

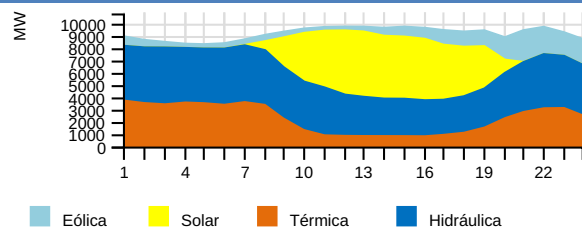
# RESUMEN EJECUTIVO DE OPERACIÓN

Viernes 01 de Diciembre del 2023

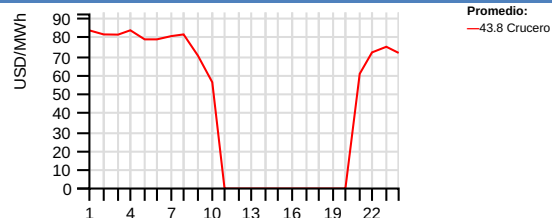


## RESUMEN EJECUTIVO DE OPERACIÓN

## Generación horaria bruta por tecnología (MW)



## Costo Marginal Real Preliminar (USD/MWh)



## Generación por Regiones (GWh)

Arica y Parinacota: 1.08 GWh (0.5%)

Tarapacá: 2.98 GWh (1.3%)

Antofagasta: 56.56 GWh (25.2%)

Argentina

Atacama: 28.84 GWh (12.8%)

Coquimbo: 6.80 GWh (3.0%)

Valparaíso: 14.87 GWh (6.6%)

Metropolitana: 10.40 GWh (4.6%)

O'Higgins: 14.94 GWh (6.7%)

Maule: 32.07 GWh (14.3%)

Ñuble: 1.76 GWh (0.8%)

Bío-Bío: 41.13 GWh (18.3%)

La Araucanía: 4.31 GWh (1.9%)

Los Ríos: 3.22 GWh (1.4%)

Los Lagos: 5.68 GWh (2.5%)

Total: 224.6 GWh (100%)

## Generación por Fuente Total del SEN

|              | Diario (GWh)  |             |               | Mensual (GWh) (*) |              |              | Acumulado Anual (TWh) (*) |             |  |
|--------------|---------------|-------------|---------------|-------------------|--------------|--------------|---------------------------|-------------|--|
|              | Vie 01/dic    | 2023        | 2022          | var%              | 2023         | 2022         | var%                      |             |  |
| Bess         | 2.36          | 1.06%       | 2.36          | 0.01              | 23500.00     | 0.17         | 0.00                      | 6738.56     |  |
| Eólica       | 22.29         | 9.97%       | 22.29         | 28.10             | -20.68       | 9.09         | 8.08                      | 12.50       |  |
| Geotérmica   | 1.11          | 0.50%       | 1.11          | 1.22              | -9.02        | 0.40         | 0.43                      | -7.91       |  |
| Hidráulica   | 90.56         | 40.52%      | 90.56         | 74.59             | 21.41        | 21.32        | 18.28                     | 16.63       |  |
| Solar        | 49.00         | 21.93%      | 49.00         | 52.39             | -6.47        | 14.59        | 12.64                     | 15.43       |  |
| Térmica      | 58.17         | 26.03%      | 58.17         | 75.82             | -23.28       | 31.00        | 36.59                     | -15.28      |  |
| <b>Total</b> | <b>223.49</b> | <b>100%</b> | <b>223.49</b> | <b>232.13</b>     | <b>-3.72</b> | <b>76.56</b> | <b>76.02</b>              | <b>0.71</b> |  |

## Generación Renovable no Convencional

|              | Diario (GWh) |             |              | Mensual (GWh) (*) |               |              | Acumulado Anual (TWh) (*) |              |  |
|--------------|--------------|-------------|--------------|-------------------|---------------|--------------|---------------------------|--------------|--|
|              | Vie 01/dic   | 2023        | 2022         | var%              | 2023          | 2022         | var%                      |              |  |
| BioGas       | 0.14         | 0.17%       | 0.14         | 0.36              | -61.11        | 0.15         | 0.13                      | 12.87        |  |
| Biomasa (**) | 2.82         | 3.44%       | 2.82         | 4.59              | -38.56        | 1.35         | 1.41                      | -4.26        |  |
| Eólica       | 22.29        | 27.12%      | 22.29        | 28.10             | -20.68        | 9.09         | 8.08                      | 12.50        |  |
| Geotérmica   | 0.00         | 0.00%       | 0.00         | 0.00              | -             | 0.00         | 0.02                      | -100.00      |  |
| Pasada (**)  | 7.94         | 9.66%       | 7.94         | 6.73              | 17.98         | 2.07         | 2.05                      | 0.98         |  |
| Solar        | 49.00        | 59.62%      | 49.00        | 52.39             | -6.47         | 14.59        | 12.64                     | 15.43        |  |
| <b>Total</b> | <b>82.19</b> | <b>100%</b> | <b>82.19</b> | <b>92.18</b>      | <b>-10.84</b> | <b>27.24</b> | <b>24.33</b>              | <b>11.96</b> |  |

## Generación Térmica

|              | Diario (GWh) |             |              | Mensual (GWh) (*) |               |              | Acumulado Anual (TWh) (*) |               |  |
|--------------|--------------|-------------|--------------|-------------------|---------------|--------------|---------------------------|---------------|--|
|              | Vie 01/dic   | 2023        | 2022         | var%              | 2023          | 2022         | var%                      |               |  |
| BioGas       | 0.14         | 0.24%       | 0.14         | 0.37              | -62.16        | 0.15         | 0.13                      | 12.85         |  |
| Biomasa      | 2.89         | 4.97%       | 2.89         | 4.75              | -39.16        | 1.40         | 1.55                      | -9.68         |  |
| Carbón       | 30.56        | 52.54%      | 30.56        | 28.54             | 7.08          | 12.95        | 18.09                     | -28.41        |  |
| Cogeneración | 2.15         | 3.70%       | 2.15         | 1.66              | 29.52         | 0.56         | 0.17                      | 226.34        |  |
| Diésel       | 0.41         | 0.70%       | 0.41         | 2.07              | -80.19        | 0.52         | 1.42                      | -63.52        |  |
| Fuel Oil     | 0.00         | 0.00%       | 0.00         | 0.00              | -             | 0.00         | 0.03                      | -95.31        |  |
| Gas Natural  | 20.80        | 35.77%      | 20.80        | 37.23             | -44.13        | 14.92        | 14.70                     | 1.50          |  |
| PetCoke      | 1.21         | 2.07%       | 1.21         | 1.20              | 0.83          | 0.36         | 0.25                      | 45.45         |  |
| <b>Total</b> | <b>58.17</b> | <b>100%</b> | <b>58.17</b> | <b>75.82</b>      | <b>-23.28</b> | <b>30.87</b> | <b>36.34</b>              | <b>-15.05</b> |  |

## Crecimiento anual

0.71%

## Generación Hidráulica

|              | Diario (GWh) |             |              | Mensual (GWh) (*) |              |              | Acumulado Anual (TWh) (*) |              |  |
|--------------|--------------|-------------|--------------|-------------------|--------------|--------------|---------------------------|--------------|--|
|              | Vie 01/dic   | 2023        | 2022         | var%              | 2023         | 2022         | var%                      |              |  |
| Embalse      | 60.67        | 67.10%      | 60.67        | 43.31             | 40.08        | 13.88        | 10.60                     | 30.94        |  |
| Pasada       | 29.75        | 32.90%      | 29.75        | 31.28             | -4.89        | 7.44         | 7.68                      | -3.12        |  |
| <b>Total</b> | <b>90.42</b> | <b>100%</b> | <b>90.42</b> | <b>74.59</b>      | <b>21.22</b> | <b>21.32</b> | <b>18.28</b>              | <b>16.63</b> |  |

## Variación de generación Real vs Programada (%), Reducción Energía Eólica y Solar, desde Nogales al Norte

|              | Diario Vie 01/dic (MWh) |                 |               | Reducción Acumulada (GWh) (*) |              |                |
|--------------|-------------------------|-----------------|---------------|-------------------------------|--------------|----------------|
|              | Real                    | Programado      | var%          | Reducción                     | %            | var%           |
| Eólica       | 22290.00                | 23986.30        | -7.07         | 3237.19                       | 12.68        | 595.17         |
| Solar        | 49000.00                | 56847.00        | -13.80        | 7423.51                       | 13.16        | 1488.47        |
| <b>Total</b> | <b>71290.00</b>         | <b>80833.30</b> | <b>-11.81</b> | <b>10660.7</b>                | <b>13.01</b> | <b>2083.64</b> |

## Consumo de Combustible Teórico

|                  |       | Diario     |       | Mensual |          | Acumulado Anual |      |
|------------------|-------|------------|-------|---------|----------|-----------------|------|
|                  |       | Vie 01/dic | 2023  | 2023    | 2023     | 2023            | 2023 |
| Biogas           | Nm3   | 65501      | 65501 | 65501   | 76454553 |                 |      |
| Biogas           | m3    | 0          | 0     | 0       | 0        |                 |      |
| Biomasa          | m3    | 1620       | 1620  | 1620    | 470470   |                 |      |
| Biomasa          | m3 st | 4014       | 4014  | 4014    | 2011581  |                 |      |
| Biomasa          | ton   | 2492       | 2492  | 2492    | 1565139  |                 |      |
| Biomasa          | Tss   | 708        | 708   | 708     | 138937   |                 |      |
| Carbón + Petcoke | ton   | 10593      | 10593 | 10593   | 4501683  |                 |      |
| Diésel           | ton   | 147        | 147   | 147     | 85382    |                 |      |
| Gas Natural      | dam3  | 2526       | 2526  | 2526    | 1105145  |                 |      |
| GNL              | dam3  | 1680       | 1680  | 1680    | 1926362  |                 |      |
| Licor Negro      | Tss   | 2427       | 2427  | 2427    | 625035   |                 |      |
| Otro             |       | 0          | 0     | 0       | 56       |                 |      |

## Participación anual ERNC

35.58%

## Importación

0.0 GWh

## Exportación

0.0 GWh

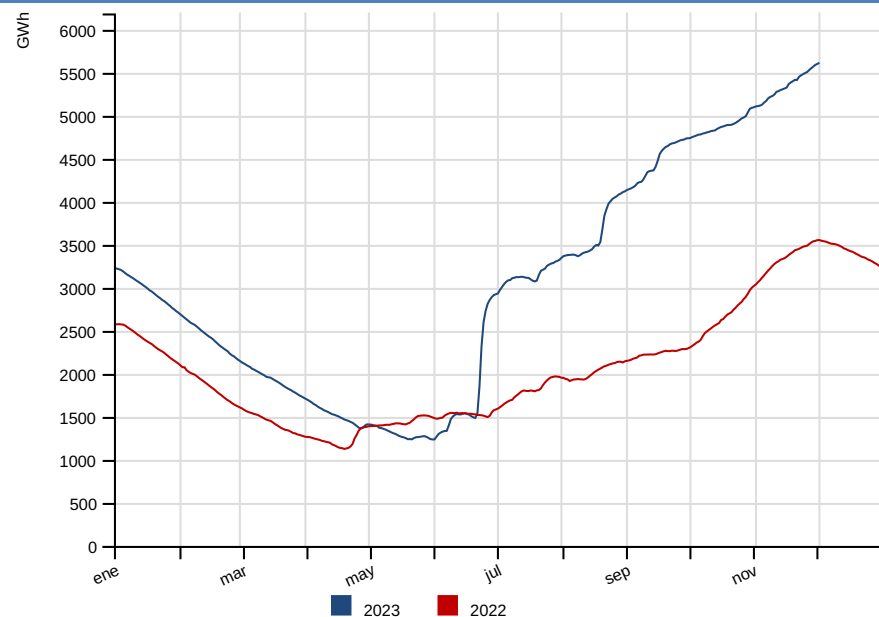
(\*) Representa el acumulado a igual fecha 2023 y 2022

Var % Mensual: [(Valor Año Actual) - (Valor Año Anterior)] / (Valor Año Anterior) --Var % Acumulado Anual: [((Valor Año Actual) \* Factor Año Bisiesto) - (Valor Año Anterior)] / (Valor Año Anterior) --Factor Año Bisiesto: 1.0

(\*\*) Factor de ajuste para inyecciones de ERNC, de acuerdo a Balance-ERNC.

## RESUMEN DIARIO OPERACIÓN

## Energía Embalsada en los Últimos 12 Meses (GWh)



## Cotas (msnm)

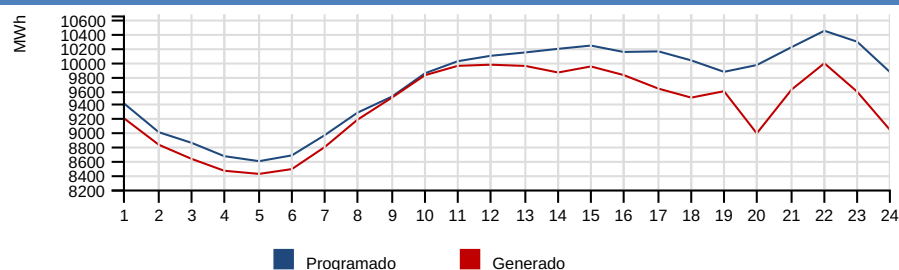
|           | Diario     |            | Máxima  | Min. Operacional |
|-----------|------------|------------|---------|------------------|
|           | Vie 01/dic | Jue 30/nov | 2023    | 2023             |
| Rapel     | 104.62     | 104.65     | 105.00  | 100.50           |
| Invernada | 1318.14    | 1318.09    | 1318.00 | 1282.80          |
| Melado    | 647.74     | 647.83     | 648.00  | 641.00           |
| Colbun    | 436.95     | 436.96     | 437.00  | 397.00           |
| Maule     | 2162.84    | 2162.80    | 2180.85 | 2152.10          |
| Laja      | 1333.64    | 1333.58    | 1368.00 | 1300.00          |
| Ralco     | 724.96     | 724.94     | 725.00  | 692.00           |
| Pangué    | 509.13     | 509.33     | 510.00  | 501.00           |
| Chapo     | 240.38     | 240.37     | 243.00  | 222.00           |

## Precipitaciones (mm)

|           | Diario     |            | Acumulado Anual (*) |           |                 |
|-----------|------------|------------|---------------------|-----------|-----------------|
|           | Vie 01/dic | Jue 30/nov | 2023                | var% 2022 | var% Año Normal |
| Rapel     | 0.00       | 0.00       | 633.20              | 77.57     | 43.88           |
| Invernada | 0.00       | 0.00       | 1751.10             | 130.35    | 44.70           |
| Melado    | 0.00       | 0.00       | 1785.85             | 88.21     | 22.20           |
| Colbún    | 0.00       | 0.00       | 3339.84             | 63.31     | 80.05           |
| Laja      | 7.00       | 0.00       | 2541.30             | 41.58     | 32.08           |
| Pangué    | 7.60       | 0.00       | 3531.50             | 16.19     | 19.84           |
| Chapo     | 8.50       | 0.50       | 3534.50             | 1.65      | 1.86            |

Nota: Del total de energía embalsada, 1228.6 GWh son gestionables por el Coordinador a la fecha del presente informe, sin considerar la energía embalsada en Colbún y los derechos de generación de Laguna del Maule y Lago Laja. Si se incluyen los recursos de Colbún, Laguna del Maule y Lago Laja la energía gestionable alcanza los 1861.1 GWh

## Comparación Programado vs Generado (MWh)



## Demanda Máxima (MW), Generación (GWh) y Frecuencia (Hz)

|                    | Diario     |            | Máximo Anual (*) |          |          |       |
|--------------------|------------|------------|------------------|----------|----------|-------|
|                    | Vie 01/dic | Jue 30/nov | var%             | 2023     | 2022     | var%  |
| Máxima Horaria     | 9984.22    | 10414.60   | -4.13            | 11478.10 | 11556.48 | -0.69 |
|                    | Programado | Hora       |                  | Real     | Hora     | var%  |
| Demanda Máx.       | 10446.59   | 22         |                  | 9984.22  | 22       | -4.50 |
| Demanda Punta      | -          | -          |                  | -        | -        | -     |
| Generación Total   | 232.41     | -          |                  | 224.64   | -        | -3.34 |
| <b>Frecuencias</b> |            |            |                  |          |          |       |
|                    | Hz         | Hora       |                  |          |          |       |
| Frecuencia Máxima  | 50.24      | 23:41:34   |                  |          |          |       |
| Frecuencia Mínima  | 49.73      | 07:08:00   |                  |          |          |       |

**Var % Diario:**  $\frac{[(\text{Valor día informe}) - (\text{Valor día anterior})] / (\text{Valor día anterior}) * 100}{-}$  **Var % Máximo Anual:**  $\frac{[(\text{Valor anual actual}) - (\text{Valor anual anterior})] / (\text{Valor anual anterior}) * 100}{-}$  **Var % Demanda Máx, Demanda Punta y Generación Total:**  $\frac{[(\text{Valor real}) - (\text{Valor programado})] / (\text{Valor programado}) * 100}{-}$

## Costo Marginal Real Preliminar Barra 220 kV Quillota

USD/MWh

## Costo Marginal Real Preliminar Barra 220 kV Crucero

43.78 USD/MWh

## Eventos energéticos según Oficio Ordinario 1245/2014 del Ministerio de Energía.

| Sistema | Tipo | Fecha F/S | Hora F/S | Detalle | Fecha E/S | Hora E/S |
|---------|------|-----------|----------|---------|-----------|----------|
|---------|------|-----------|----------|---------|-----------|----------|