ordenados **26,676** metros

# Evolución de Generación: Fuentes de Energía Renovable



# Producción Total de Productores a Gran Escala (MWh)

## Comportamiento Trimestral



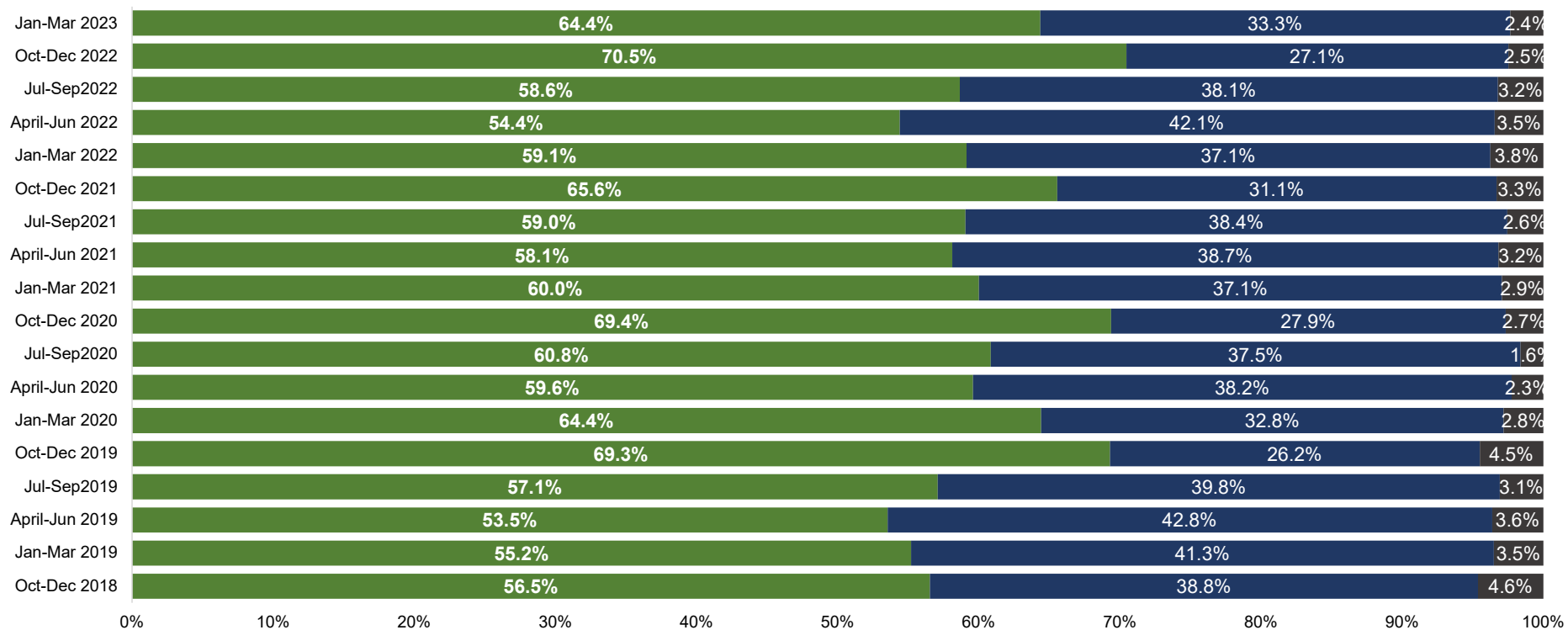
■ Fotovoltaica ■ Eólica ■ Landfill ○ Total



# Fuentes de Energía Renovables: Composición de Energía Adquirida a Gran Escala

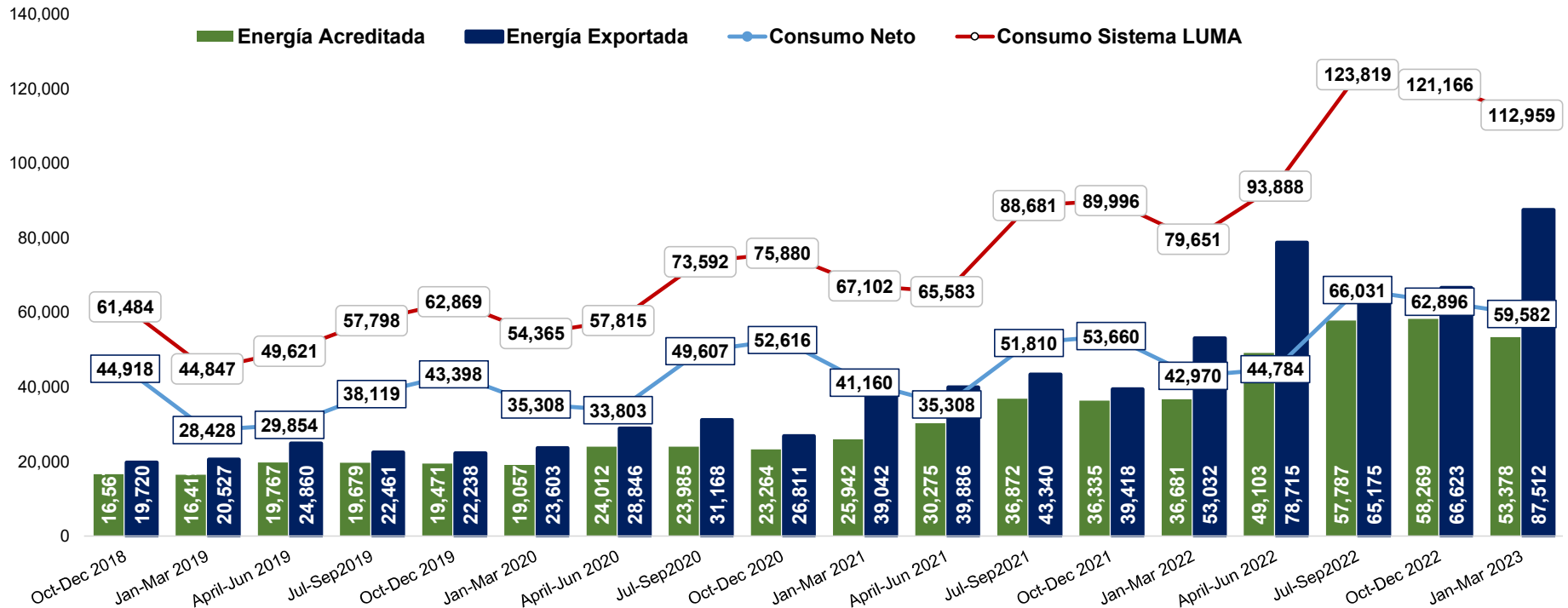
## Comportamiento Trimestral

Fotovoltaica Eólica Landfill



# Energía Acreditada y Exportada en Medición Neta (MWh)

## Comportamiento Trimestral



Consumo neto cliente facturado = Consumo de sistema AEE - exportaciones aplicadas a cada cliente, aquellos clientes que las exportaciones son mayores al consumo del sistema de AEE/LUMA se le aplica la cantidad igual a ese consumo. (ver ejemplos)

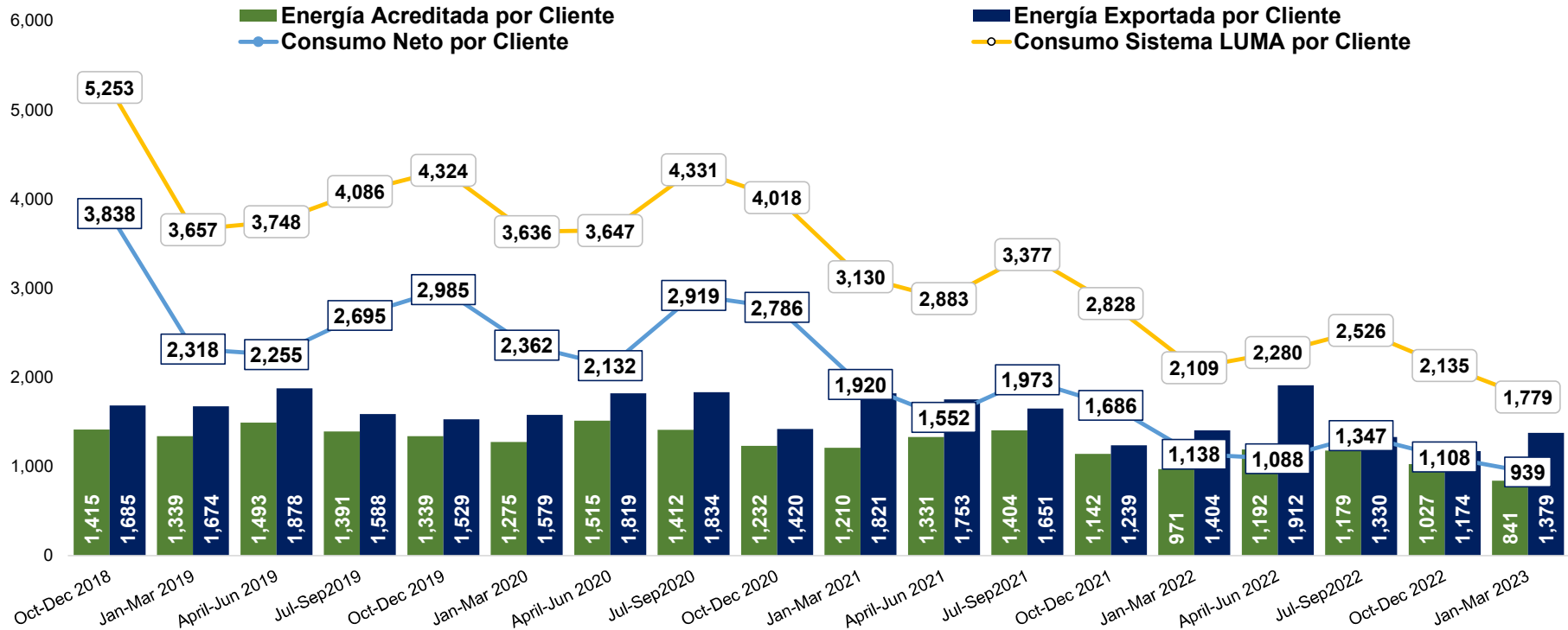
**Cliente 1 - Energía Exportada mayor al consumo del sistema AEE/LUMA**  
 Consumo del sistema: 1,000 kWh  
 Exportado: 1,200 kWh  
 kWh Acreditado: 1,000  
 Facturación kWh Neta: 0

**Cliente 2 - Energía Exportada menor al consumo del sistema AEE/LUMA**  
 Consumo del sistema: 1,500 Gross Billed kWh  
 Exportado: 1,200  
 kWh Acreditado: 1,200  
 Facturación kWh Neta: 300 Net Billed kWh



# Energía Acreditada y Exportada por Cliente Medición Neta (KWh/Cliente)

## Comportamiento Trimestral



Consumo neto por cliente facturado = Consumo de sistema AEE - exportaciones aplicadas a cada cliente, aquellos clientes que las exportaciones son mayores al consumo del sistema de AEE/LUMA se le aplica la cantidad igual a ese consumo. (ver ejemplos)

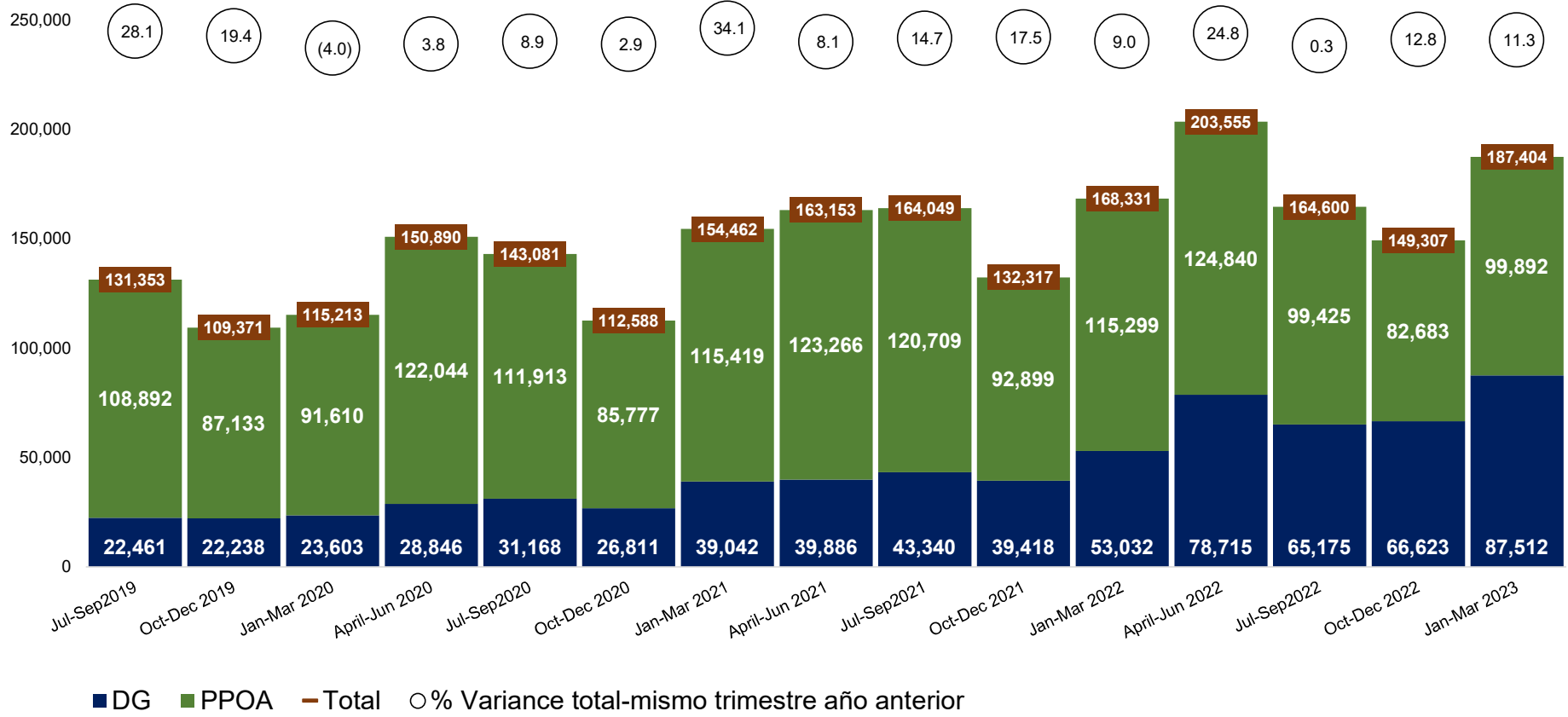
**Ciente 1 - Energía Exportada mayor al consumo del sistema AEE/LUMA**  
 Consumo del sistema: 1,000 kWh  
 Exportado: 1,200 kWh  
 kWh Acreditado: 1,000  
 Facturación kWh Neta: 0

**Ciente 2 - Energía Exportada menor al consumo del sistema AEE/LUMA**  
 Consumo del sistema: 1,500 Gross Billed kWh  
 Exportado: 1,200  
 kWh Acreditado: 1,200  
 Facturación kWh Neta: 300 Net Billed kWh



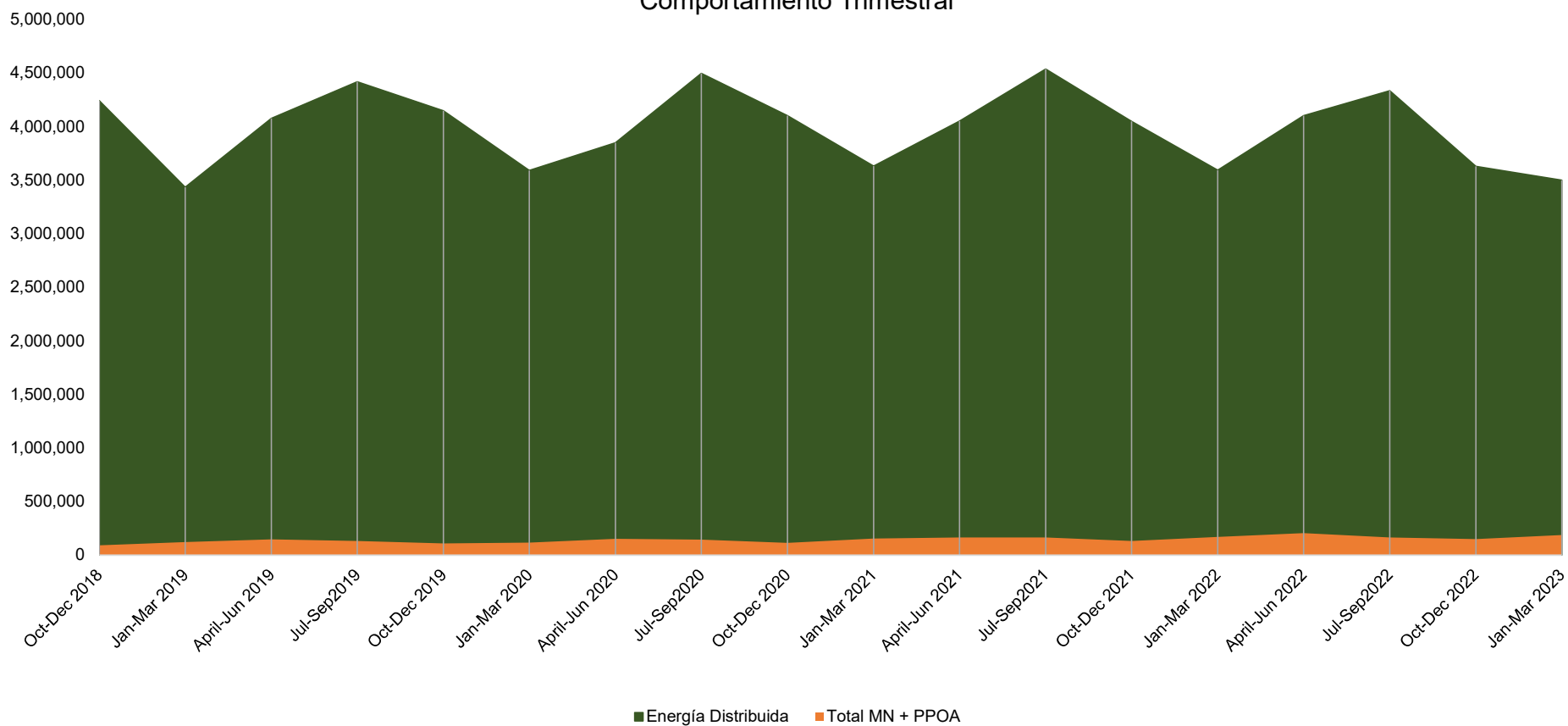
# Energía Distribuida de Fuentes Renovables (MWh)

## Comportamiento Trimestral



# Distribución Total de Energía Renovable a Clientes (MWh)

Comportamiento Trimestral



**LUMA**



Gracias

Exhibit 3

*(submitted via email)*