System Status Overview

System Operator

21 May 2019

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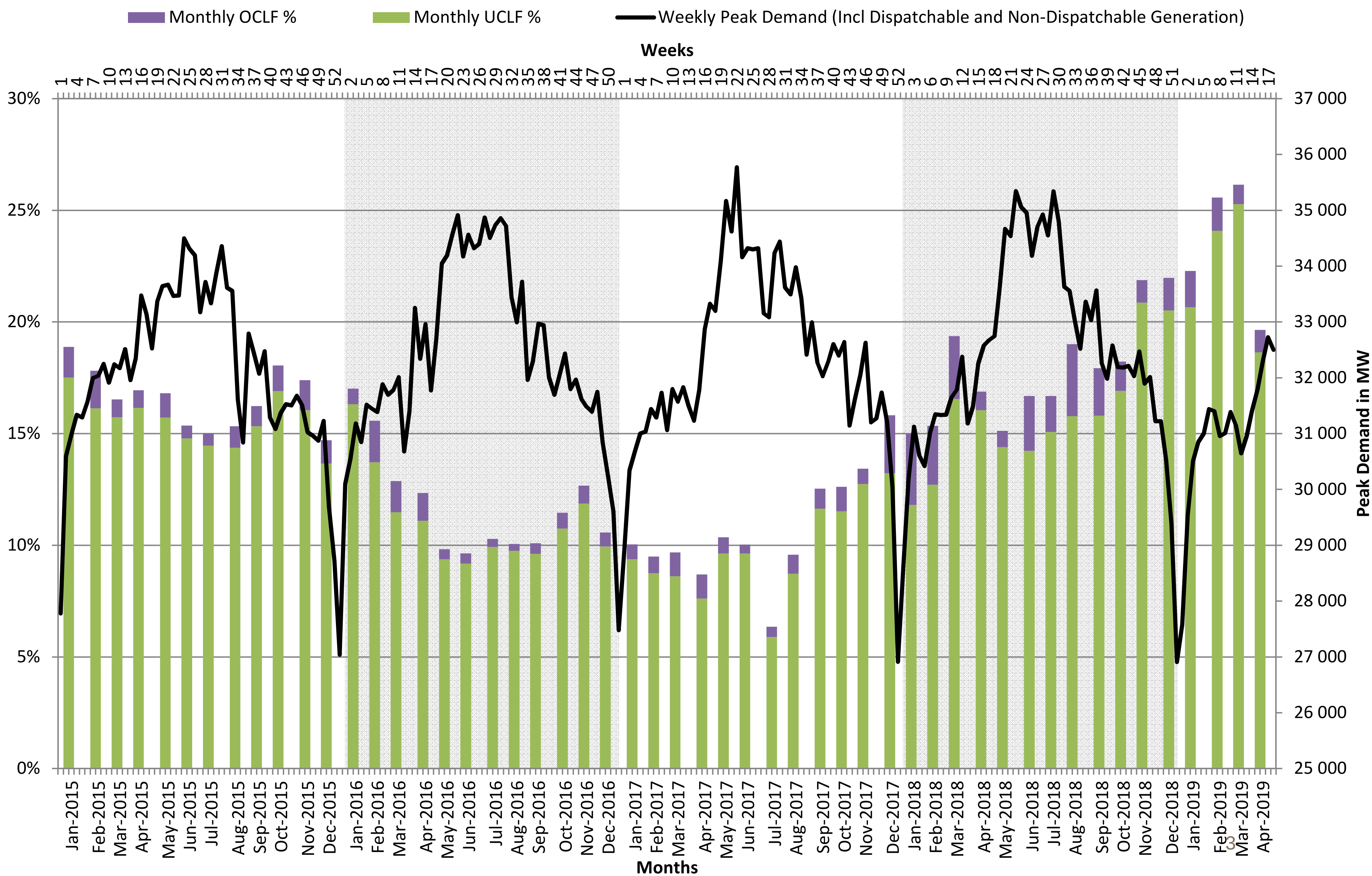
Overview

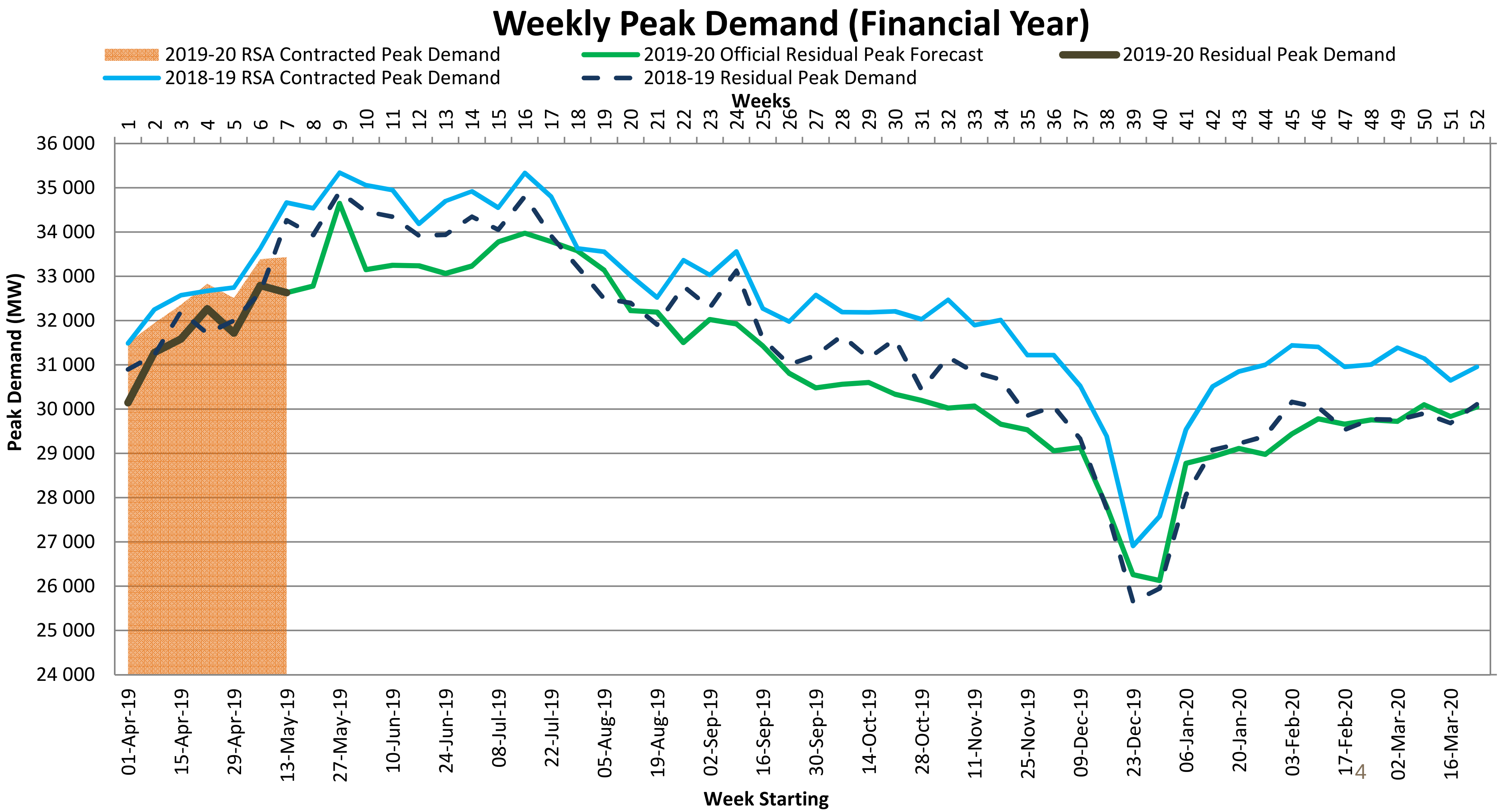
- Considering dispatchable generation (with firm imports) and the supply of energy from contracted IPPs (sold to Eskom) the YTD 2018-19 Financial Year, RSA contracted energy demand growth is approximately 0.25%.
- There has been no need to load shed since Saturday 23 March 2019.
- The demand profile has changed to the winter (camel hump) profile. Although the overall demand is higher than in summer, generators have returned from planned summer maintenance to supply the winter demand. Our critical time of day is 3-4 hours over the evening peak period and no longer the entire day as in summer.
- Performance against the Winter Plan has varied but overall we are operating between Scenario 1 and Scenario 2.
- The renewable programme and Eskom new build programme continue to contribute towards adding capacity to the system. Currently there are four non-commercial units supporting the grid.

Cumulative monthly UCLF+OCLF compared against weekly RSA contracted peak demand (including all IPPs and IOS)



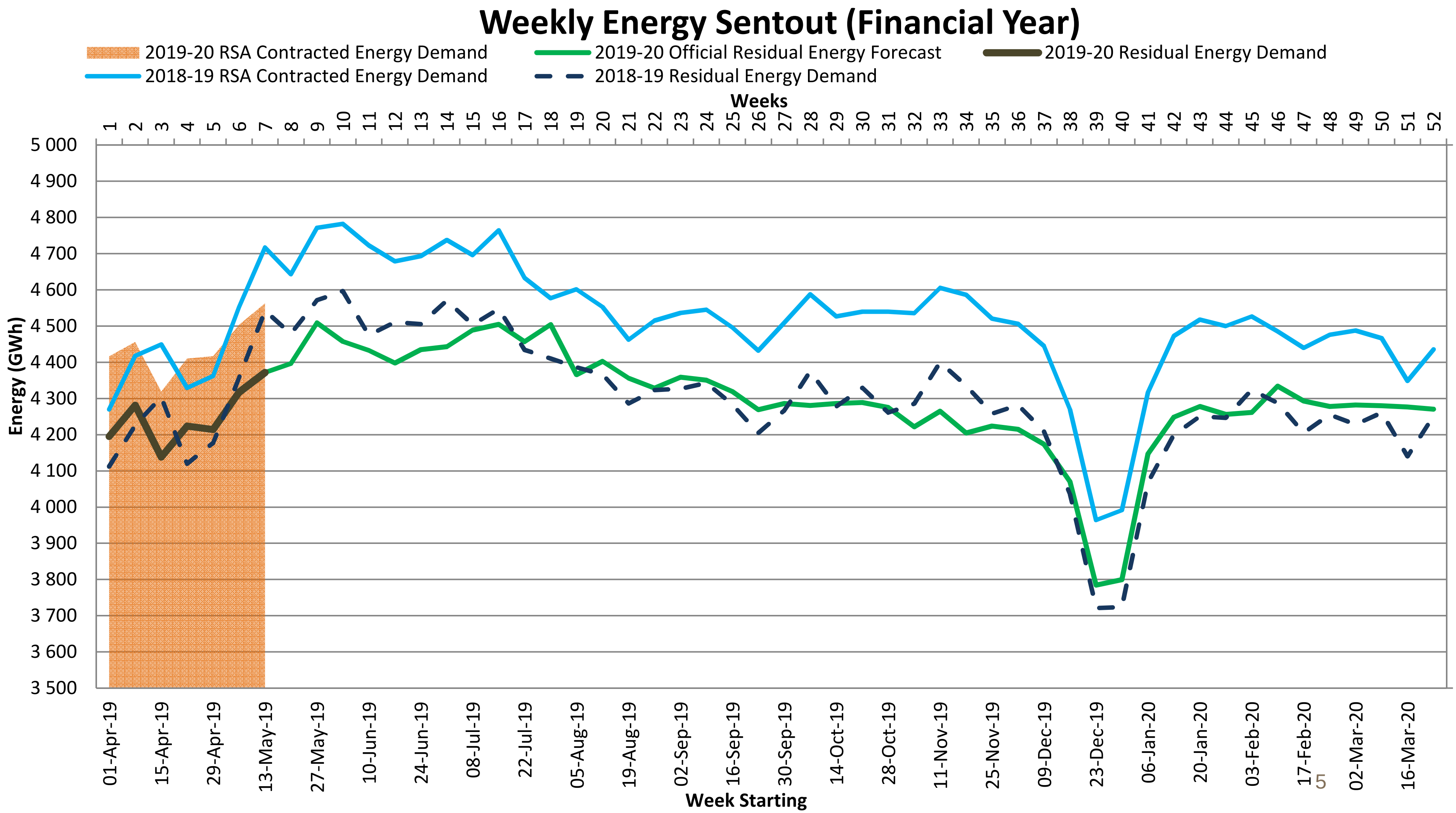
Actual System Weekly Peak Demand (Including IOS)

- The residual peak demand for 2018-19 Financial Year was 34 907 MW. The Year-To-Date residual peak demand for 2019-20 Financial Year is 32 791 (considering dispatchable generation and firm imports).
- When including the supply from contracted IPPs (sold to Eskom) the RSA contracted peak demand for 2018-19 Financial Year was 35 345 MW, and the Year-To-Date RSA contracted peak of 2019-20 Financial Year is 33 435 MW.
- The contracted demand reductions over peak last week was 735 MW, and the support from Renewable IPPs was 1 123 MW.

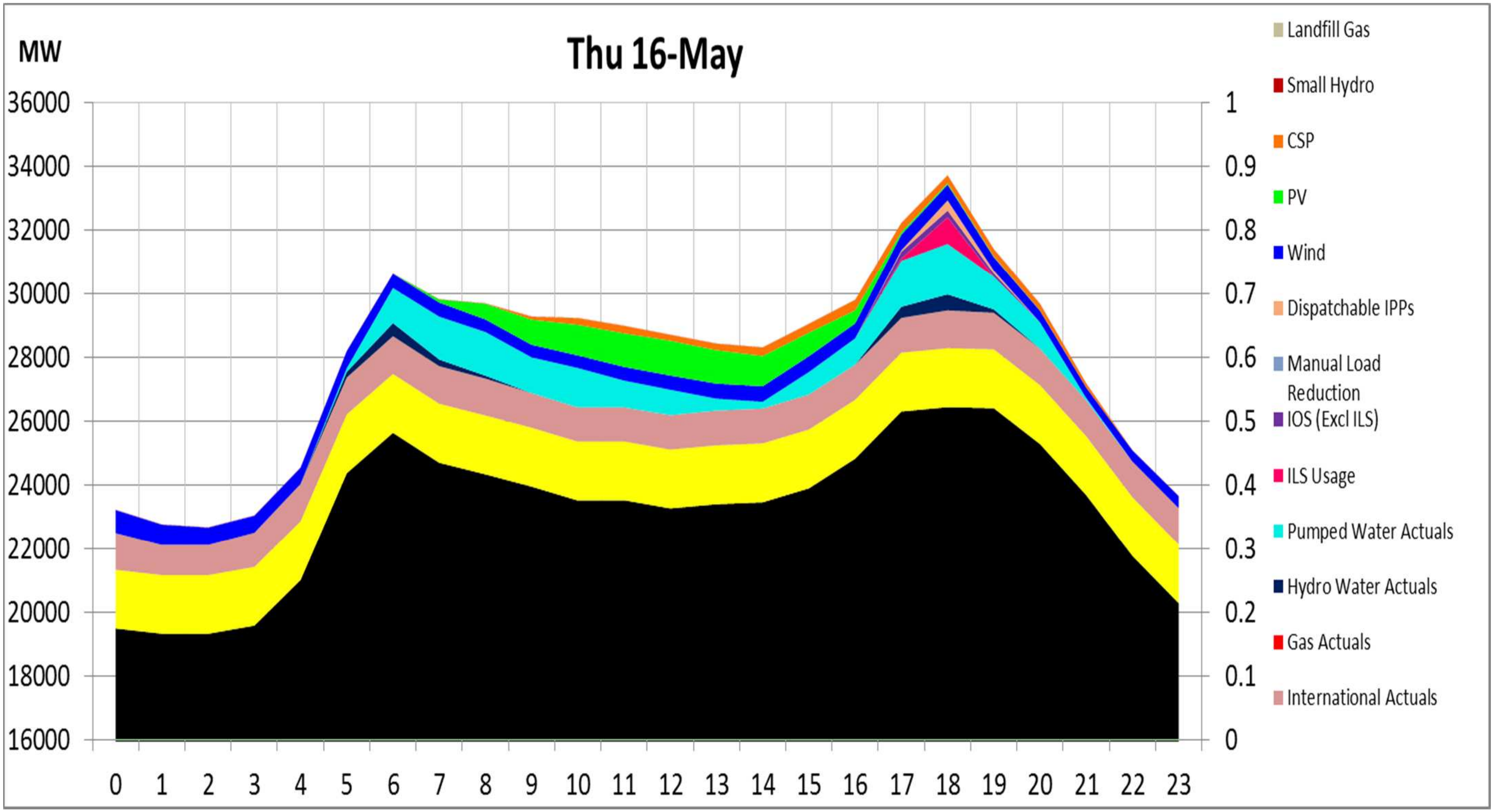


Actual System Weekly Energy Demand (Including IOS)

- Considering only the dispatchable generation (and firm imports) the YTD 2019-20 Financial Year residual energy demand growth is about -0.04%.
- Considering dispatchable generation (with firm imports) and the supply of energy from contracted IPPs (sold to Eskom) the YTD 2019-20 Financial Year RSA contracted energy demand growth is approximately 0.25%.

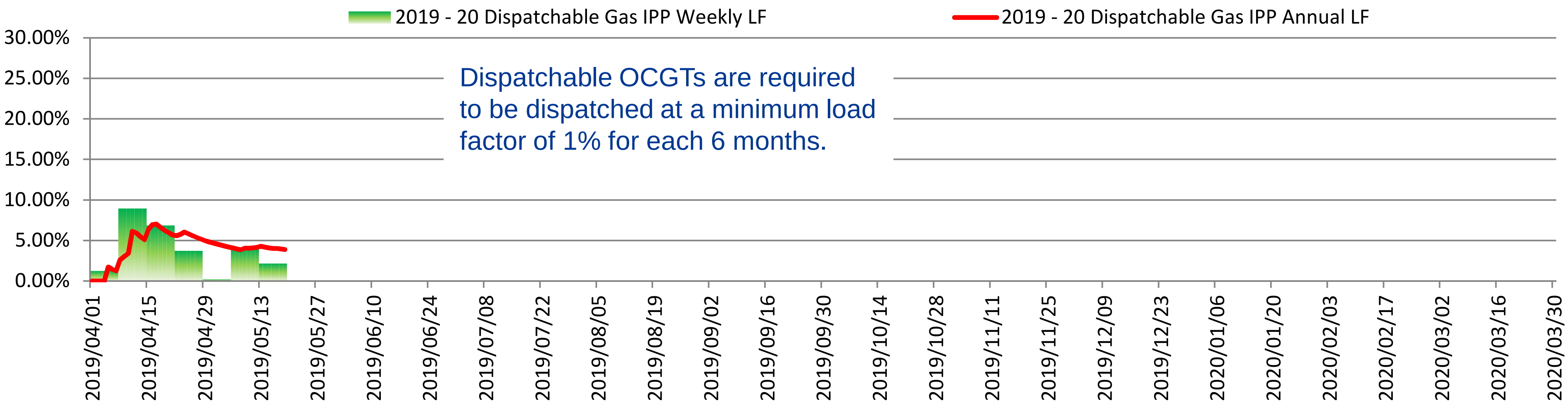


Station Build-up for the Peak Demand day of the week

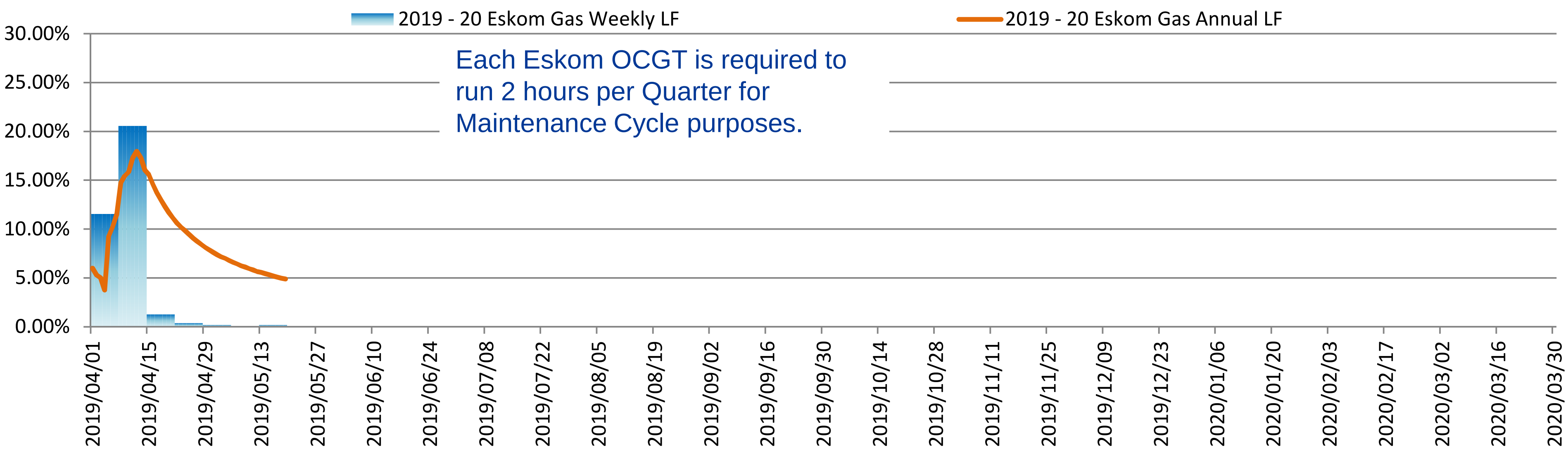


Current Financial Year - Load Factors

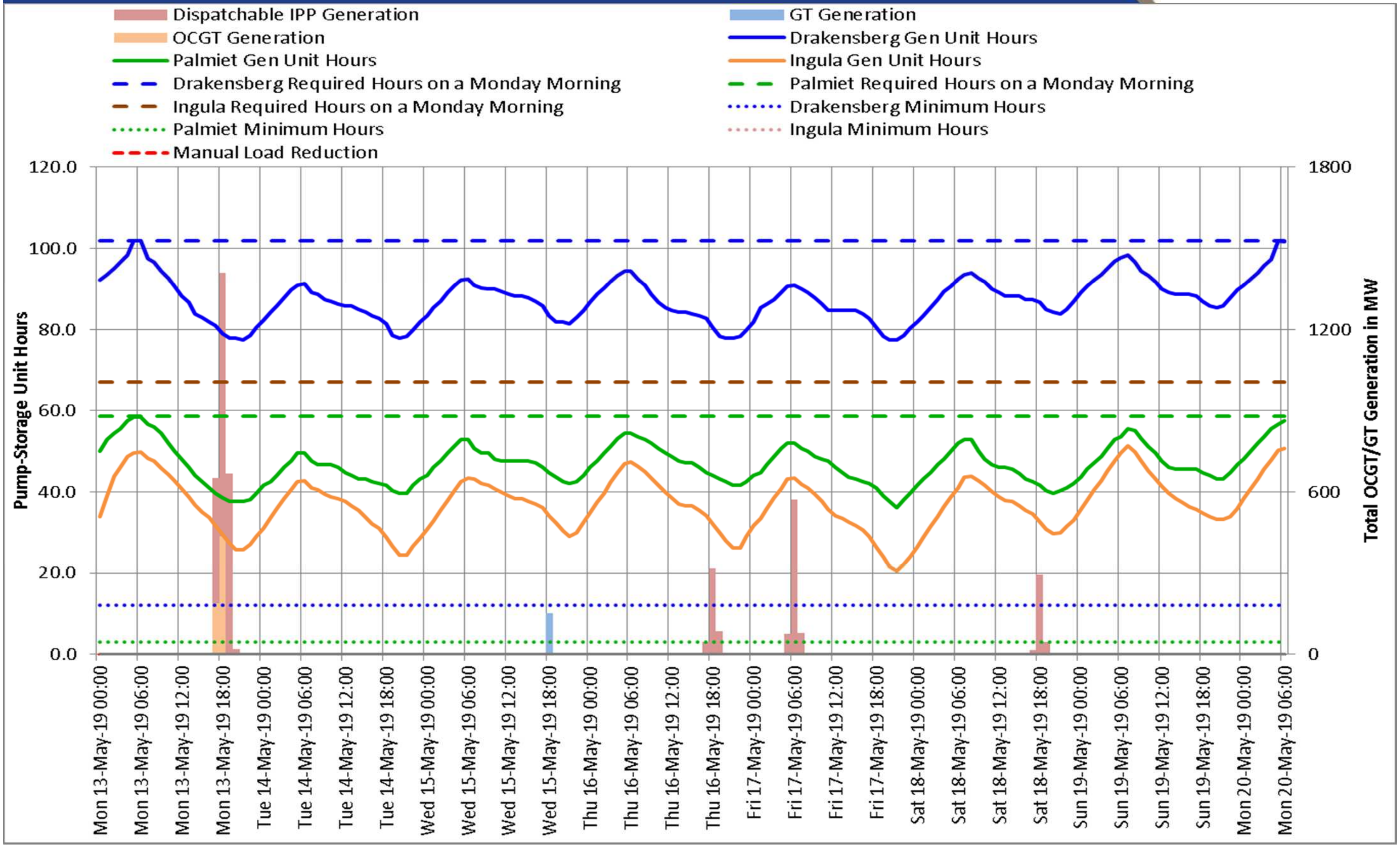
Dispatchable Gas IPP Load Factor (3.87% as at Mon 20-May-2019 09:00)



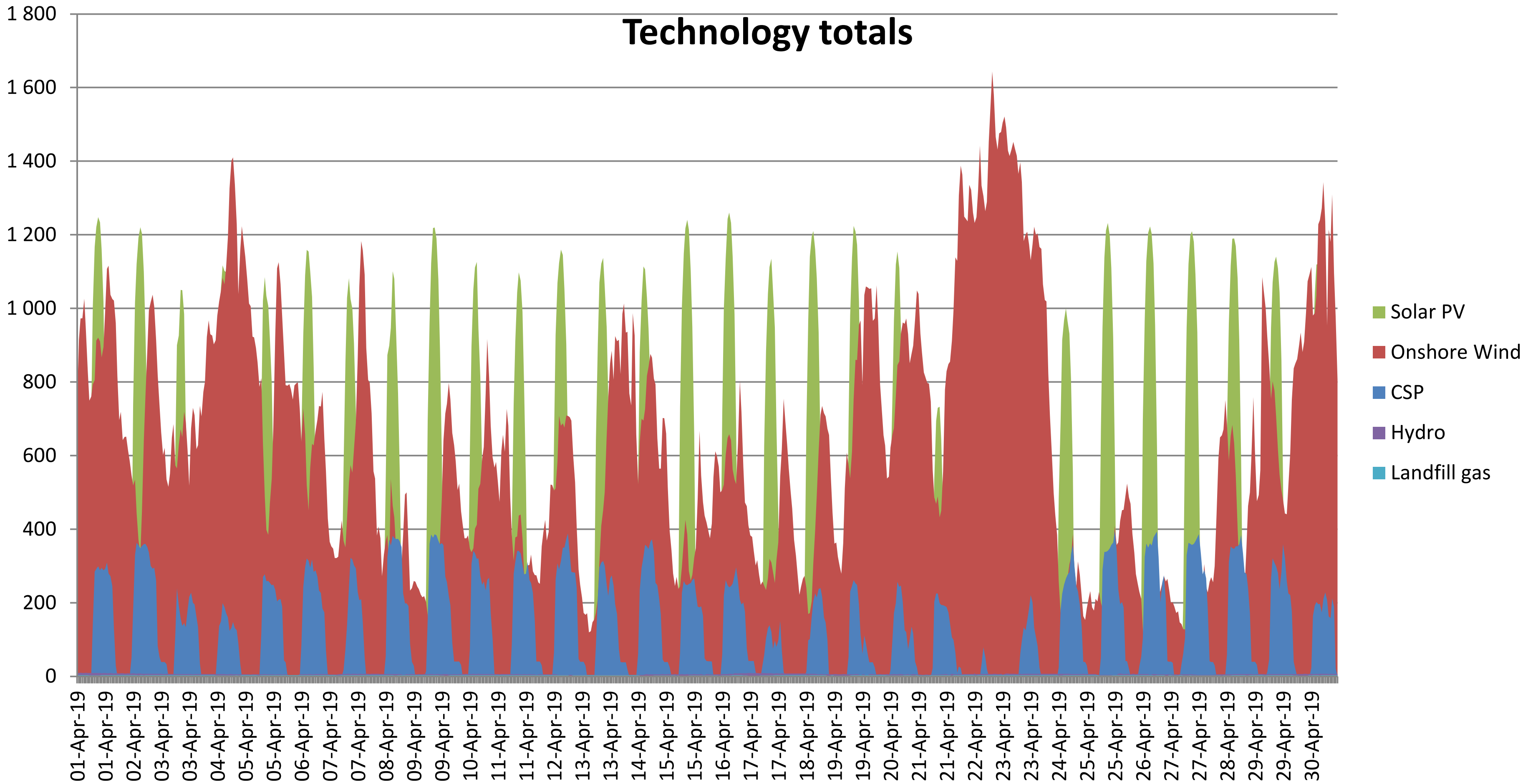
Eskom Gas Load Factor (4.88% as at Mon 20-May-2019 09:00)



Pumped Storage Generation hours of the past week

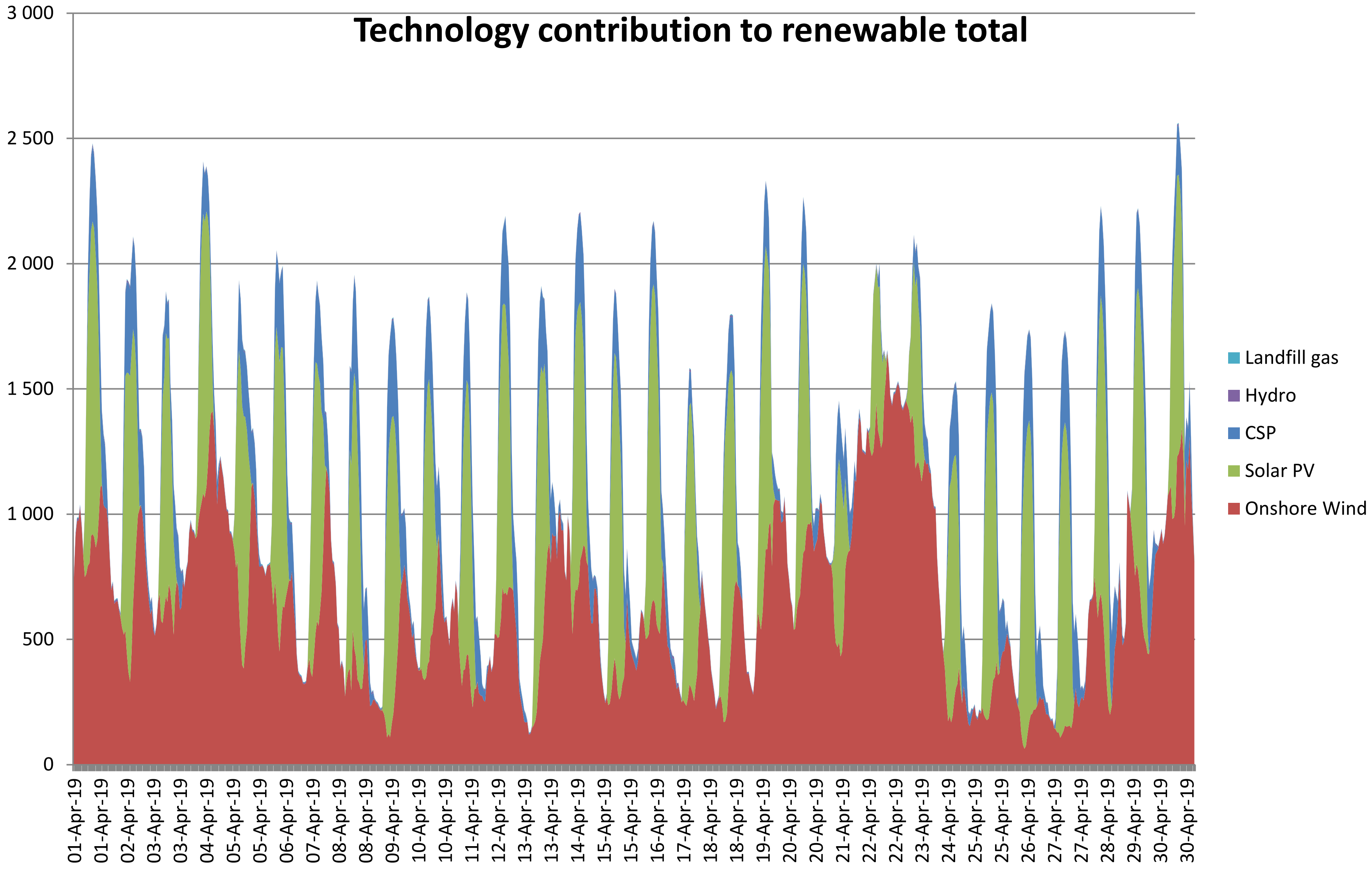


Impact of renewable generation

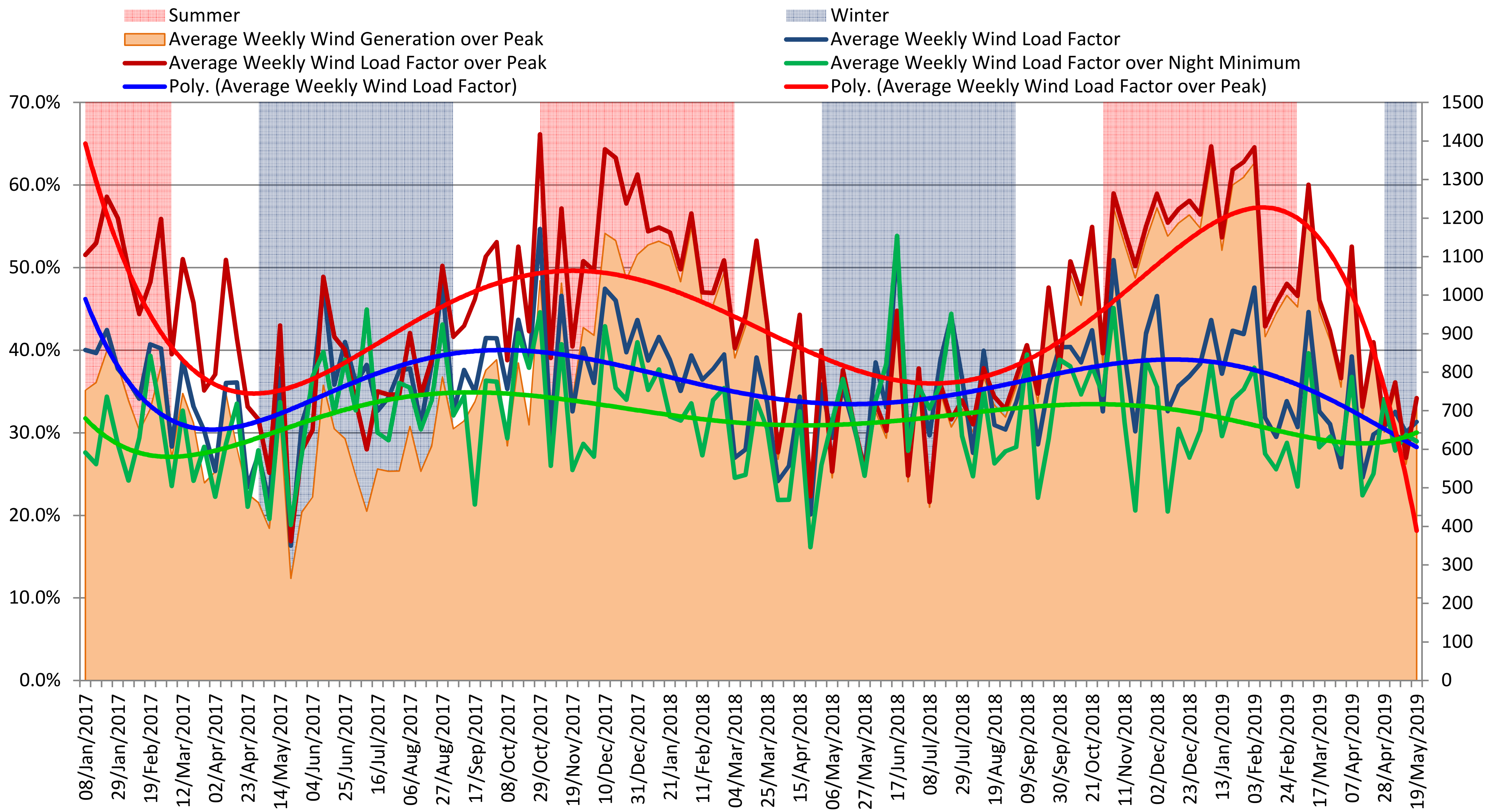


- PV and to a lesser extent CSP continue to support the system during the day
- Some evenings wind has supplied over 1600 MW during peak, while others much less so.

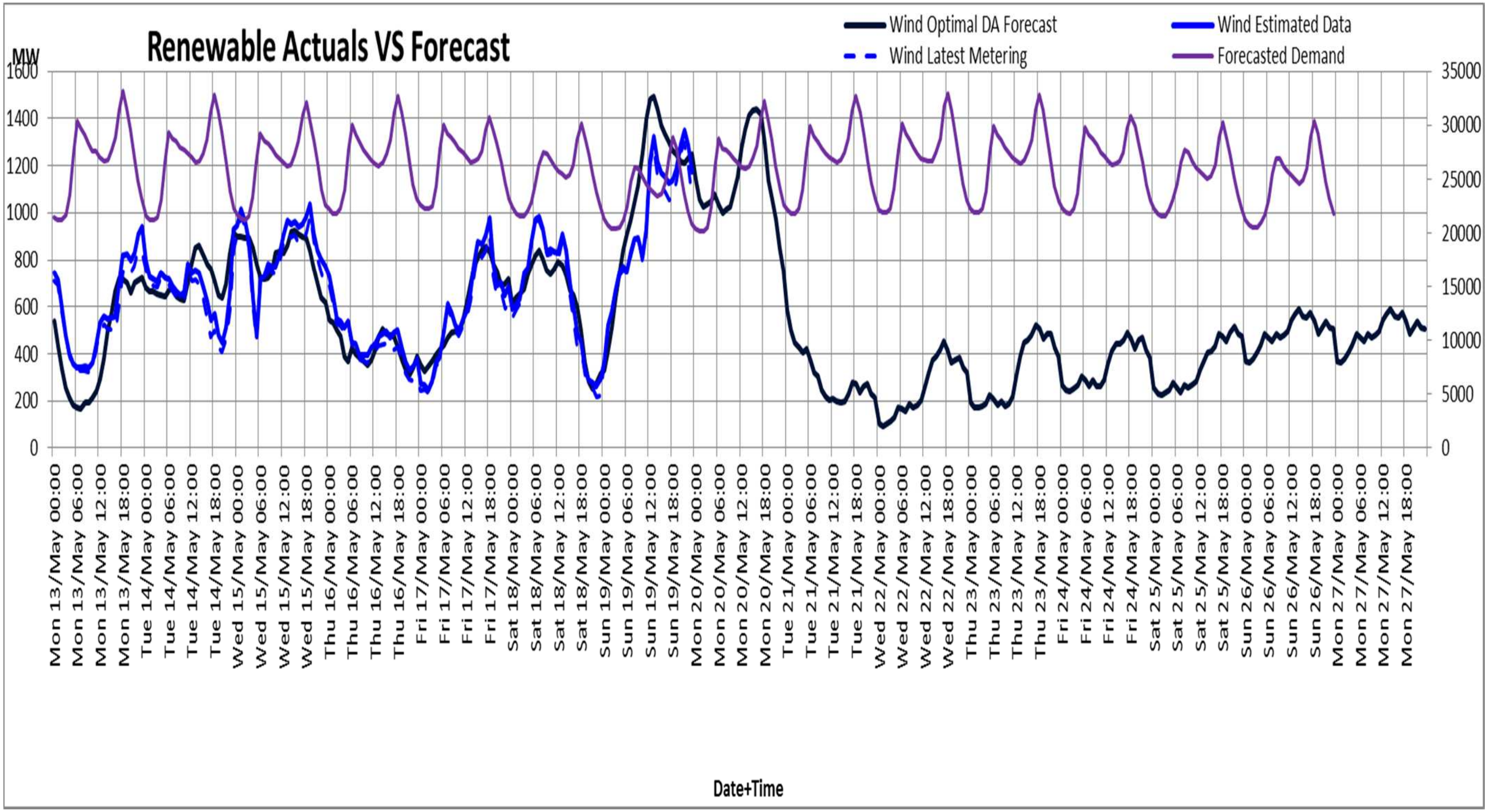
Impact of renewable generation



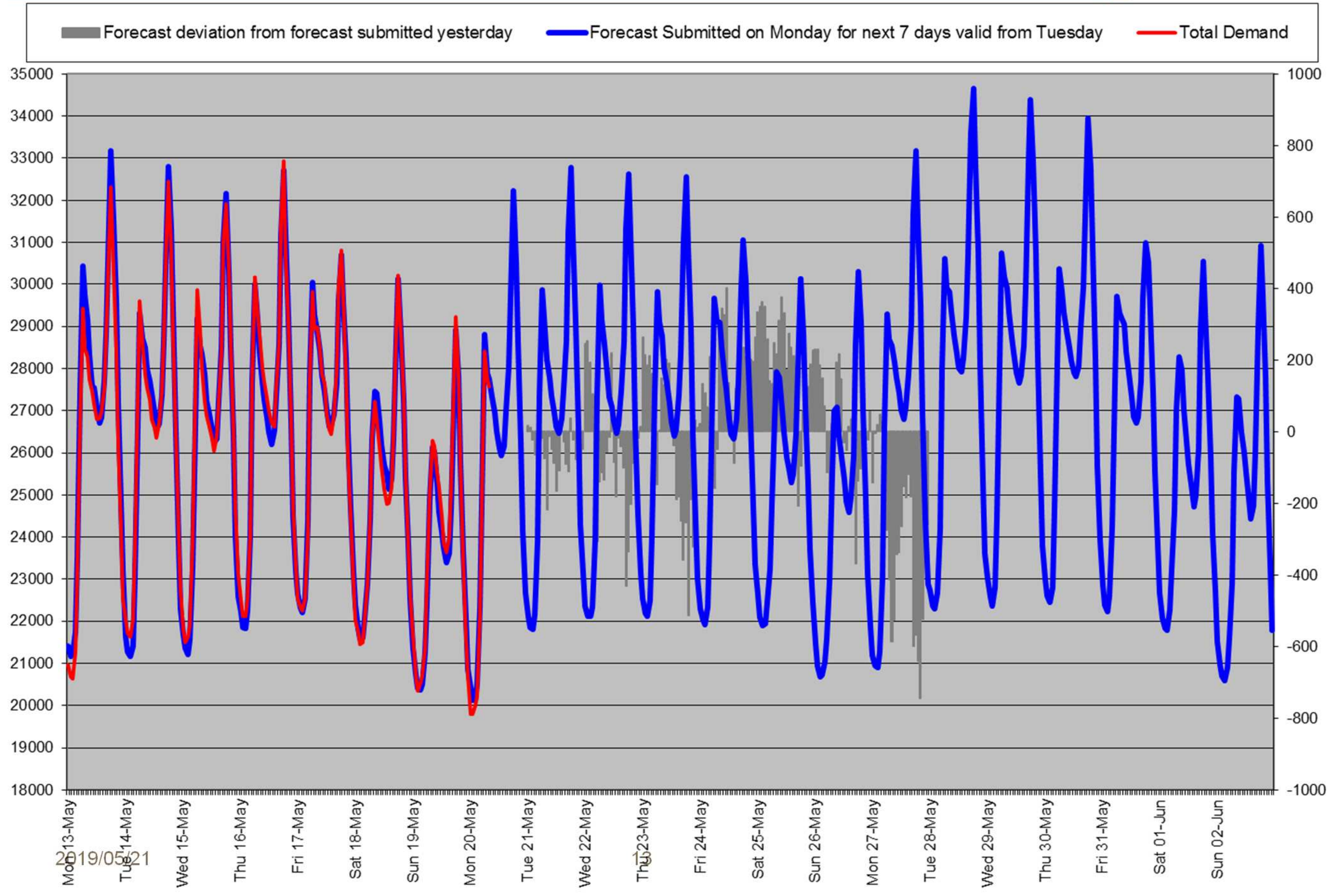
Wind Generation and Load Factors from 2017 to 2019



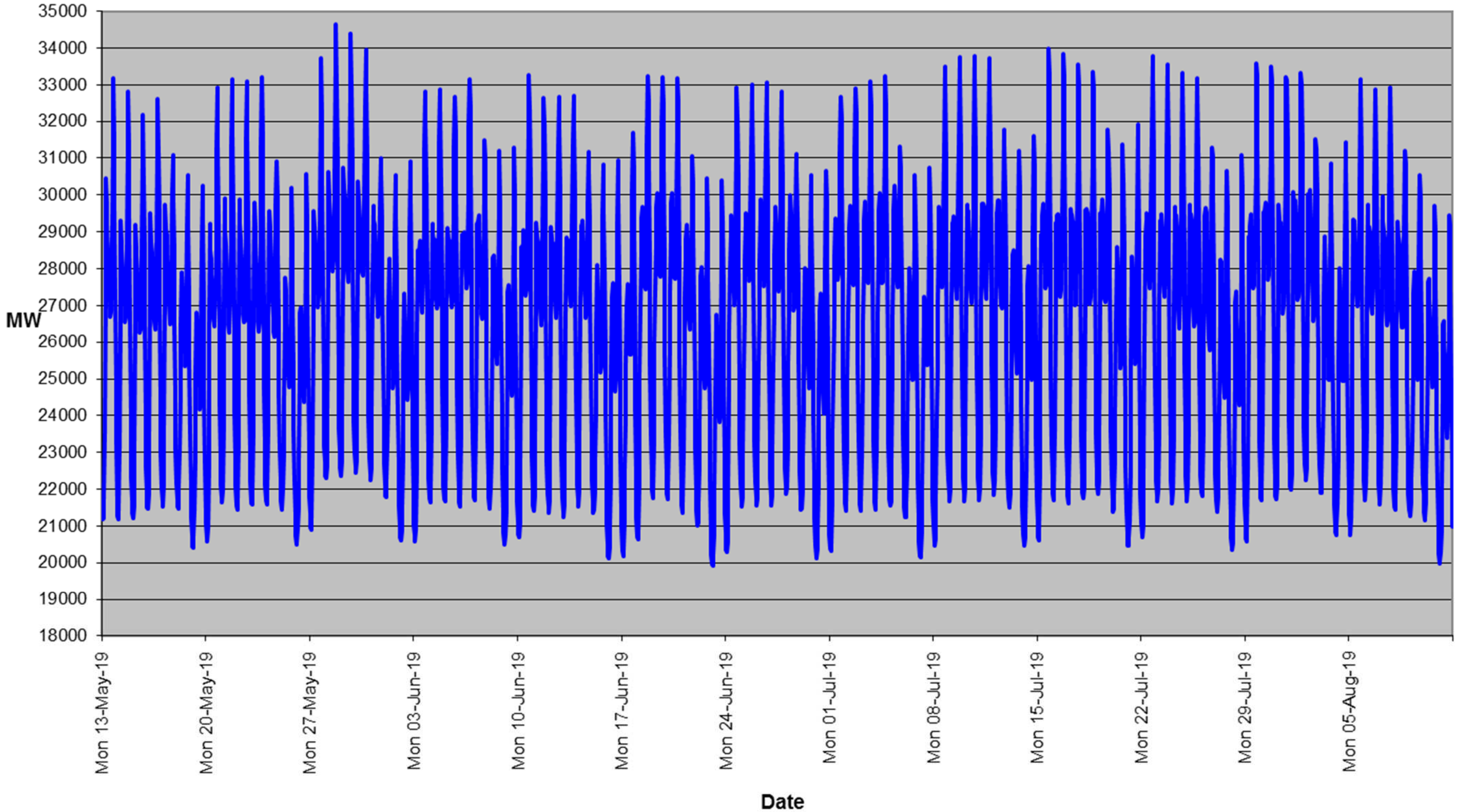
- High load factors over evening peaks in summer can be observed, dropping during the winter months. A similar behaviour can be observed over all hours in a week, however to a much lesser extent.
- This behaviour is consistent, even with the increase in wind generation.

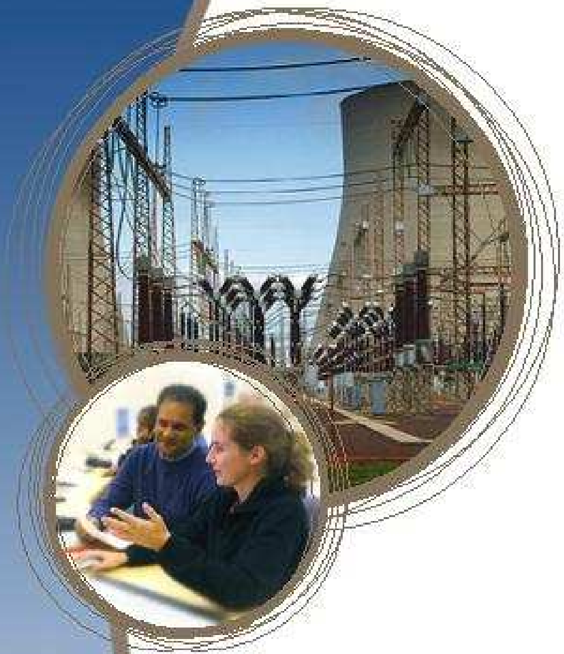

Renewable Actuals VS Forecast
Wind Optimal DA Forecast
Wind Estimated Data
Wind Latest Metering
Forecasted Demand
MW
1600
1400
1200
1000
800
600
400
200
0
35000
30000
25000
20000
15000
10000
5000
0
Mon 13/May 00:00
Mon 13/May 06:00
Mon 13/May 12:00
Mon 13/May 18:00
Tue 14/May 00:00
Tue 14/May 06:00
Tue 14/May 12:00
Tue 14/May 18:00
Wed 15/May 00:00
Wed 15/May 06:00
Wed 15/May 12:00
Wed 15/May 18:00
Thu 16/May 00:00
Thu 16/May 06:00
Thu 16/May 12:00
Thu 16/May 18:00
Fri 17/May 00:00
Fri 17/May 06:00
Fri 17/May 12:00
Fri 17/May 18:00
Sat 18/May 00:00
Sat 18/May 06:00
Sat 18/May 12:00
Sat 18/May 18:00
Sun 19/May 00:00
Sun 19/May 06:00
Sun 19/May 12:00
Sun 19/May 18:00
Mon 20/May 00:00
Mon 20/May 06:00
Mon 20/May 12:00
Mon 20/May 18:00
Tue 21/May 00:00
Tue 21/May 06:00
Tue 21/May 12:00
Tue 21/May 18:00
Wed 22/May 00:00
Wed 22/May 06:00
Wed 22/May 12:00
Wed 22/May 18:00
Thu 23/May 00:00
Thu 23/May 06:00
Thu 23/May 12:00
Thu 23/May 18:00
Fri 24/May 00:00
Fri 24/May 06:00
Fri 24/May 12:00
Fri 24/May 18:00
Sat 25/May 00:00
Sat 25/May 06:00
Sat 25/May 12:00
Sat 25/May 18:00
Sun 26/May 00:00
Sun 26/May 06:00
Sun 26/May 12:00
Sun 26/May 18:00
Mon 27/May 00:00
Mon 27/May 06:00
Mon 27/May 12:00
Mon 27/May 18:00
Date+Time

System Hourly Demand [d-7 to d+14] (Actual and Forecast)



System Hourly Demand Forecast





Thank you