
### Introduction

This document is intended to provide a general picture of the Adequacy of the National Electricity Supply System in the medium term. The Report will be updated weekly, on Tuesdays and circulated Wednesdays, thereafter, published on the Eskom website, updated on Wednesdays. The values contained in this report are unverified and not official yet and can change at any time.

### Disclaimer

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### Historic Daily Peak System Capacity/Demand

<table>
<thead>
<tr>
<th>Date</th>
<th>Available Dispatchable Generation (MW)</th>
<th>Non-commercial Generation (MW)</th>
<th>Residual Load Forecast (MW)</th>
<th>Actual Residual Demand (MW) Incl IOS</th>
<th>Operating Reserve Margin (Excl Non-Commercial Units)</th>
<th>Operating Reserve Margin (Incl Non-Commercial Units)</th>
<th>Forecast vs. Actual (Residual Demand)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon 23/Déc/2019</td>
<td>29,844</td>
<td>886</td>
<td>25,748</td>
<td>25,725</td>
<td>16.0%</td>
<td>19.5%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Tue 24/Déc/2019</td>
<td>28,576</td>
<td>787</td>
<td>24,696</td>
<td>24,738</td>
<td>15.5%</td>
<td>18.7%</td>
<td>-0.2%</td>
</tr>
<tr>
<td>Wed 25/Déc/2019</td>
<td>27,869</td>
<td>743</td>
<td>23,113</td>
<td>23,374</td>
<td>19.2%</td>
<td>22.4%</td>
<td>-1.1%</td>
</tr>
<tr>
<td>Thu 26/Déc/2019</td>
<td>28,351</td>
<td>471</td>
<td>23,093</td>
<td>23,076</td>
<td>22.9%</td>
<td>24.9%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Fri 27/Déc/2019</td>
<td>28,351</td>
<td>425</td>
<td>23,879</td>
<td>24,341</td>
<td>15.5%</td>
<td>17.3%</td>
<td>-2.2%</td>
</tr>
<tr>
<td>Sat 28/Déc/2019</td>
<td>29,088</td>
<td>424</td>
<td>23,484</td>
<td>24,161</td>
<td>20.4%</td>
<td>22.1%</td>
<td>-2.8%</td>
</tr>
<tr>
<td>Sun 29/Déc/2019</td>
<td>28,683</td>
<td>423</td>
<td>23,682</td>
<td>24,082</td>
<td>19.1%</td>
<td>20.9%</td>
<td>-1.7%</td>
</tr>
</tbody>
</table>

### Notes:

1. Available Dispatchable Generation means all generation resources that can be dispatched by Eskom and includes capacity available from all emergency generation resources.
2. RSA Contracted Load Forecast is the total official day-ahead hourly forecast. Residual Load Forecast excludes the expected generation from renewables.
3. Actual Residual Demand is the aggregated metered hourly sent-out generation and imports from dispatchable resources, and includes demand reductions. The Actual RSA Contracted Demand includes renewable generation.
5. These figures do not include any demand side products.
6. The peak hours for the residual demand can differ from that of the RSA contracted demand, depending on renewable generation.
Week-on-Week Dispatchable Generation Energy Sent Out

[2019 weeks compared to similar 2018 weeks]

Week 52 : Dispatchable Generation Energy Sent Out Statistics

<table>
<thead>
<tr>
<th>Energy Sent Out</th>
<th>3,632 GWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week-on-Week Growth</td>
<td>-2.34 %</td>
</tr>
<tr>
<td>Year-on-Year Growth (Year-to-Date) Annual</td>
<td>-2.06 %</td>
</tr>
</tbody>
</table>

Note:
2019 Weeks are compared to similar weeks in 2018.
(2019 week 1 ~ 2018 week 1)

Annual Dispatchable Generation Energy Sent Out Statistics

<table>
<thead>
<tr>
<th>Year</th>
<th>01 Jan to 29 Dec Energy</th>
<th>Annual Energy (01 Jan to 31 Dec)</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>233,144</td>
<td>234,281</td>
<td>GWh</td>
</tr>
<tr>
<td>2015</td>
<td>238,433</td>
<td>239,592</td>
<td>GWh</td>
</tr>
<tr>
<td>2016</td>
<td>235,640</td>
<td>236,721</td>
<td>GWh</td>
</tr>
<tr>
<td>2017</td>
<td>234,763</td>
<td>235,203</td>
<td>GWh</td>
</tr>
<tr>
<td>2018</td>
<td>233,144</td>
<td>234,202</td>
<td>GWh</td>
</tr>
<tr>
<td>2019 (YTD)</td>
<td>218,523</td>
<td></td>
<td>GWh</td>
</tr>
</tbody>
</table>

Week-on-Week Residual Energy Demand

[2019 weeks compared to similar 2018 weeks]

Week 52 : Residual Energy Demand Statistics (Incl IOS)

<table>
<thead>
<tr>
<th>Energy Demand</th>
<th>3,633 GWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week-on-Week Growth</td>
<td>-2.38 %</td>
</tr>
<tr>
<td>Year-on-Year Growth (Year-to-Date) Annual</td>
<td>-1.62 %</td>
</tr>
</tbody>
</table>

Note:
2019 Weeks are compared to similar weeks in 2018.
(2019 week 1 ~ 2018 week 1)

Annual Residual Energy Demand Statistics (Incl IOS)

<table>
<thead>
<tr>
<th>Year</th>
<th>01 Jan to 29 Dec Energy</th>
<th>Annual Energy (01 Jan to 31 Dec)</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>233,654</td>
<td>234,793</td>
<td>GWh</td>
</tr>
<tr>
<td>2015</td>
<td>230,033</td>
<td>231,154</td>
<td>GWh</td>
</tr>
<tr>
<td>2016</td>
<td>225,727</td>
<td>226,808</td>
<td>GWh</td>
</tr>
<tr>
<td>2017</td>
<td>224,207</td>
<td>225,248</td>
<td>GWh</td>
</tr>
<tr>
<td>2018</td>
<td>223,530</td>
<td>224,594</td>
<td>GWh</td>
</tr>
<tr>
<td>2019 (YTD)</td>
<td>219,883</td>
<td></td>
<td>GWh</td>
</tr>
</tbody>
</table>

Week-on-Week RSA Contracted Energy Demand

[2019 weeks compared to similar 2018 weeks]

Week 52 : RSA Contracted Energy Demand Statistics (Incl IOS)

<table>
<thead>
<tr>
<th>Energy Demand</th>
<th>3,885 GWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week-on-Week Growth</td>
<td>-2.01 %</td>
</tr>
<tr>
<td>Year-on-Year Growth (Year-to-Date) Annual</td>
<td>-1.36 %</td>
</tr>
</tbody>
</table>

Note:
2019 Weeks are compared to similar weeks in 2018.
(2019 week 1 ~ 2018 week 1)

Annual RSA Contracted Energy Demand Statistics (Incl IOS)

<table>
<thead>
<tr>
<th>Year</th>
<th>01 Jan to 29 Dec Energy</th>
<th>Annual Energy (01 Jan to 31 Dec)</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>238,827</td>
<td>240,008</td>
<td>GWh</td>
</tr>
<tr>
<td>2015</td>
<td>238,374</td>
<td>239,548</td>
<td>GWh</td>
</tr>
<tr>
<td>2016</td>
<td>236,911</td>
<td>238,069</td>
<td>GWh</td>
</tr>
<tr>
<td>2017</td>
<td>234,326</td>
<td>235,426</td>
<td>GWh</td>
</tr>
<tr>
<td>2018</td>
<td>234,355</td>
<td>235,482</td>
<td>GWh</td>
</tr>
<tr>
<td>2019 (YTD)</td>
<td>231,378</td>
<td></td>
<td>GWh</td>
</tr>
</tbody>
</table>
**Week-on-Week Dispatchable Generation Peak Demand**

- **Peak Demand**: 25,294 MW
- **Week-on-Week Growth**: -1.37%
- **Year-on-Year Growth (Year-to-Date)**: Annual -3.47%

**Note:**
2019 Weeks are compared to similar weeks in 2018.
(2019 week 1 ~ 2018 week 1)

### Annual Dispatchable Generation Peak Demand Statistics

<table>
<thead>
<tr>
<th>Year</th>
<th>Peak Date</th>
<th>Annual Peak</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>Wed 09-Jul-2014</td>
<td>34,768</td>
<td>MW</td>
</tr>
<tr>
<td>2015</td>
<td>Tue 28-Jul-2015</td>
<td>33,343</td>
<td>MW</td>
</tr>
<tr>
<td>2016</td>
<td>Thu 04-Aug-2016</td>
<td>34,181</td>
<td>MW</td>
</tr>
<tr>
<td>2017</td>
<td>Tue 30-May-2017</td>
<td>35,457</td>
<td>MW</td>
</tr>
<tr>
<td>2018</td>
<td>Mon 16-Jul-2018</td>
<td>34,256</td>
<td>MW</td>
</tr>
<tr>
<td>2019</td>
<td>Thu 30-May-2019</td>
<td>33,066</td>
<td>MW</td>
</tr>
</tbody>
</table>

**Week 52 : Dispatchable Generation Peak Demand Statistics**

### Week-on-Week Residual Peak Demand

- **Peak Demand**: 25,725 MW
- **Week-on-Week Growth**: 0.31%
- **Year-on-Year Growth (Year-to-Date)**: Annual -3.32%

**Note:**
2019 Weeks are compared to similar weeks in 2018.
(2019 week 1 ~ 2018 week 1)

### Annual Residual Peak Demand Statistics (Incl IOS)

<table>
<thead>
<tr>
<th>Year</th>
<th>Peak Date</th>
<th>Annual Peak</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>Thu 12-Jun-2014</td>
<td>35,663</td>
<td>MW</td>
</tr>
<tr>
<td>2015</td>
<td>Thu 11-Jun-2015</td>
<td>34,145</td>
<td>MW</td>
</tr>
<tr>
<td>2016</td>
<td>Thu 07-Jul-2016</td>
<td>34,488</td>
<td>MW</td>
</tr>
<tr>
<td>2017</td>
<td>Tue 30-May-2017</td>
<td>35,517</td>
<td>MW</td>
</tr>
<tr>
<td>2018</td>
<td>Tue 29-May-2018</td>
<td>34,907</td>
<td>MW</td>
</tr>
<tr>
<td>2019</td>
<td>Thu 30-May-2019</td>
<td>33,746</td>
<td>MW</td>
</tr>
</tbody>
</table>

**Week 52 : Residual Peak Demand Statistics (Incl IOS)**

**Week-on-Week RSA Contracted Peak Demand**

- **Peak Demand**: 27,200 MW
- **Week-on-Week Growth**: 1.09%
- **Year-on-Year Growth (Year-to-Date)**: Annual -2.36%

**Note:**
2019 Weeks are compared to similar weeks in 2018.
(2019 week 1 ~ 2018 week 1)

### Annual RSA Contracted Peak Demand Statistics (Incl IOS)

<table>
<thead>
<tr>
<th>Year</th>
<th>Peak Date</th>
<th>Annual Peak</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>Thu 12-Jun-2014</td>
<td>36,156</td>
<td>MW</td>
</tr>
<tr>
<td>2015</td>
<td>Thu 11-Jun-2015</td>
<td>34,499</td>
<td>MW</td>
</tr>
<tr>
<td>2016</td>
<td>Mon 30-May-2016</td>
<td>34,913</td>
<td>MW</td>
</tr>
<tr>
<td>2017</td>
<td>Tue 30-May-2017</td>
<td>35,769</td>
<td>MW</td>
</tr>
<tr>
<td>2018</td>
<td>Tue 29-May-2018</td>
<td>35,945</td>
<td>MW</td>
</tr>
<tr>
<td>2019</td>
<td>Thu 30-May-2019</td>
<td>34,510</td>
<td>MW</td>
</tr>
</tbody>
</table>

**Week 52 : RSA Contracted Peak Demand Statistics (Incl IOS)**
**Risk Level Description**
- **Green**: Adequate Generation to meet Demand and Reserves
- **Yellow**: Short to meet Demand and Reserves
- **Orange**: Short to meet Demand and Reserves
- **Red**: Short to meet Demand and Reserves

**MW**
- **Week Start**: The start of the week for each row.
- **03-Dec-19**: The first week of the dataset.
- **26980**: The total MW available for that week.
- **25608**: The contracted MW available for that week.
- **41887**: The residual forecast for that week.
- **30187**: The available dispatchable capacity for that week.
- **6346**: The planned maintenance for that week.
- **9500**: The unplanned outage assumption (UA) for that week.
- **(-11700)**: The likely risk scenario adjustment for that week.
- **(11700)**: The risk level for the week.

**Notes - Assumptions critical:**
The maintenance plan included in these assumptions includes a base scenario of outages (planned risk level). As there is opportunity for further outages, these will be included. This “likely risk scenario” includes an additional 2000 MW of outages on the base plan.
The expected imports at Apollo is included.
Avon and Dedisa is also included.
The forecast used is the latest operational weekly residual peak forecast, which excludes the expected renewable generation.
Operating Reserve (OR) from Generation: 2 200 MW
Unplanned Outage Assumption (UA): 9 500 MW
Reserves: OR + UA = 11 700 MW

**Key:**
- **Medium Term Peak Demand/Capacity Forecast**
  Please go to the link below for the Medium-term System Adequacy Outlook - 2020 to 2024.

**Download the Medium-Term System Adequacy Outlook 2020 to 2024** (Published 30 October 2019).
Renewable Energy Statistics

Note: Times are expressed as hour beginning

### Maximum Contribution (MW) - based on System Operator data (subject to metering verification)

<table>
<thead>
<tr>
<th>Cal Year</th>
<th>Indicator</th>
<th>CSP</th>
<th>PV</th>
<th>Wind (Eskom+IPP)</th>
<th>Total (Incl other REs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Time</td>
<td>Maximum</td>
<td>502.1</td>
<td>1,432.5</td>
<td>1,902.3</td>
<td>3,530.6</td>
</tr>
<tr>
<td></td>
<td>Max Date</td>
<td>24-Sep-2019 11:00</td>
<td>27-Oct-2017 12:00</td>
<td>02-Oct-2018 16:00</td>
<td>27-Oct-2019 13:00</td>
</tr>
<tr>
<td>2016</td>
<td>Maximum</td>
<td>200.9</td>
<td>1,350.5</td>
<td>1,229.8</td>
<td>2,576.3</td>
</tr>
<tr>
<td></td>
<td>Max Date</td>
<td>11-Aug-2016 14:00</td>
<td>16-Dec-2016 12:00</td>
<td>23-Dec-2016 13:00</td>
<td>23-Dec-2016 13:00</td>
</tr>
<tr>
<td>2017</td>
<td>Maximum</td>
<td>302.0</td>
<td>1,432.5</td>
<td>1,708.2</td>
<td>3,142.7</td>
</tr>
<tr>
<td></td>
<td>Max Date</td>
<td>07-Nov-2017 10:00</td>
<td>27-Oct-2017 12:00</td>
<td>25-Dec-2017 18:00</td>
<td>13-Dec-2017 13:00</td>
</tr>
<tr>
<td>2018</td>
<td>Maximum</td>
<td>399.7</td>
<td>1,392.1</td>
<td>1,902.3</td>
<td>3,298.9</td>
</tr>
<tr>
<td></td>
<td>Max Date</td>
<td>04-Dec-2018 16:00</td>
<td>03-Oct-2018 12:00</td>
<td>02-Oct-2018 16:00</td>
<td>28-Sep-2018 11:00</td>
</tr>
<tr>
<td>2019</td>
<td>Maximum</td>
<td>502.1</td>
<td>1,375.6</td>
<td>1,867.3</td>
<td>3,530.6</td>
</tr>
<tr>
<td></td>
<td>Max Date</td>
<td>24-Sep-2019 11:00</td>
<td>19-Jan-2019 12:00</td>
<td>14-Dec-2019 15:00</td>
<td>27-Oct-2019 13:00</td>
</tr>
</tbody>
</table>

### Annual Energy Contribution (MWh) - based on System Operator data (subject to metering verification)

<table>
<thead>
<tr>
<th>Cal Year</th>
<th>Indicator</th>
<th>CSP</th>
<th>PV</th>
<th>Wind (Eskom+IPP)</th>
<th>Total (Incl other REs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Time</td>
<td>Maximum</td>
<td>1,535,812</td>
<td>3,324,857</td>
<td>6,619,639</td>
<td>11,558,344</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>529,522</td>
<td>2,630,141</td>
<td>3,730,771</td>
<td>6,951,261</td>
</tr>
<tr>
<td>2016</td>
<td>Total</td>
<td>687,703</td>
<td>3,324,857</td>
<td>5,081,023</td>
<td>9,198,632</td>
</tr>
<tr>
<td>2017</td>
<td>Total</td>
<td>1,031,288</td>
<td>3,282,124</td>
<td>6,467,095</td>
<td>10,887,902</td>
</tr>
<tr>
<td>2018</td>
<td>Total</td>
<td>1,535,812</td>
<td>3,322,682</td>
<td>6,619,639</td>
<td>11,558,344</td>
</tr>
<tr>
<td>2019</td>
<td>Total</td>
<td>1,535,812</td>
<td>3,322,682</td>
<td>6,619,639</td>
<td>11,558,344</td>
</tr>
</tbody>
</table>

### Maximum Difference between Consecutive Evening Peaks (MW) - based on System Operator data (subject to metering verification)

<table>
<thead>
<tr>
<th>Cal Year</th>
<th>Indicator</th>
<th>Total (Incl other REs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Time</td>
<td>Maximum</td>
<td>1,464</td>
</tr>
<tr>
<td></td>
<td>Max Date</td>
<td>05-Jul-2019 to 06-Jul-2019</td>
</tr>
<tr>
<td>2016</td>
<td>Maximum</td>
<td>828</td>
</tr>
<tr>
<td></td>
<td>Max Date</td>
<td>30-Aug-2016 to 31-Aug-2016</td>
</tr>
<tr>
<td>2017</td>
<td>Maximum</td>
<td>1,038</td>
</tr>
<tr>
<td></td>
<td>Max Date</td>
<td>19-Jun-2017 to 20-Jun-2017</td>
</tr>
<tr>
<td>2018</td>
<td>Maximum</td>
<td>1,336</td>
</tr>
<tr>
<td></td>
<td>Max Date</td>
<td>01-Sep-2018 to 02-Sep-2018</td>
</tr>
<tr>
<td>2019</td>
<td>Maximum</td>
<td>1,464</td>
</tr>
<tr>
<td></td>
<td>Max Date</td>
<td>05-Jul-2019 to 06-Jul-2019</td>
</tr>
</tbody>
</table>

### Current Installed Capacity (MW)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CSP</td>
<td>500.0</td>
</tr>
<tr>
<td>PV</td>
<td>1,514.2</td>
</tr>
<tr>
<td>Wind (Eskom+IPP)</td>
<td>2,079.8</td>
</tr>
<tr>
<td>Total (Incl other REs)</td>
<td>4,115.7</td>
</tr>
</tbody>
</table>