<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00</td>
<td>Welcome and Introduction</td>
<td>Ben Smith</td>
</tr>
<tr>
<td>10:10</td>
<td>Balancing Services Use of System (BSUoS) update</td>
<td>Mat Hofton</td>
</tr>
<tr>
<td>10:40</td>
<td>On the Day Decisions: A Weekend in July…</td>
<td>Jon McDonald</td>
</tr>
<tr>
<td>11:20</td>
<td>Break – Plaza Suite Foyer</td>
<td></td>
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<tr>
<td>11:35</td>
<td>Winter Outlook</td>
<td>Iain McIntosh</td>
</tr>
<tr>
<td>12:05</td>
<td>Electricity System Operator (ESO) Forward Plan</td>
<td>Richard Smith</td>
</tr>
<tr>
<td>12:20</td>
<td>Coming soon…</td>
<td>Rob Smith</td>
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<tr>
<td>12:40</td>
<td>Questions for the panel</td>
<td>Richard Smith</td>
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<td>Rob Smith</td>
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<td>Audrey Ramsay</td>
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<tr>
<td>13:00</td>
<td>Lunch – Plaza Suite Foyer</td>
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<tr>
<td>14:00</td>
<td>IS Change Forum or Departures</td>
<td></td>
</tr>
</tbody>
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Balancing Service Use of System (BSUoS) Update
June 2018: £3.00/MWh
Total Cost: £89.0m, Volume: 35.3TWh

- **Energy**: £27.3m
- **Constraint**: £41.0m
- **Blackstart**: £3.2m
- **RoCoF**: £10.1m
- **Reactive**: £7.4m

Graphs show monthly data for June 2018 with bars for Energy, Constraint, Blackstart, and RoCoF.
July 2018: £2.72/MWh
Total Cost: £80.6m, Volume: 36.0TWh

- **Energy**
- **Constraint**
- **Blackstart**
- **RoCoF**
- **Reactive**

**£80.6m**

- **Blackstart**: £3.1
- **Reactive**: £6.6
- **RoCoF**: £12.1
- **Constraint**: £27.0
- **Energy**: £32.1
August 2018: £2.55/MWh
Total Cost: £75.5m, Volume: 36.4TWh

- **Energy**: £30.1m
- **Constraint**: £21.8m
- **Blackstart**: £3.6m
- **RoCoF**: £13.7m
- **Reactive**: £6.7m

**£75.5m**
September 2018: £4.43/MWh
Total Cost: £143.6m, Volume: 36.2TWh

- Energy
- Constraint
- Blackstart
- RoCoF
- Reactive

£143.6m
Balancing Service Use of System (BSUoS) Forecasting
BSUoS 18/19 forecast – as at October 2018

Total BSUoS Costs Forecast

£1215.9m

+£83.6m

£1011.4m balancing costs

+ £204.5m internal costs

BSUoS Volume Forecast

499.2 TWh

-3.9TWh

BSUoS volume forecast

= £2.44/MWh

+ £0.19/MWh
Forecast Accuracy – BSUoS Report

Month ahead forecast vs actual and APE

BSoS £/MWh


Actual  Month ahead forecast
Forecast Accuracy – BSUoS Report

Monthly year ahead forecast vs actual

- **Estimated BSUoS Charge (£/MWh)**
- **Year ahead forecast (£/MWh)**
September Constraint Costs
Constraint Costs

Weekly BSUoS vs Balancing Cost

Category

- Frequency control
- Reserve
- Other
- Total constraints

Balancing Cost £m

BSUoS £/MWh

0 1 2 3 4 5 6

0 5 10 15 20 25 30 35
Constraint Costs

Weekly Constraint Costs

£m

Constraint Costs

Weekly Constraint Costs

£41m
Storm Hector 13th – 14th June
Constraint Costs

Weekly Constraint Costs

£33m
Challenging weekend
28th – 29th July
Constraint Costs

Weekly Constraint Costs

£93m
High wind plus constraint
outages.
Storm Ali and
Bronagh 19th – 21st
September.
September Constraint Costs vs Wind

- BM Scottish Wind Output (GWh)
- BM E/W Wind Output (GWh)
- Wind Bids
- Constraint Costs