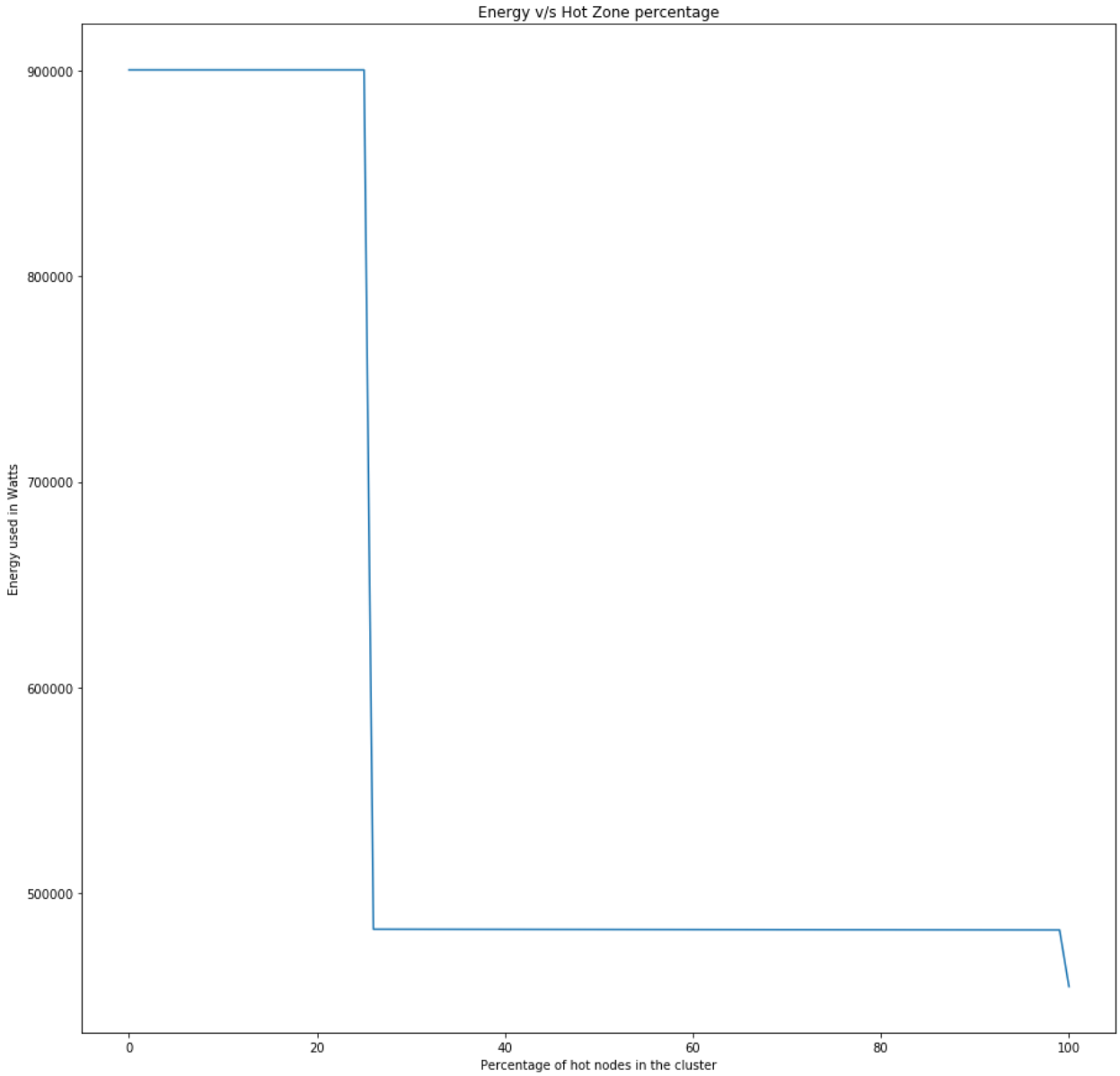
```
import matplotlib.pyplot as plt
```

```
with open("Data/varying_hotZone.txt") as f:
    data = f.read()
temp = data.split('\n')
temp = temp[:len(temp) - 1:]
y_axis_varying_hotZone = [int(x) for x in temp]
x_axis_varying_hotZone = [x for x in range(0,101)]
```

```
plt.rcParams['figure.figsize'] = (15,15)
plt.plot(x_axis_varying_hotZone, y_axis_varying_hotZone)
plt.xlabel("Percentage of hot nodes in the cluster")
plt.ylabel("Energy used in Watts")
plt.title("Energy v/s Hot Zone percentage")
plt.show()
```



```
with open("Data/blocks_0SSD.txt") as f:
    data = f.read()
temp = data.split('\n')
temp = temp[:len(temp) - 1:]
y_axis_blocks_0SSD = [int(x) for x in temp]
```

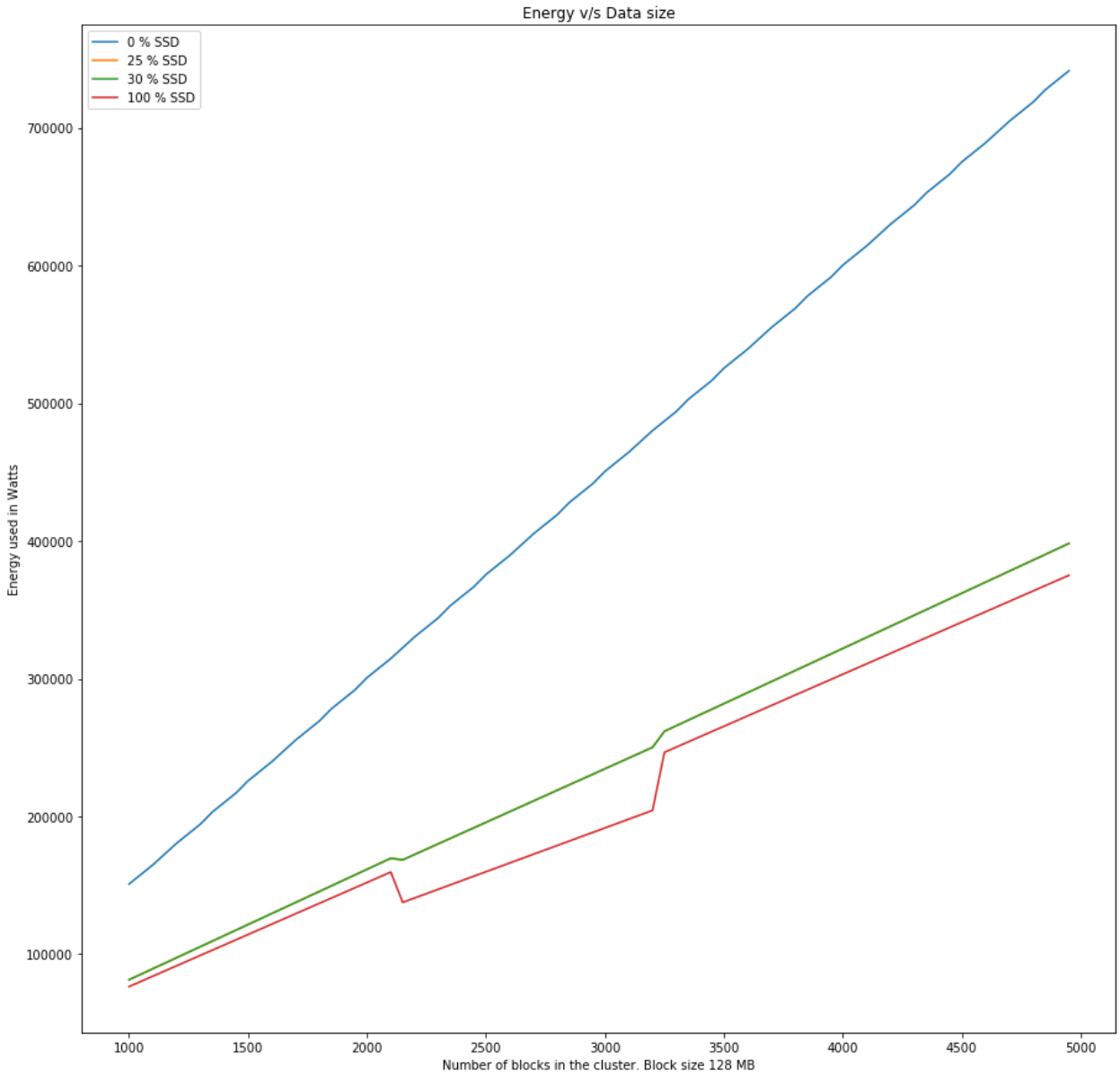
```
with open("Data/blocks_25SSD.txt") as f:
    data = f.read()
temp = data.split('\n')
temp = temp[:len(temp) - 1:]
y_axis_blocks_25SSD = [int(x) for x in temp]
```

```
with open("Data/blocks_30SSD.txt") as f:
    data = f.read()
temp = data.split('\n')
temp = temp[:len(temp) - 1:]
y_axis_blocks_30SSD = [int(x) for x in temp]
```

```
with open("Data/blocks_100SSD.txt") as f:
    data = f.read()
temp = data.split('\n')
temp = temp[:len(temp) - 1:]
y_axis_blocks_100SSD = [int(x) for x in temp]
```

```
x_axis = [x for x in range(1000,5000,50)]
```

```
plt.rcParams['figure.figsize'] = (15,15)
plt.plot(x_axis, y_axis_blocks_0SSD, label = "0 % SSD")
plt.plot(x_axis, y_axis_blocks_25SSD, label = "25 % SSD")
plt.plot(x_axis, y_axis_blocks_30SSD, label = "30 % SSD")
plt.plot(x_axis, y_axis_blocks_100SSD, label = "100 % SSD")
plt.xlabel("Number of blocks in the cluster. Block size 128 MB")
plt.ylabel("Energy used in Watts")
plt.title("Energy v/s Data size")
plt.legend()
plt.show()
#plt.savefig('Energy-vs-Data.png')
```



The dip is because blocks are able to fit perfectly into the number of active nodes. The active nodes are utilized fully

```
with open("Data/Nodes_0SSD.txt") as f:
    data = f.read()
temp = data.split('\n')
temp = temp[:len(temp) - 1:]
y_axis_nodes_0SSD = [int(x) for x in temp]
```

```
with open("Data/Nodes_25SSD.txt") as f:
    data = f.read()
temp = data.split('\n')
temp = temp[:len(temp) -1:]
y_axis_nodes_25SSD = [int(x) for x in temp]
```

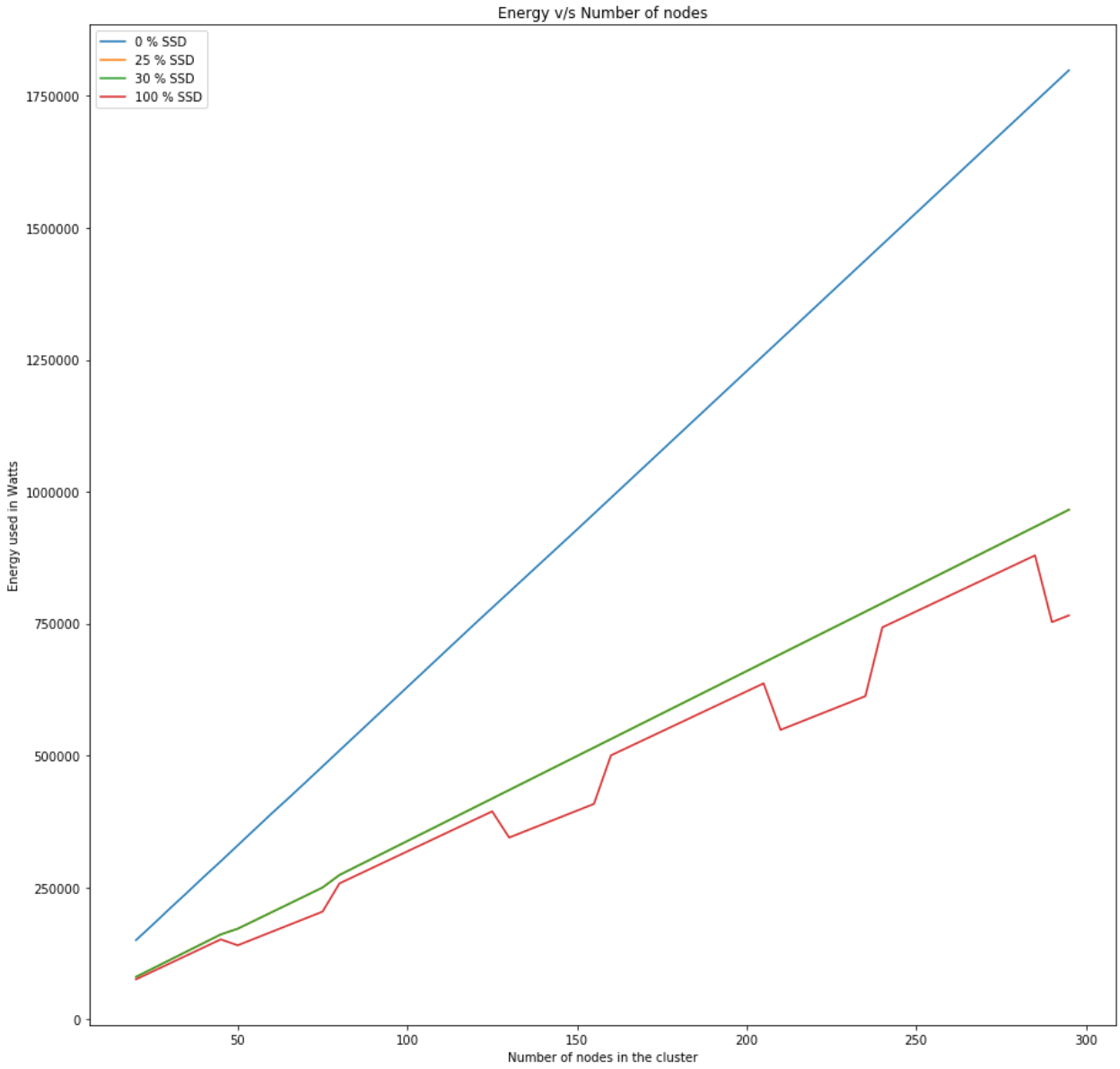
```
with open("Data/Nodes_30SSD.txt") as f:
    data = f.read()
temp = data.split('\n')
temp = temp[:len(temp) - 1:]
y_axis_nodes_30SSD = [int(x) for x in temp]
```

```
with open("Data/Nodes_100SSD.txt") as f:
    data = f.read()
temp = data.split('\n')
temp = temp[:len(temp) - 1:]
y_axis_nodes_100SSD = [int(x) for x in temp]
```

```
x_axis = [x for x in range(20,300,5)]
```

```
plt.rcParams['figure.figsize'] = (15,15)
plt.plot(x_axis, y_axis_nodes_0SSD, label = "0 % SSD")
plt.plot(x_axis, y_axis_nodes_25SSD, label = "25 % SSD")
plt.plot(x_axis, y_axis_nodes_30SSD, label = "30 % SSD")
plt.plot(x_axis, y_axis_nodes_100SSD, label = "100 % SSD")
plt.xlabel("Number of nodes in the cluster")
plt.ylabel("Energy used in Watts")
plt.title("Energy v/s Number of nodes")
plt.legend()
plt.show()

#plt.savefig('Energy-vs-Data.png')
```



For every added node, 200 new blocks are initialised.

The dips are because blocks are able to fit perfectly into the number of active nodes. The active nodes are utilized fully