```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Performance Comparison Report</title>
  <style>
     body {
       font-family: Arial, sans-serif;
     h1 {
       color: #333;
       text-align: center;
     }
     p {
       margin: 10px 0;
     .table-container {
       margin: 20px auto;
       width: 80%;
     }
    table {
       border-collapse: collapse;
       width: 100%;
     }
     table, th, td {
       border: 1px solid black;
    }
    th, td {
       padding: 8px;
       text-align: center;
     }
    th {
       background-color: #f2f2f2;
     }
     .icon {
       display: inline-block;
       margin-right: 5px;
       vertical-align: middle;
     }
  </style>
</head>
```

```
<body>
 <h1>Performance Comparison Report</h1>
 <h2>Introduction</h2>
 This report contains a detailed analysis of the performance, energy efficiency, and speedup
between CPU and GPU for different data dimensions.
 <h2>CPU Data</h2>
 The following table displays the CPU data:
 <div class="table-container">
   Dim
      CPU Execution Time (ms)
      CPU Performance (GFLOP/s)
      CPU Energy (J)
      Power Efficiency (GFLOP/J)
    1000
      23.966
      83.4514
      1.19830
      1.66903
    1500
      72.547
      93.0432
      3.62735
      1.86086
    2000
      171.136
      93.4928
      8.55681
      1.86986
    2500
      334.927
      93.3038
      16.74640
      1.86608
```

3000
3000
4d>667.824
4d>80.8597
4d>33.39120
4d>33.39120
4d>361719
4d>361719</td

```
</div>
<h2>GPU Data</h2>
The following table displays the GPU data:
<div class="table-container">
 Dim
   GPU Execution Time (ms)
   GPU Performance (GFLOP/s)
   GPU Energy (J)
   Power Efficiency (GFLOP/J)
   Speedup (x)
  1000
   0.151142
   13232.6
   0.022671
   88.217
   158.566
  1500
   0.456806
   14776.5
   0.068521
   98.510
   158.813
  2000
   1.021640
   15661.0
   0.153247
   104.407
   167.510
  2500
   2.008780
   15556.7
   0.301317
   103.711
   166.732
  3000
   3.337520
   16179.7
   0.500628
   107.864
```

```
200.096
     </div>
 <h2>Analysis</h2>
  We can observe that the GPU significantly outperforms the CPU in terms of performance and
power efficiency across all data dimensions. The speedup factor also showcases the acceleration
achieved by utilizing the GPU for computation tasks.
  <h2>Comparison</h2>
  The comparison between GPU and CPU data is summarized in the following table:
  <div class="table-container">
    CPU
       GPU
     Overall Performance (GFLOP/s)
       85.2342
       15061.10
     Overall Energy (J)
       63.52086
       1.04639
     Overall Power Efficiency (GFLOP/J)
       1.76640
       100.246
     Average Speedup
       170.3454
     </div>
 <img src="plot.png">
  <h2>Conclusion</h2>
  >Based on the data analysis and comparison, it is evident that using a GPU for parallel
processing tasks offers significant benefits in terms of performance, energy efficiency, and speedup.
Organizations looking to optimize computation tasks should consider leveraging GPU acceleration
to enhance their processing capabilities.
```

</body>

</html>