

Market Monitoring Report

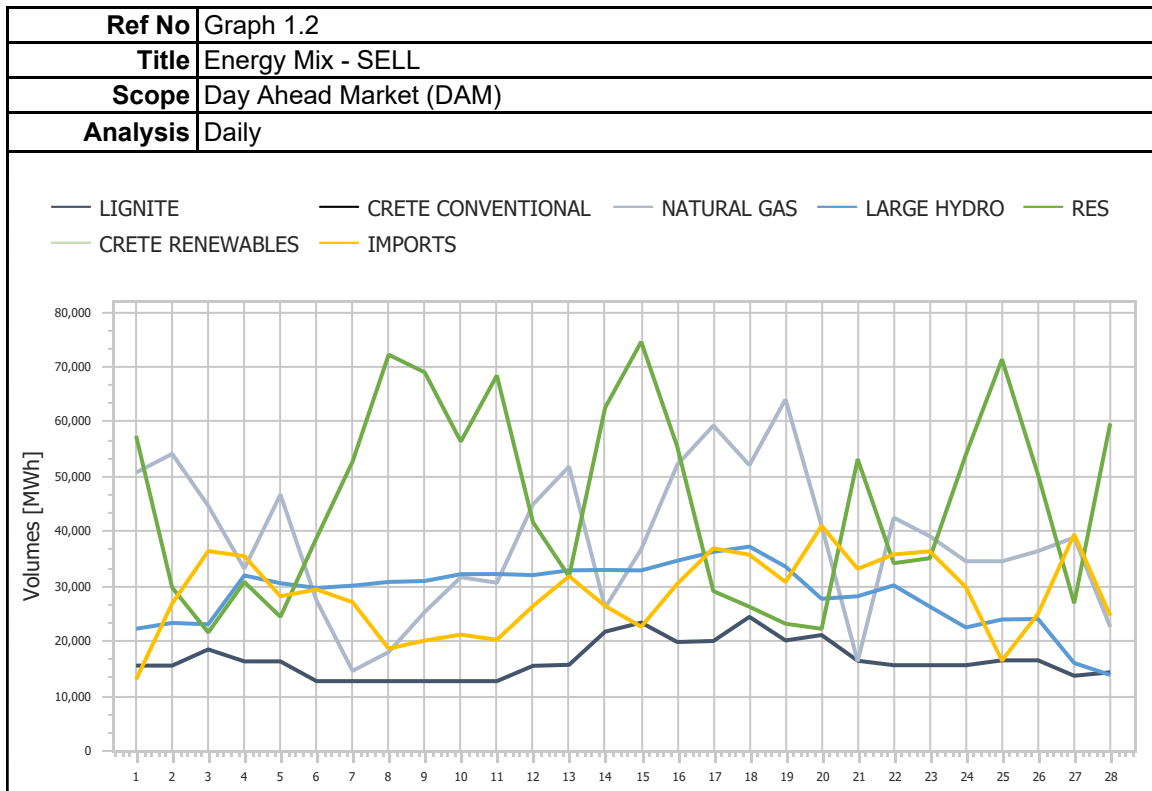
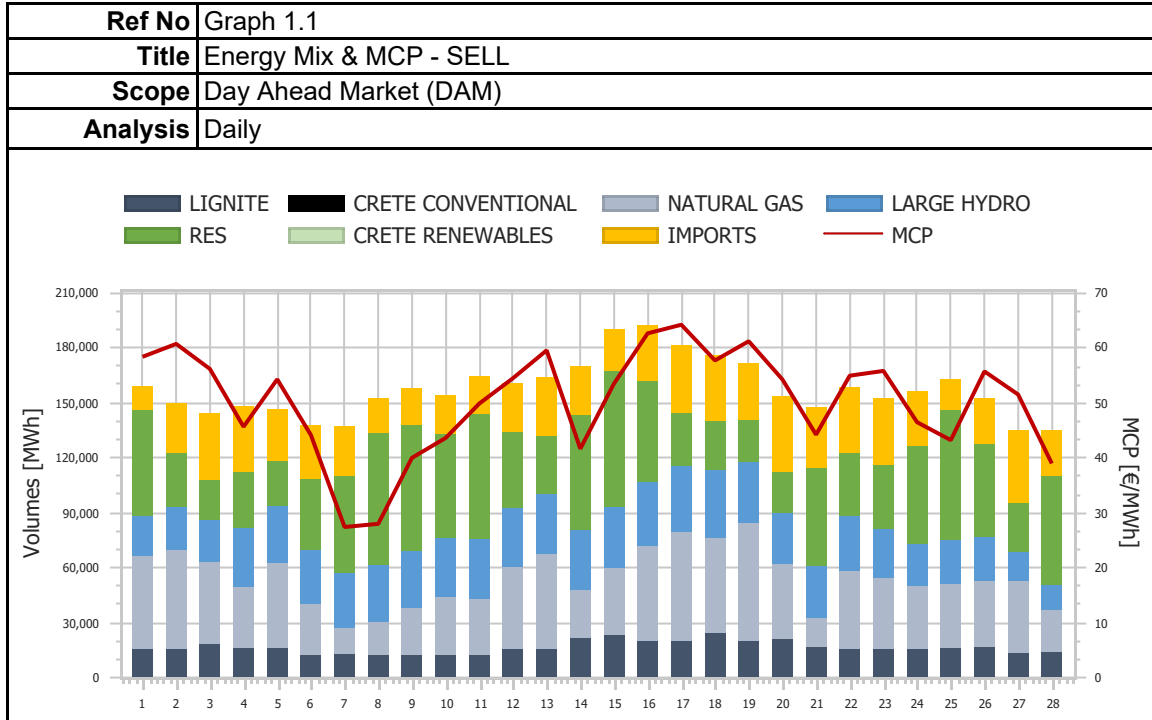
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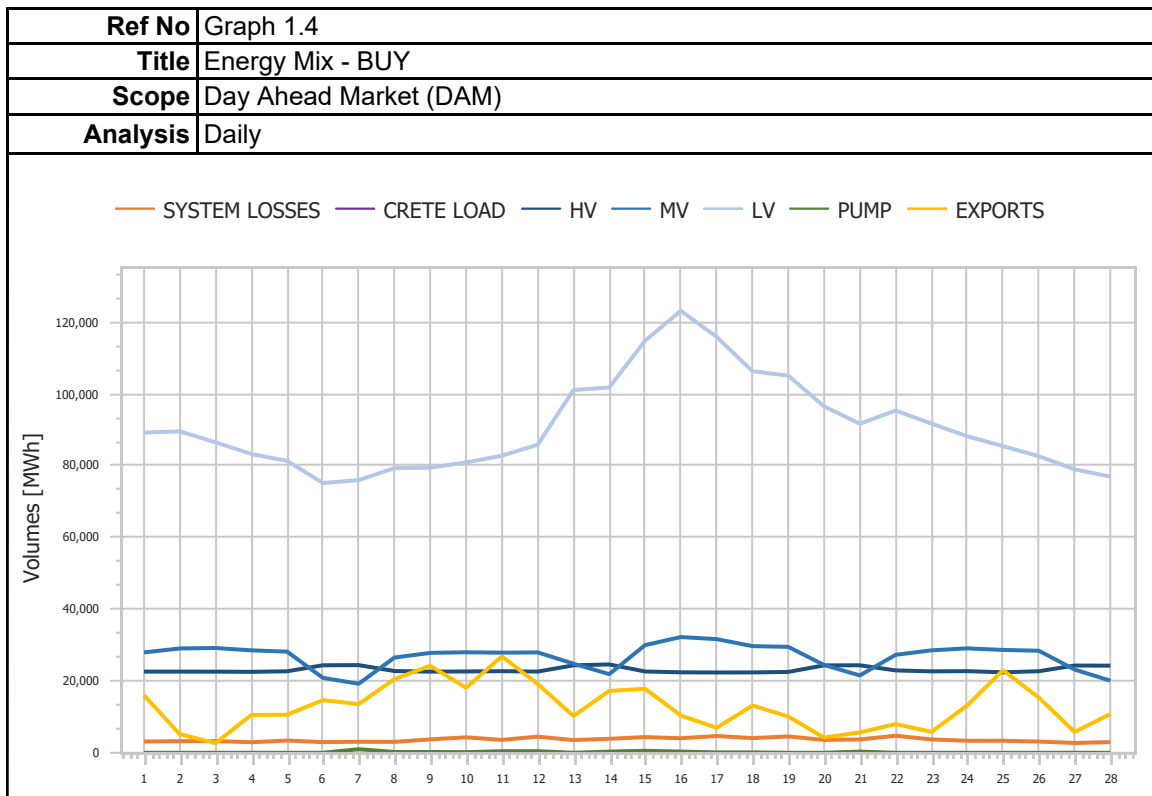
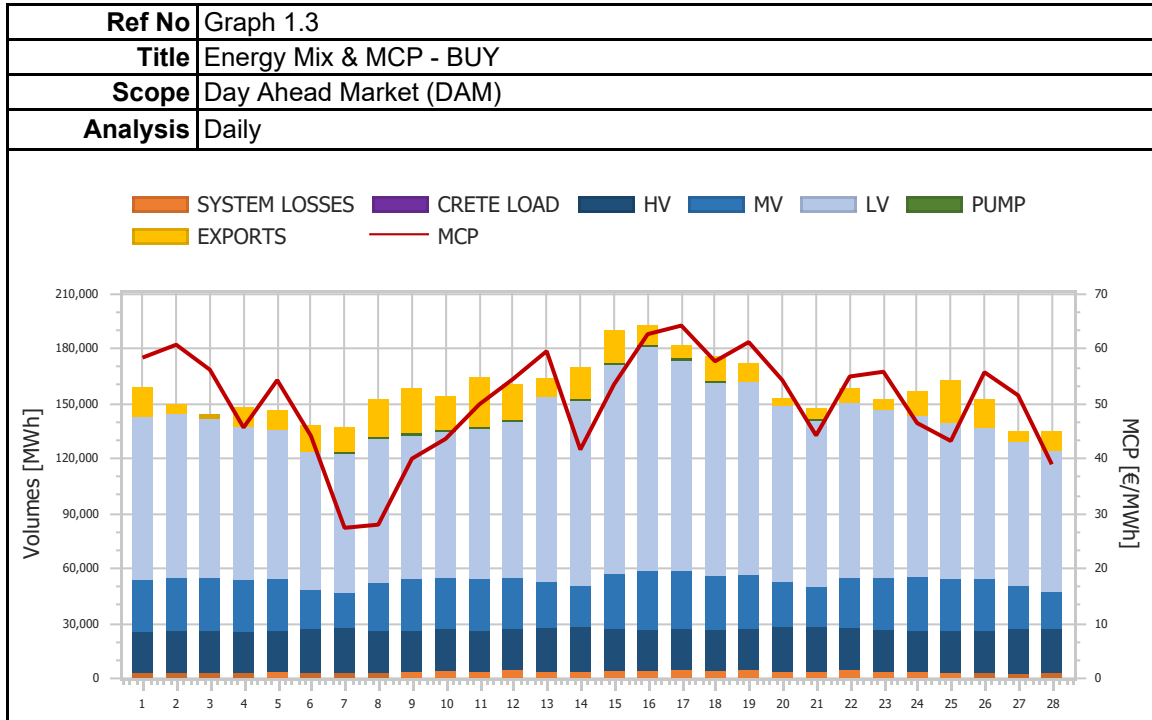
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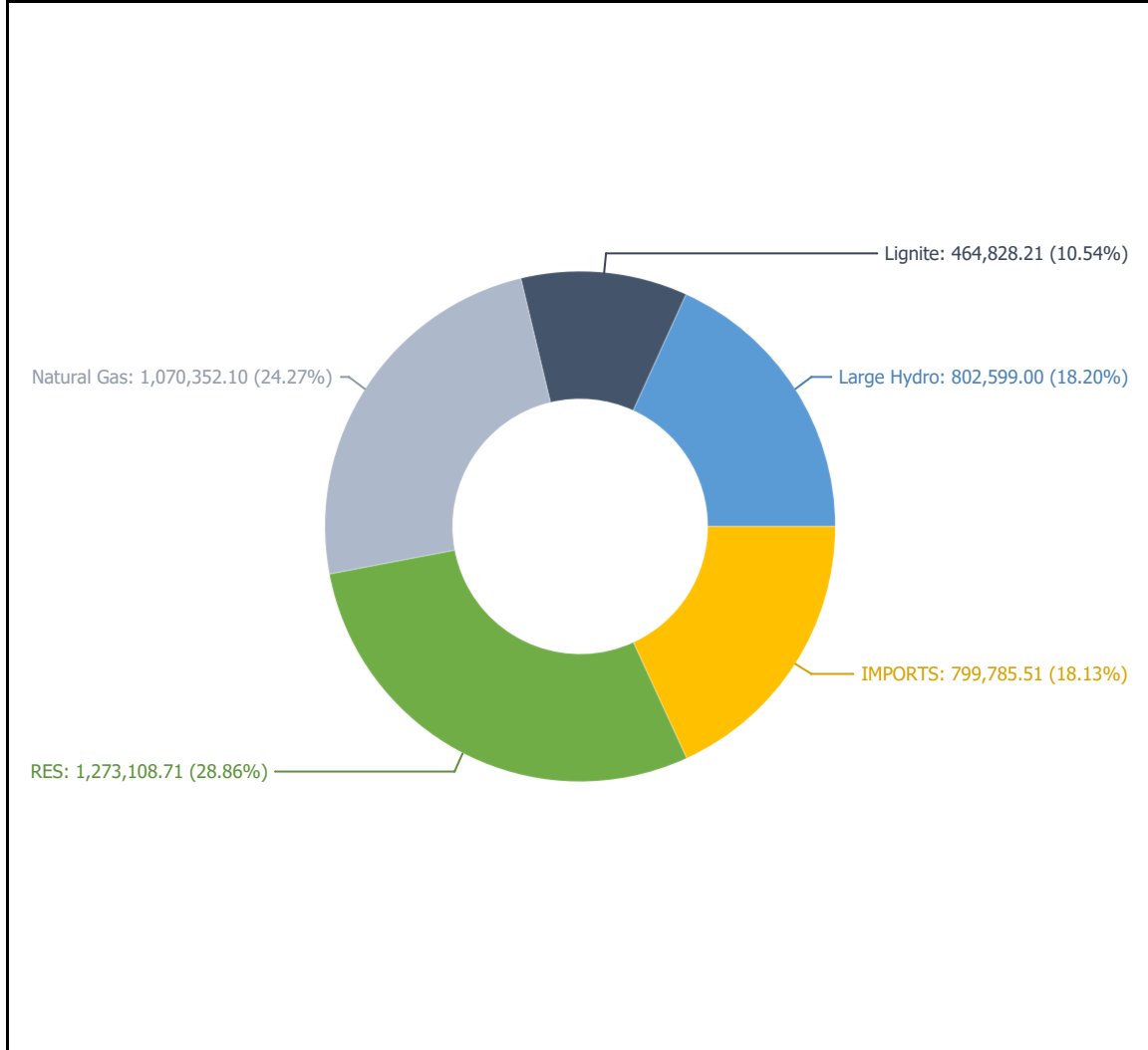
ΡΥΘΜΙΣΤΙΚΗ ΑΡΧΗ ΕΝΕΡΓΕΙΑΣ
REGULATORY AUTHORITY FOR ENERGY

1. Day Ahead Market (DAM)

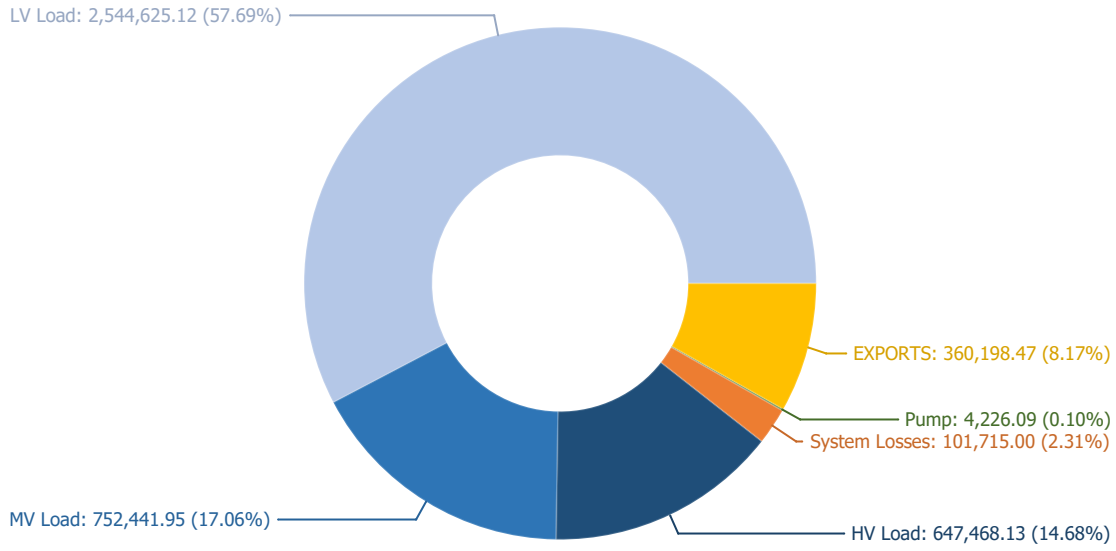




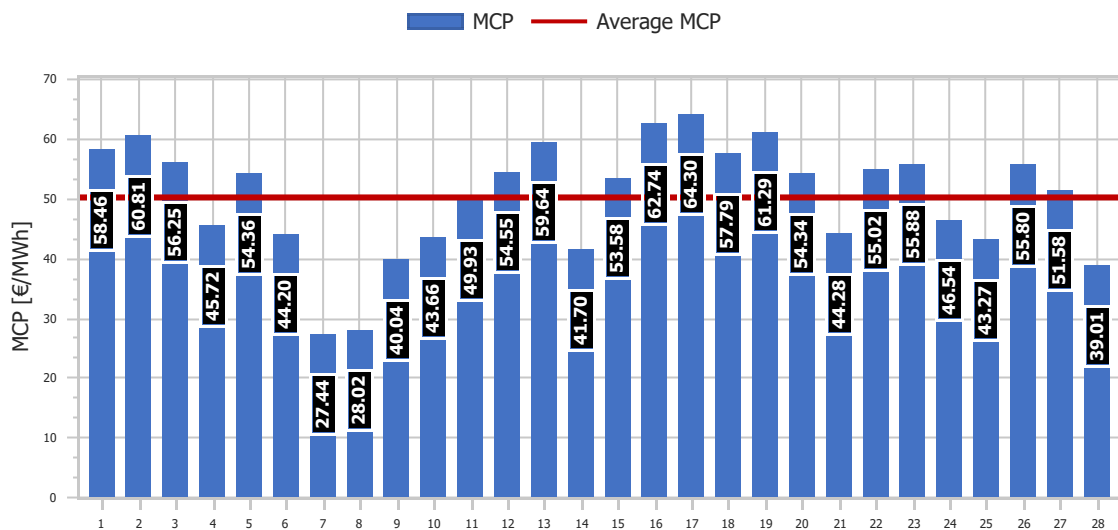
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| Ref No | Graph 1.5 |
| Title | Energy Mix - SELL |
| Scope | Day Ahead Market (DAM) |
| Analysis | Daily |



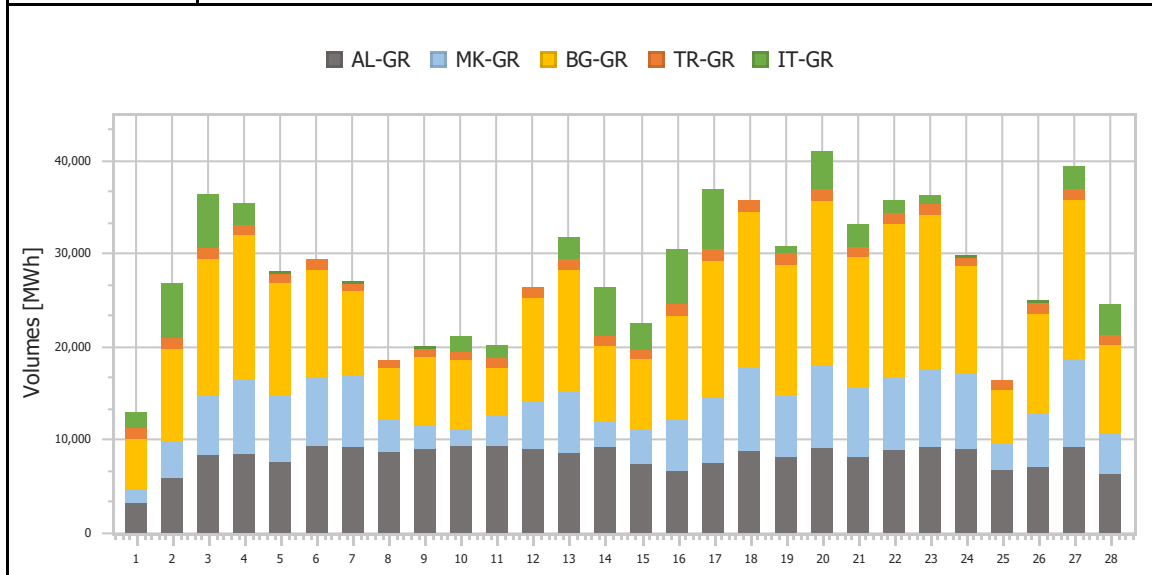
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| Title | Energy Mix - BUY |
| Scope | Day Ahead Market (DAM) |
| Analysis | Daily |



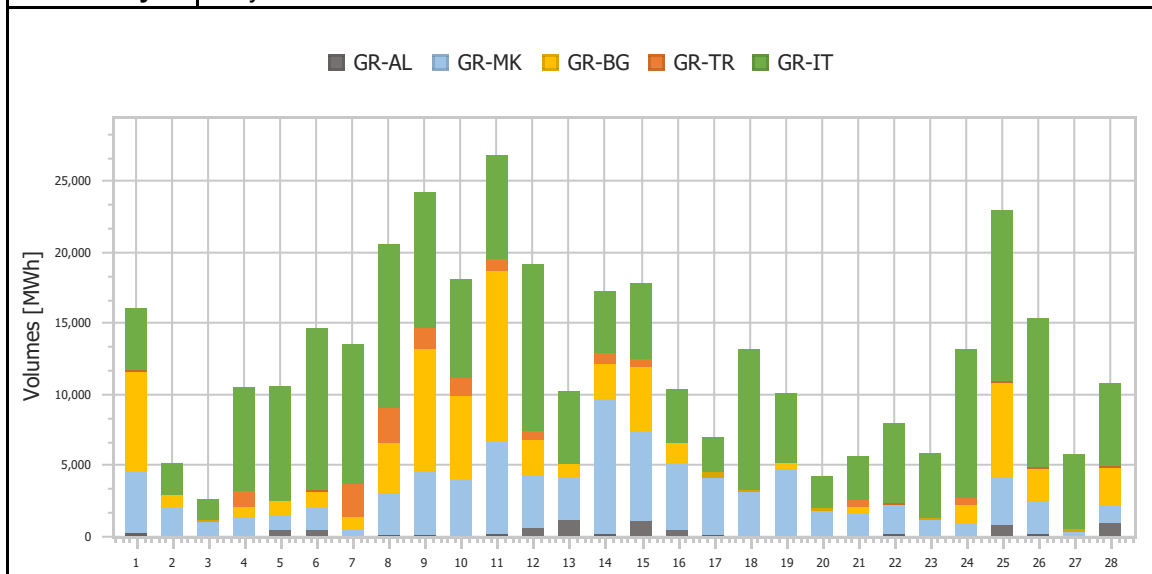
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| Title | Market Clearing Price (MCP) |
| Scope | Day Ahead Market (DAM) |
| Analysis | Daily |



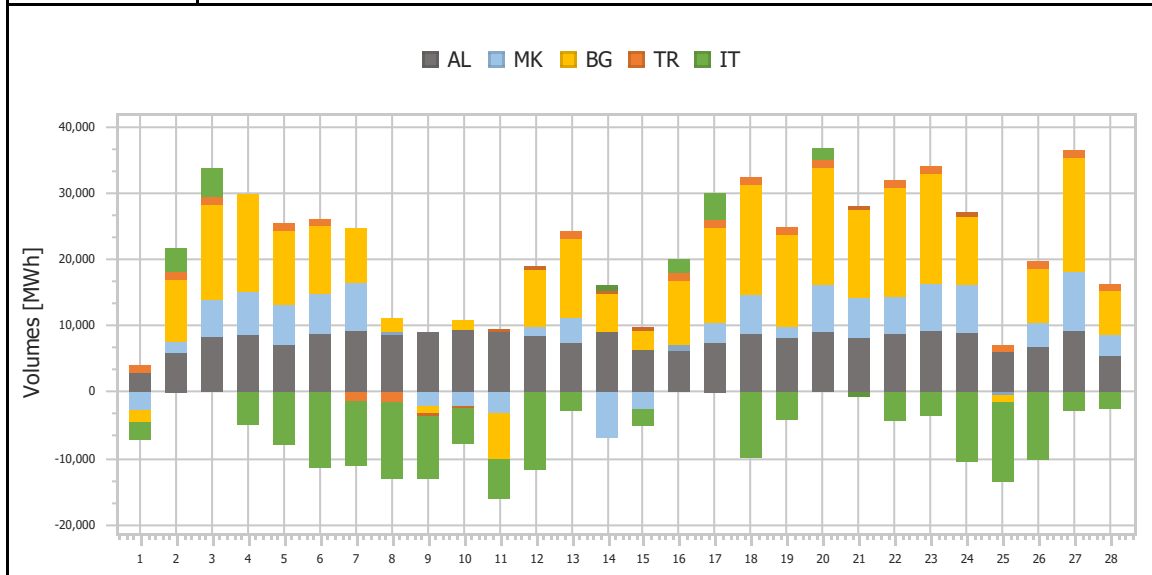
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| Title | Imports per Border |
| Scope | Day Ahead Market (DAM) |
| Analysis | Daily |



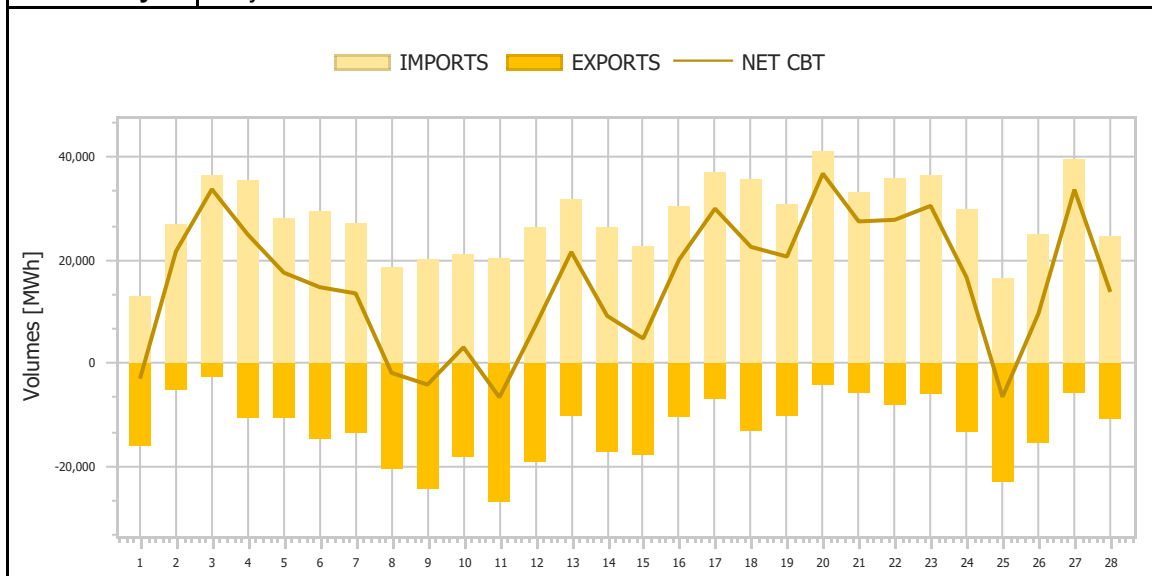
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| Title | Exports per Border |
| Scope | Day Ahead Market (DAM) |
| Analysis | Daily |



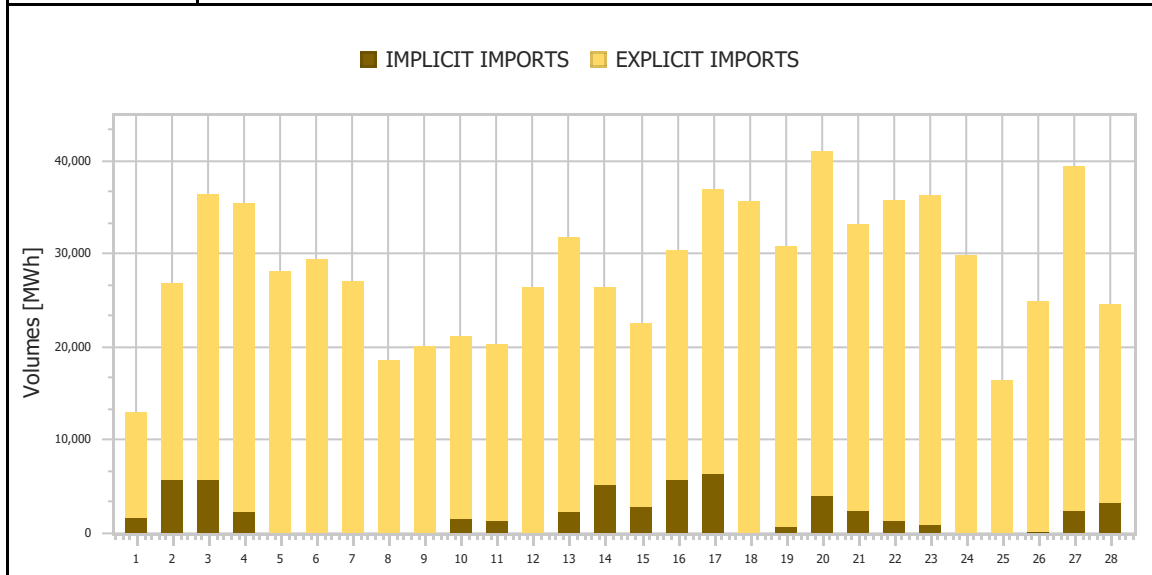
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| Ref No | Graph 1.10 |
| Title | Net Imports per Border |
| Scope | Day Ahead Market (DAM) |
| Analysis | Daily |



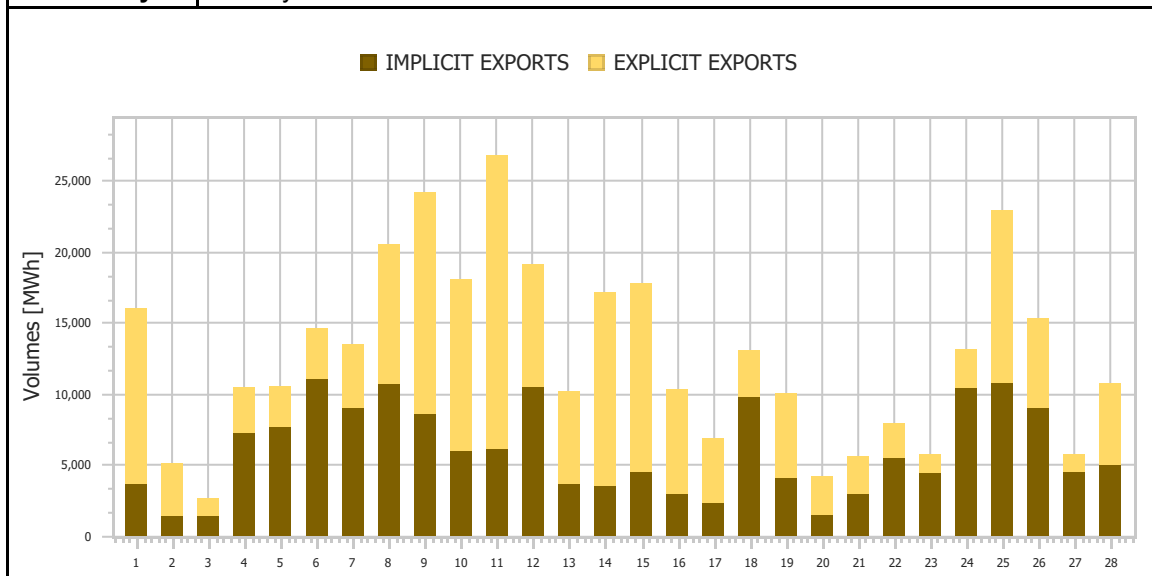
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| Ref No | Graph 1.11 |
| Title | Total Imports & Exports |
| Scope | Day Ahead Market (DAM) |
| Analysis | Daily |



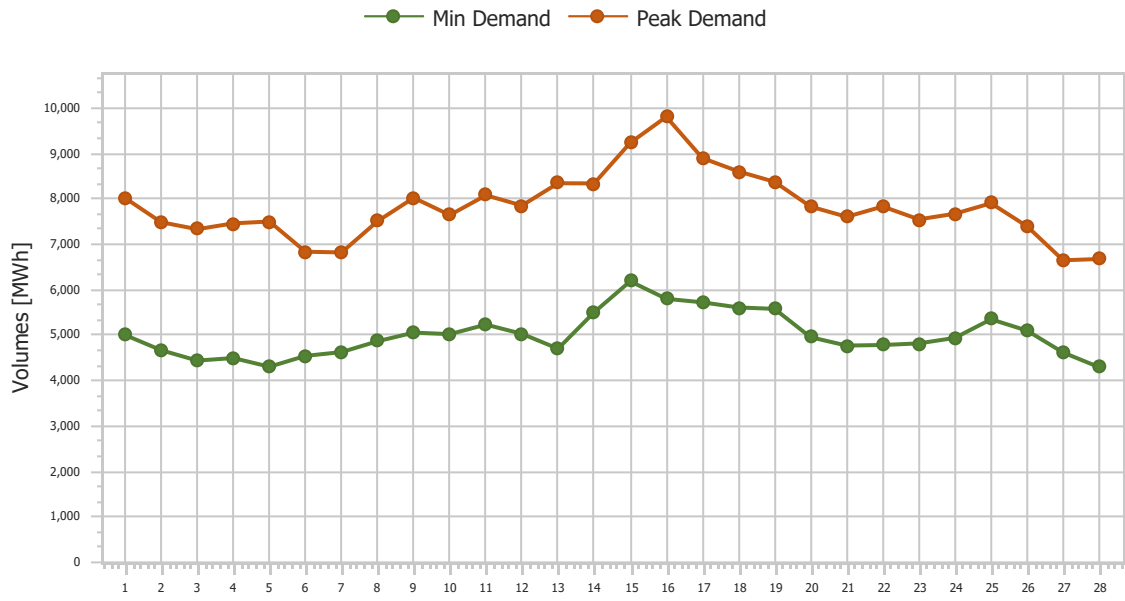
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| Title | Imports (Implicit/Explicit) |
| Scope | Day Ahead Market (DAM) |
| Analysis | Daily |



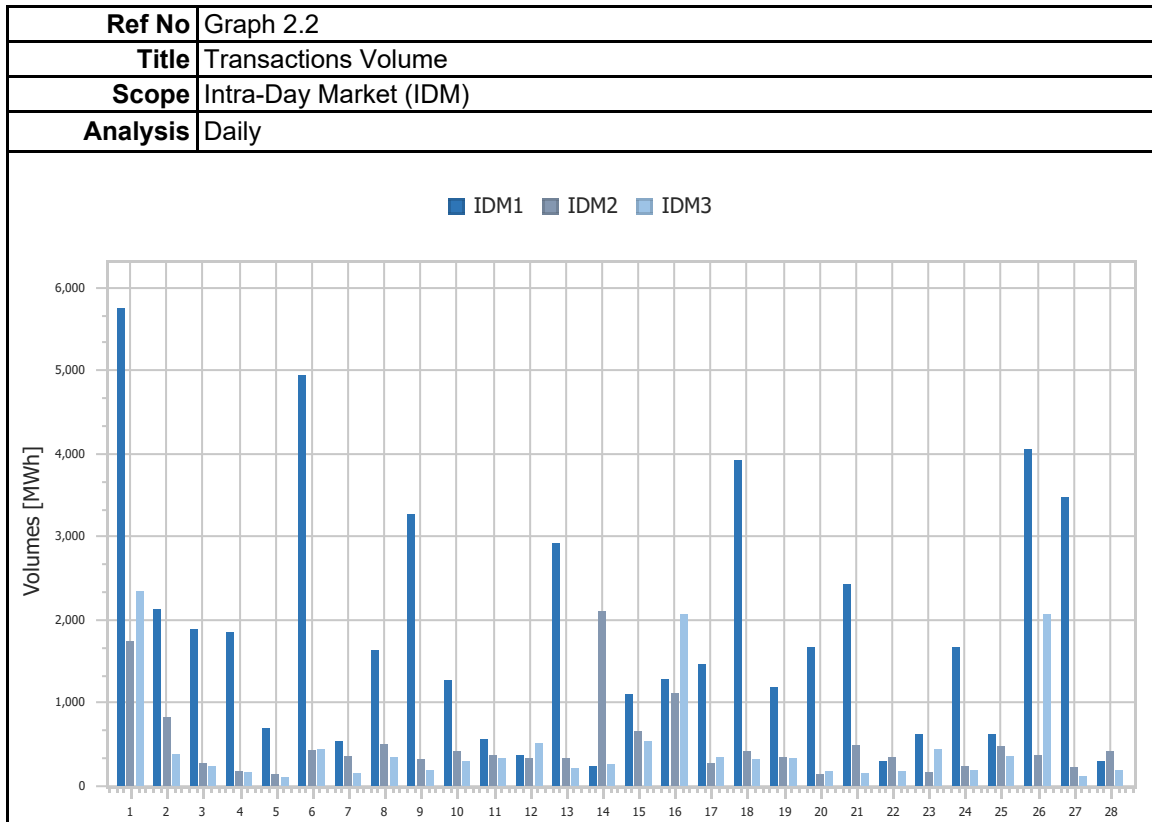
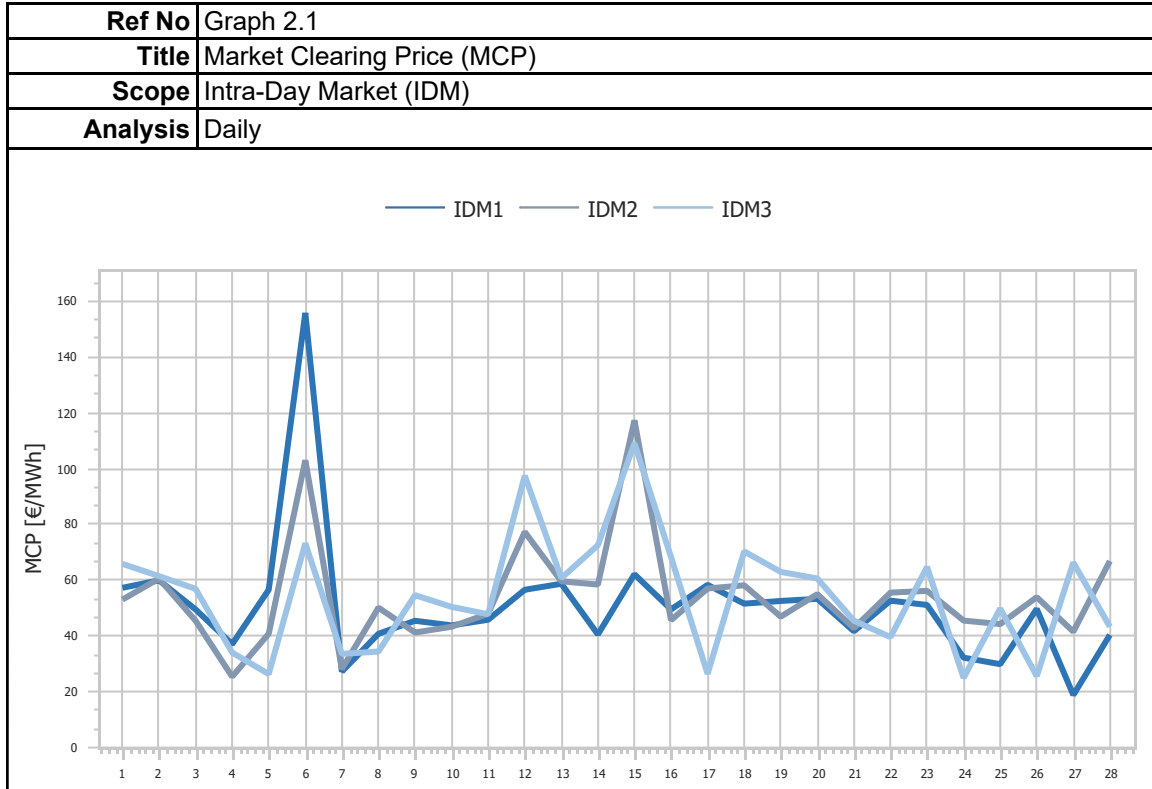
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| Title | Exports (Implicit/Explicit) |
| Scope | Day Ahead Market (DAM) |
| Analysis | Monthly |

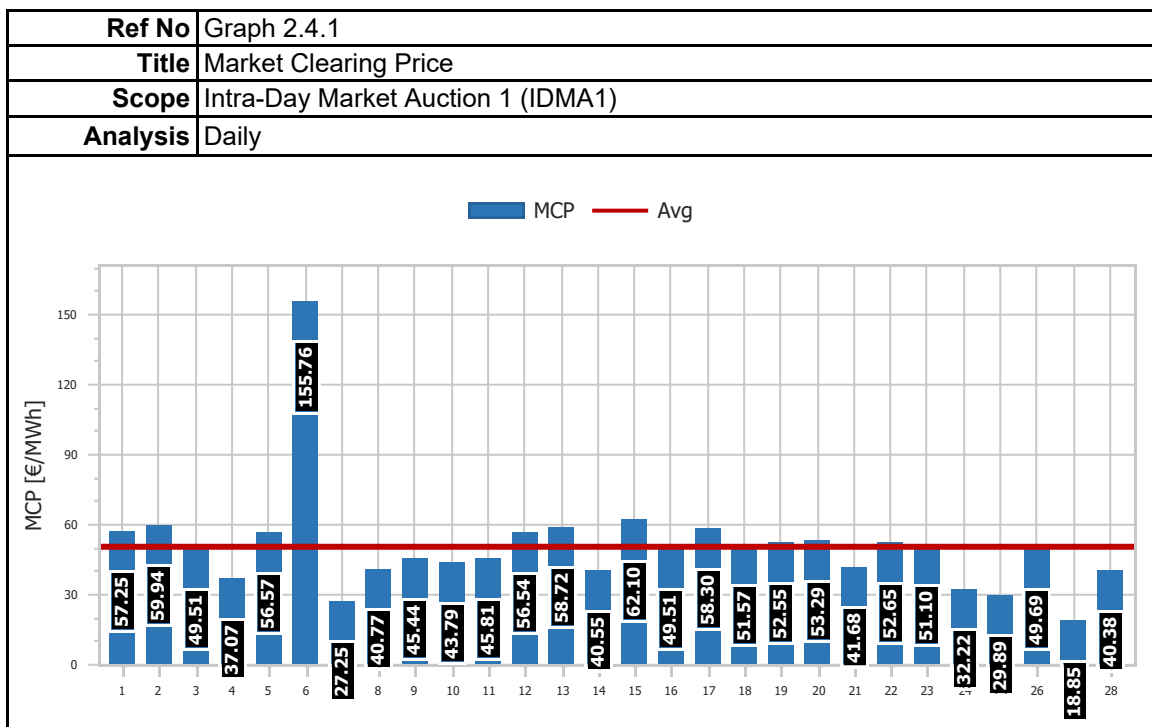
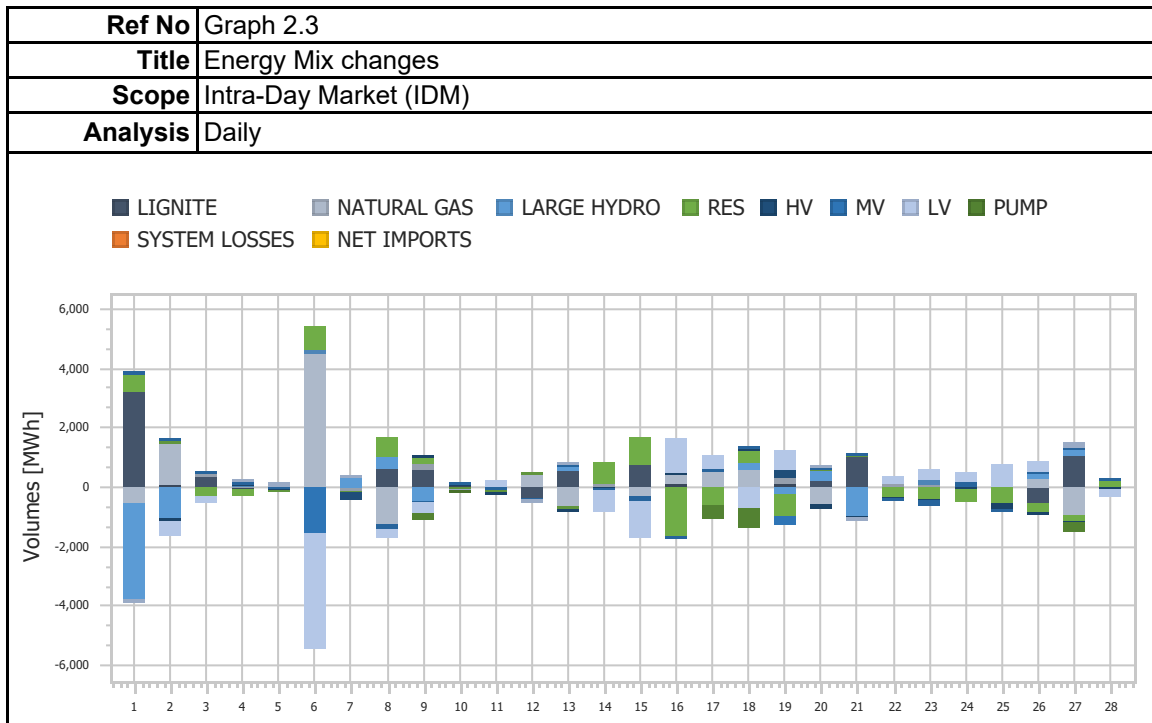


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| Ref No | Graph 1.14 |
| Title | Min & Peak Demand |
| Scope | Day Ahead Market (DAM) |
| Analysis | Daily |

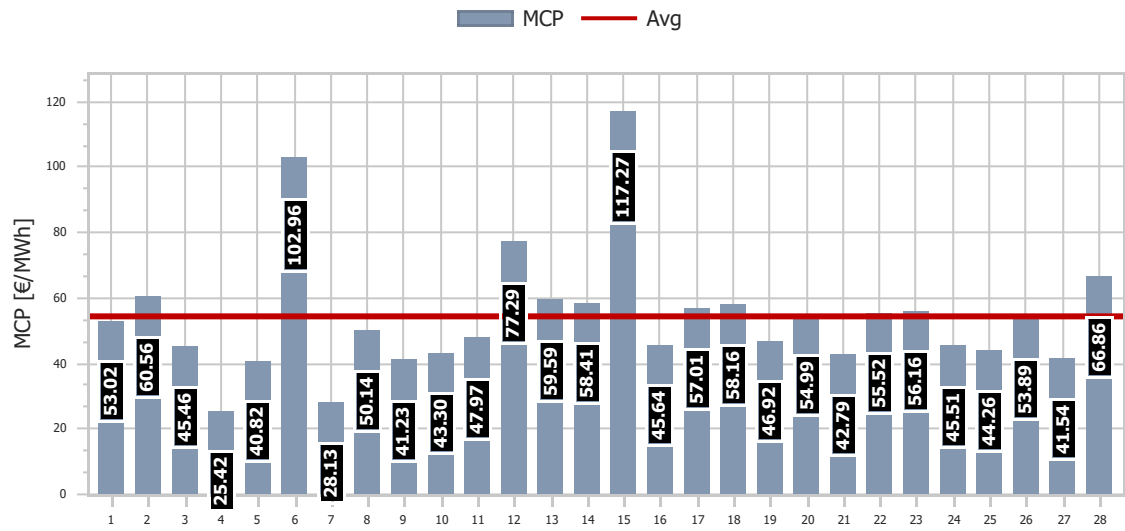


2. Intra-Day Market (IDM)

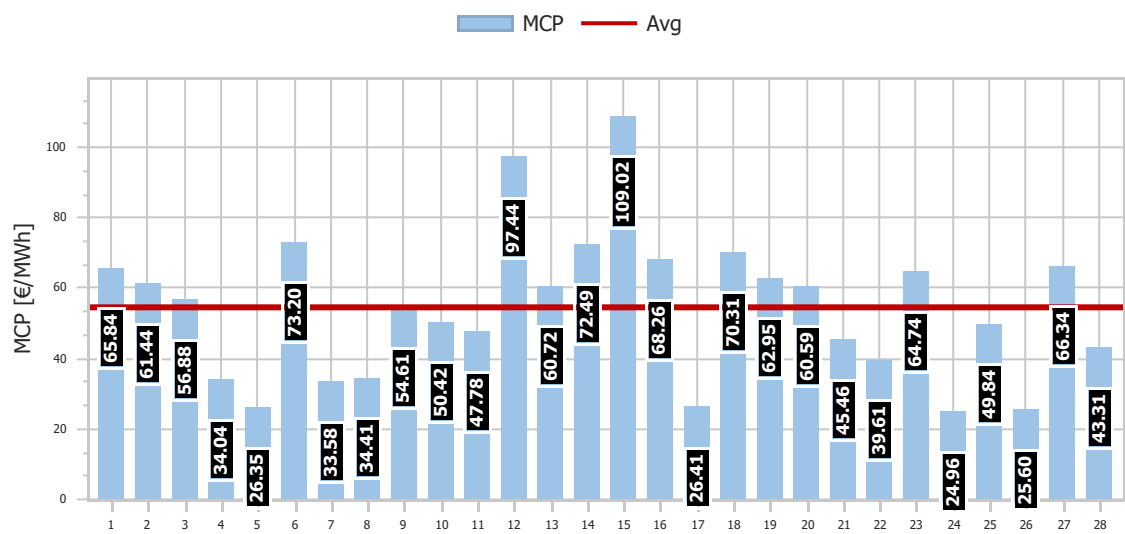




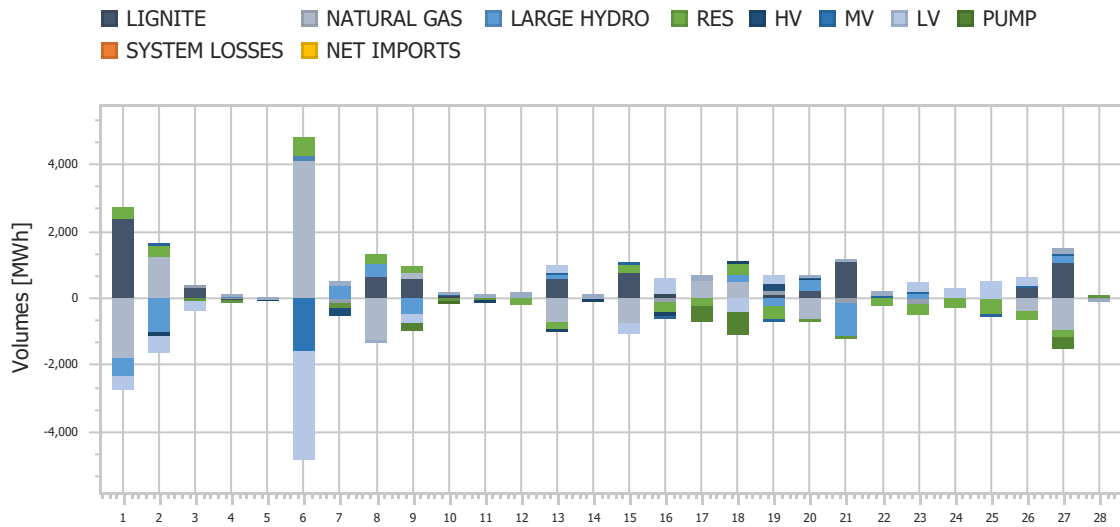
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| Ref No | Graph 2.4.2 |
| Title | Market Clearing Price |
| Scope | Intra-Day Market Auction 2 (IDMA2) |
| Analysis | Daily |



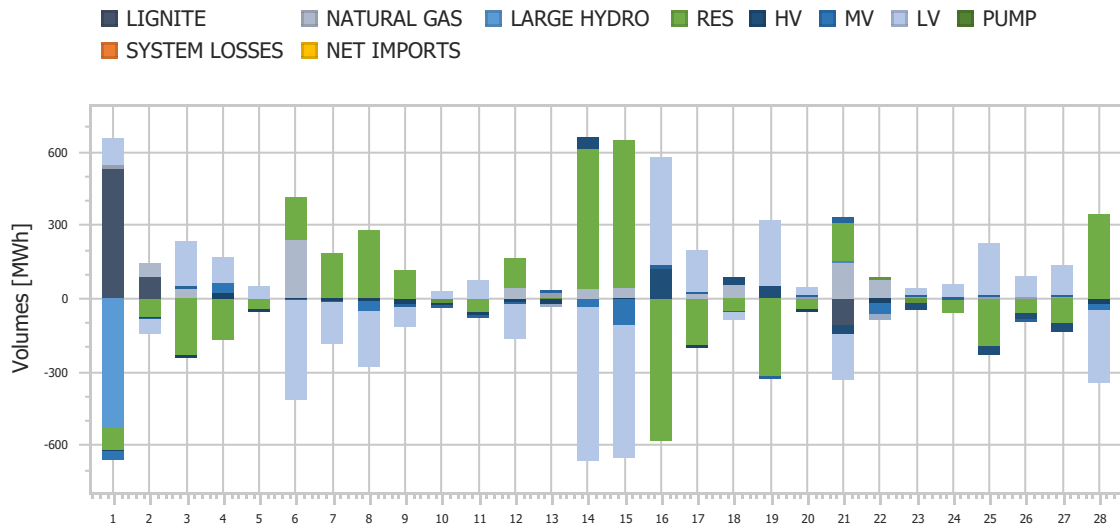
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| Scope | Intra-Day Market Auction 3 (IDMA3) |
| Analysis | Daily |



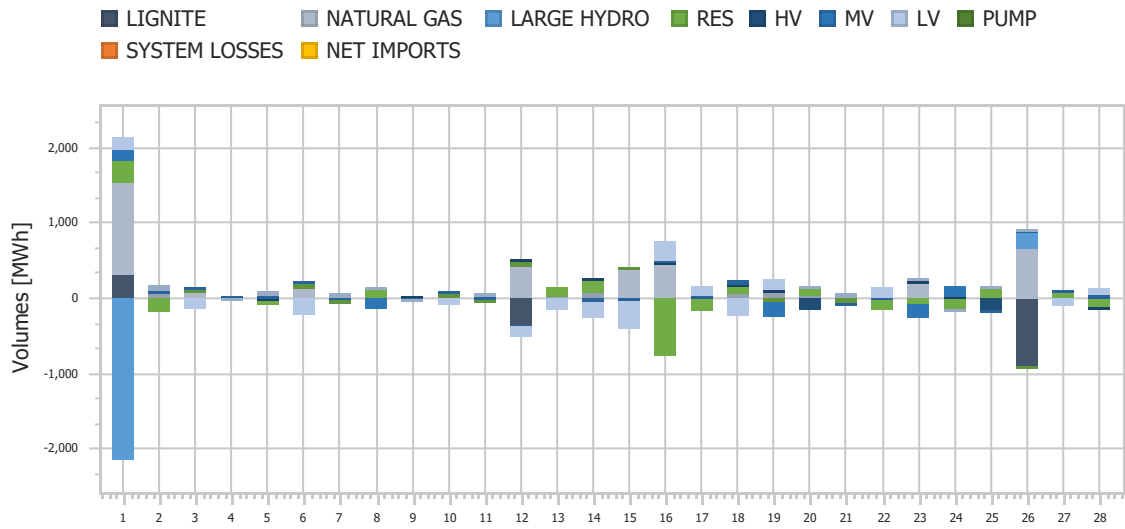
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| Title | IDM Energy Mix Changes |
| Scope | Intra-Day Market Auction 1 (IDMA1) |
| Analysis | Daily |



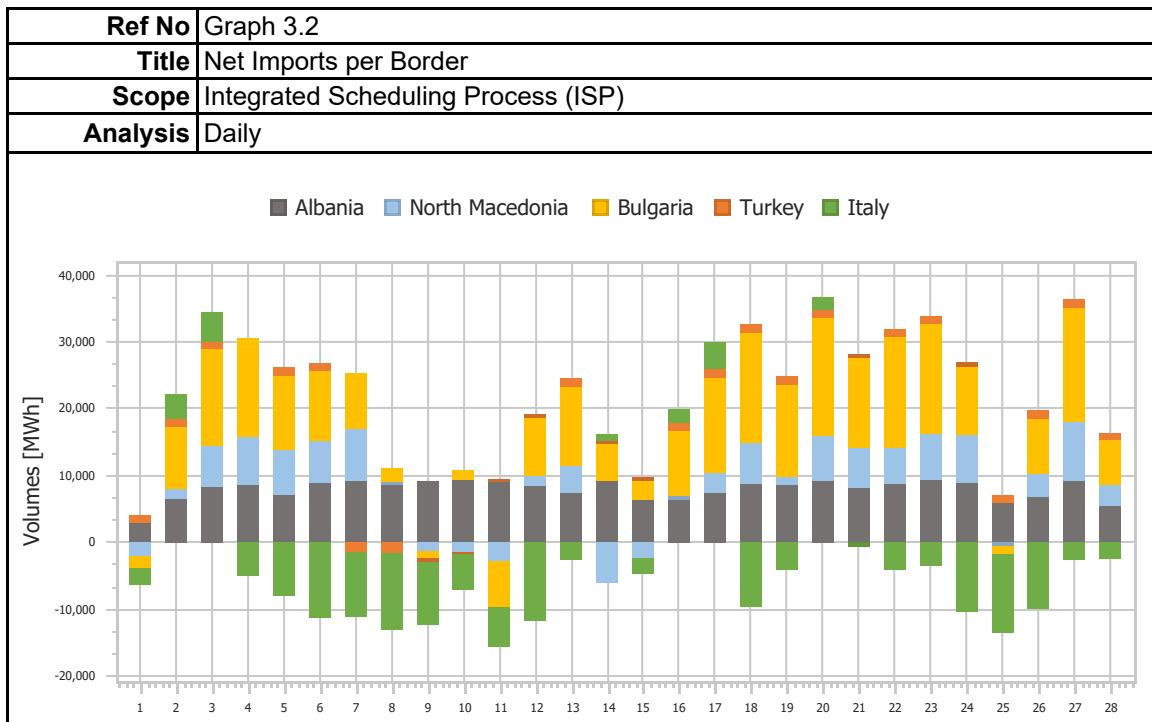
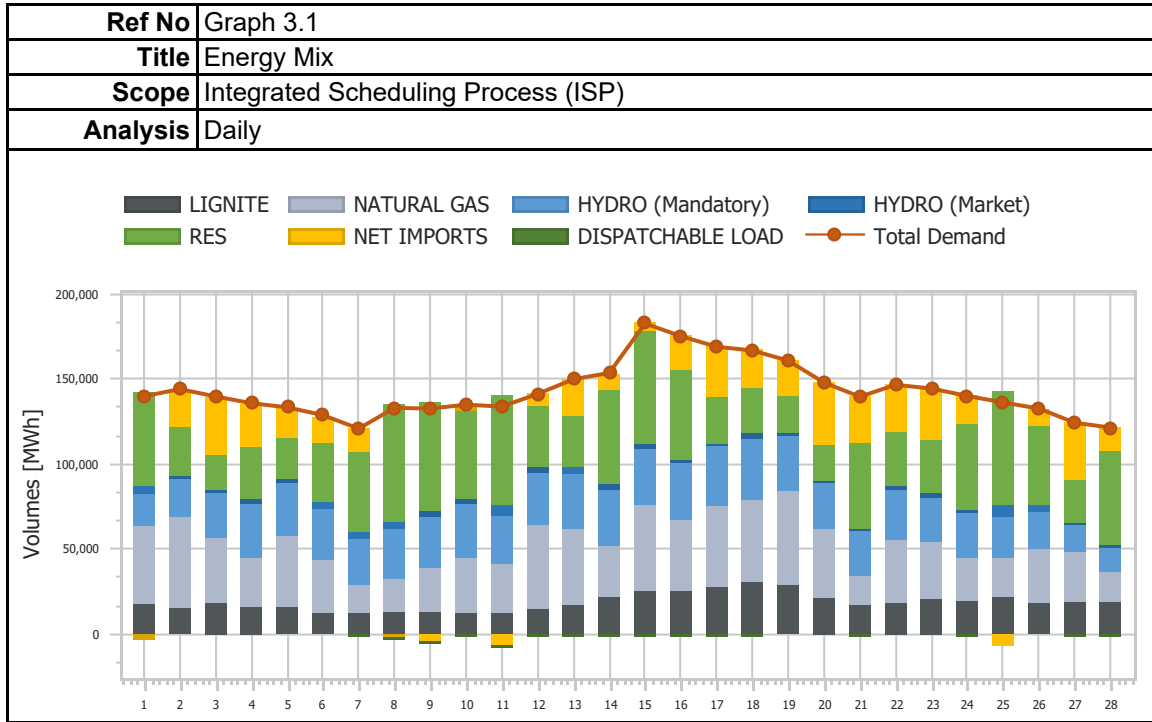
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| Title | IDM Energy Mix Changes |
| Scope | Intra-Day Market Auction 2 (IDMA2) |
| Analysis | Daily |



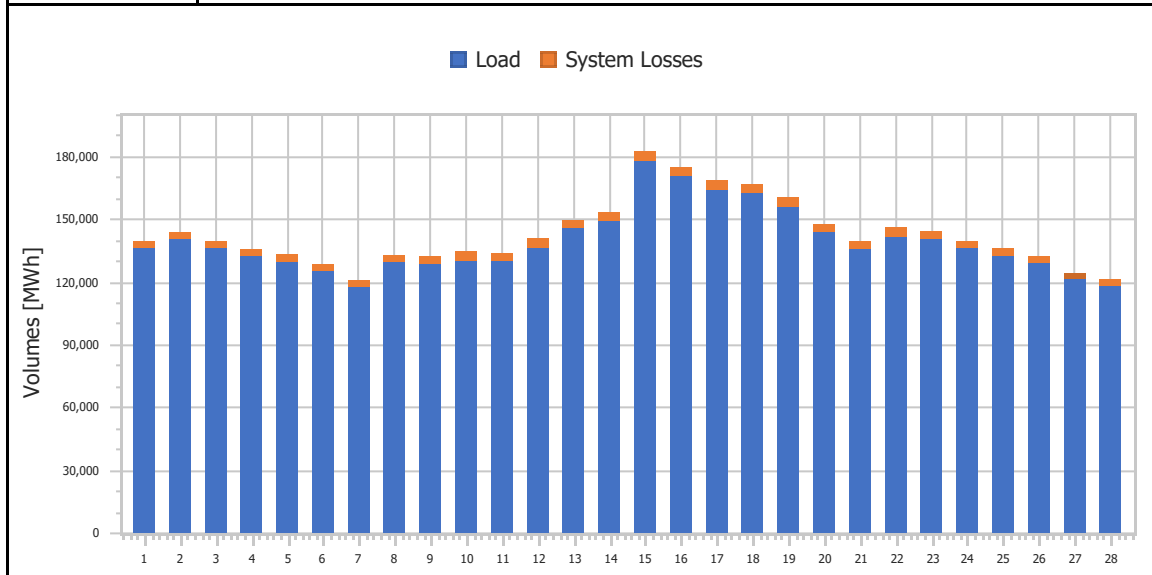
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| Scope | Intra-Day Market Auction 3 (IDMA3) |
| Analysis | Daily |



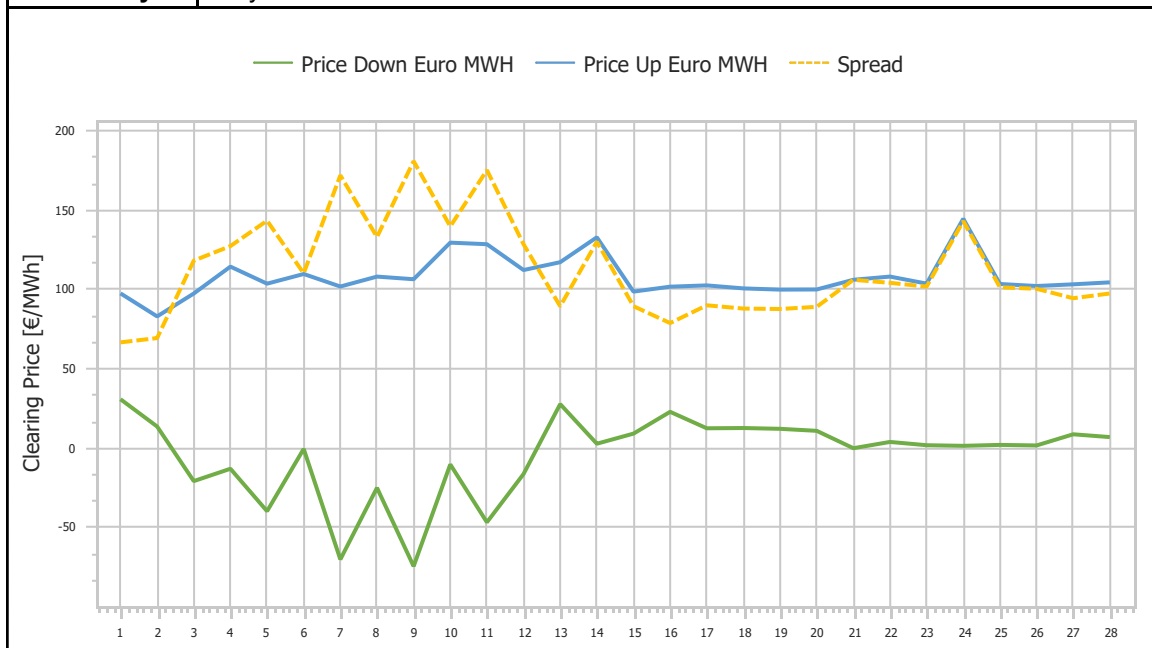
3. Integrated Scheduling Process (ISP)



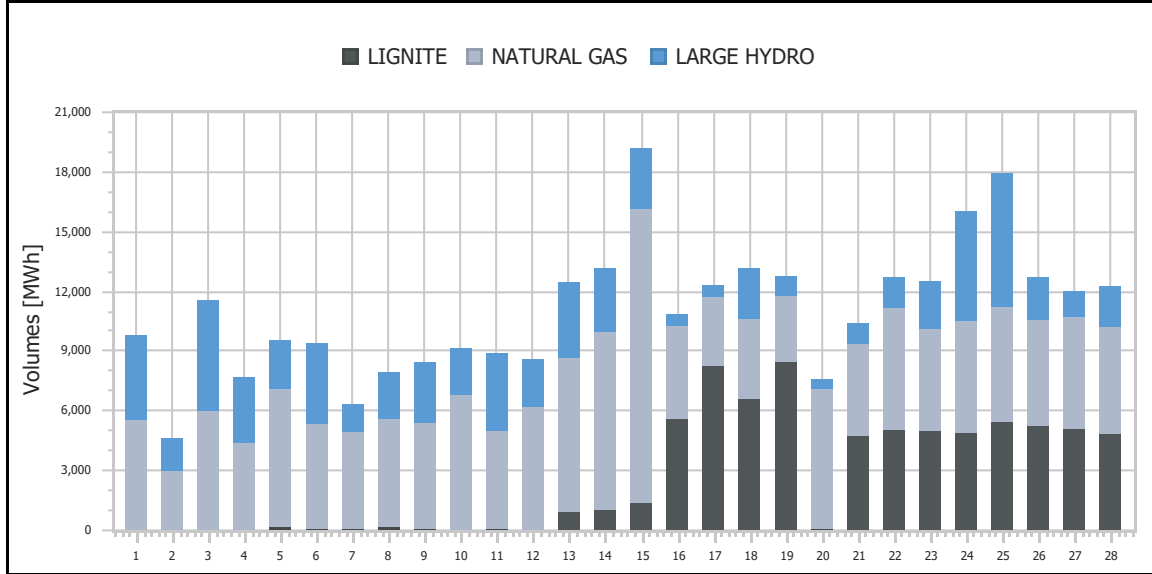
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| Title | Demand & System Losses |
| Scope | Integrated Scheduling Process (ISP) |
| Analysis | Daily |



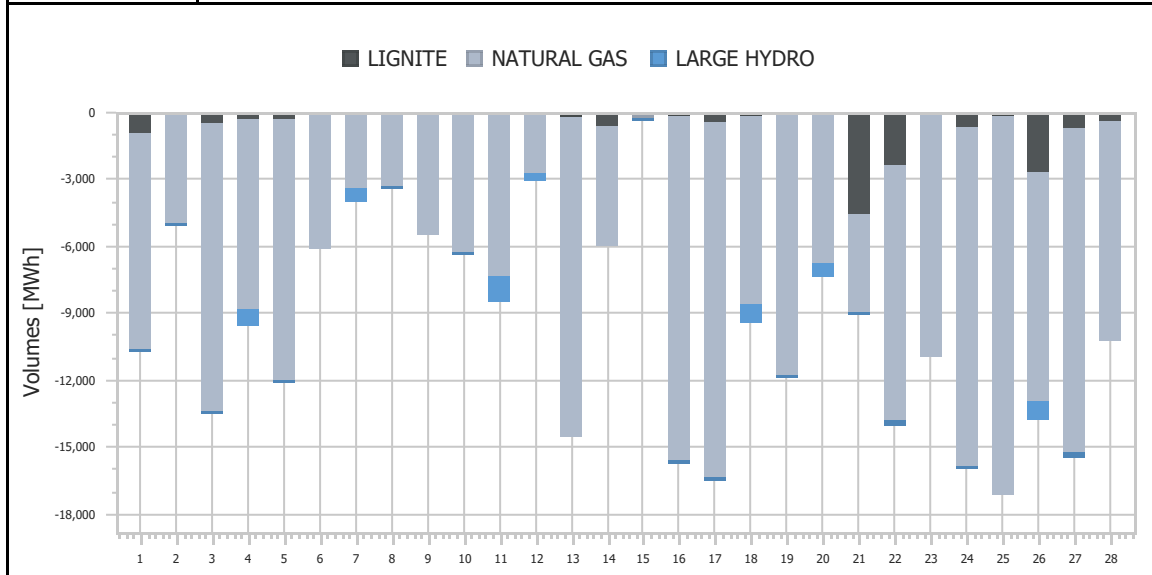
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| Title | Clearing Prices |
| Scope | Integrated Scheduling Process (ISP) |
| Analysis | Daily |



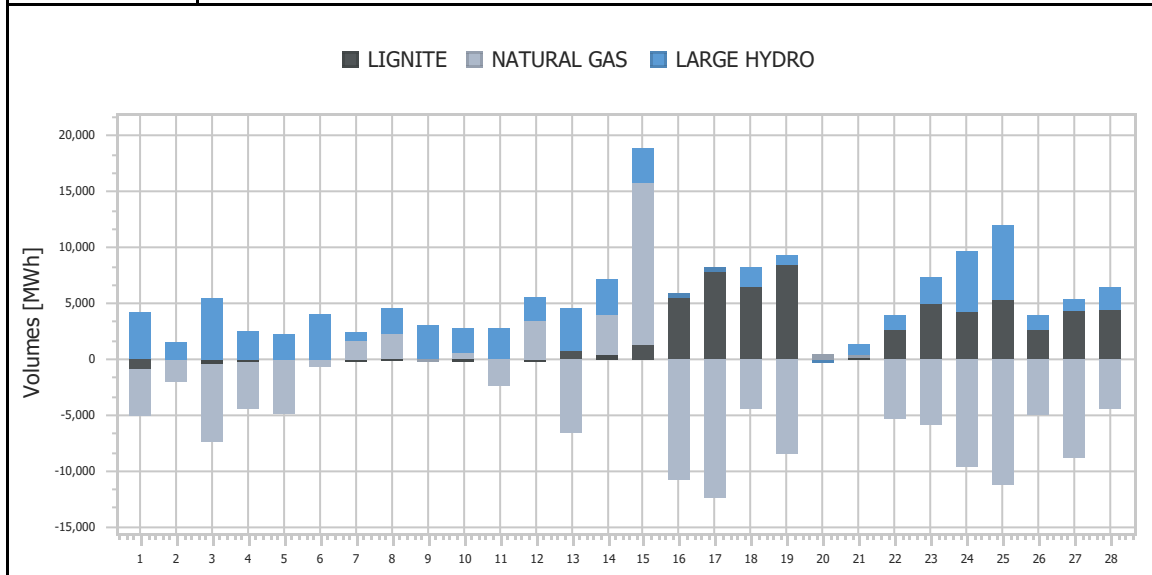
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| Ref No | Graph 3.5 |
| Title | Upward Activated Balancing energy |
| Scope | Integrated Scheduling Process (ISP) |
| Analysis | Daily |



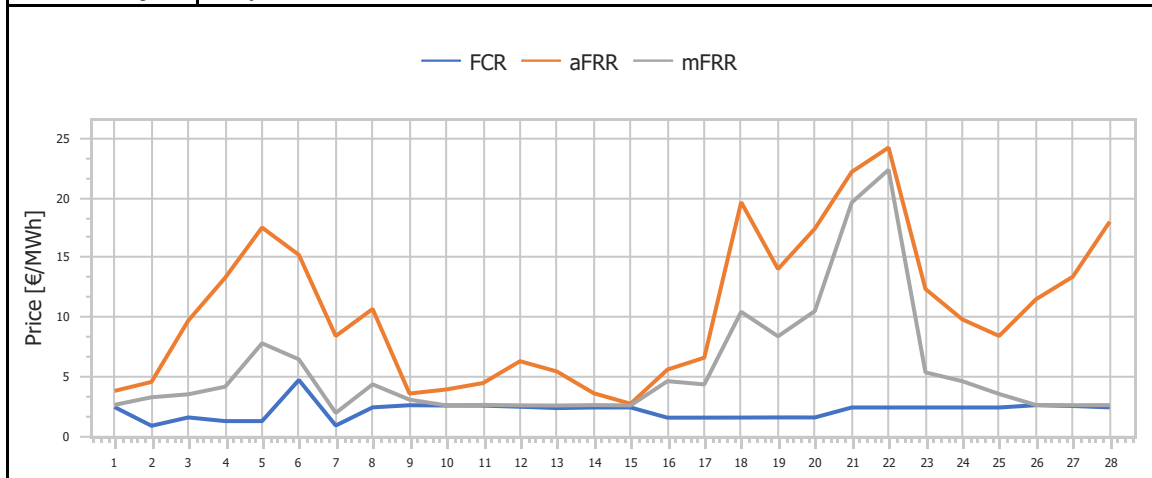
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| Title | Downward Activated Balancing energy |
| Scope | Integrated Scheduling Process (ISP) |
| Analysis | Daily |



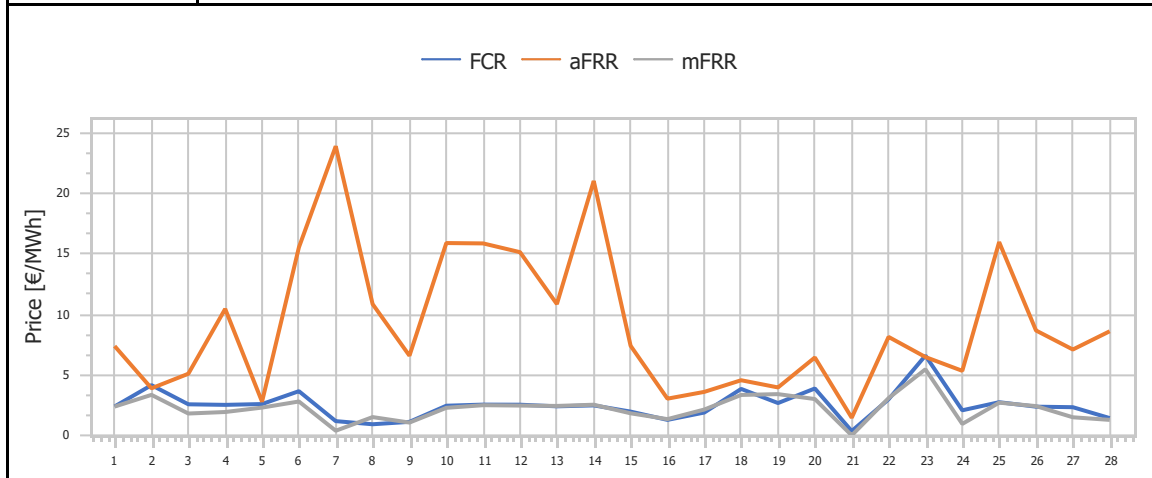
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| Title | Net Activated Balancing energy |
| Scope | Integrated Scheduling Process (ISP) |
| Analysis | Daily |



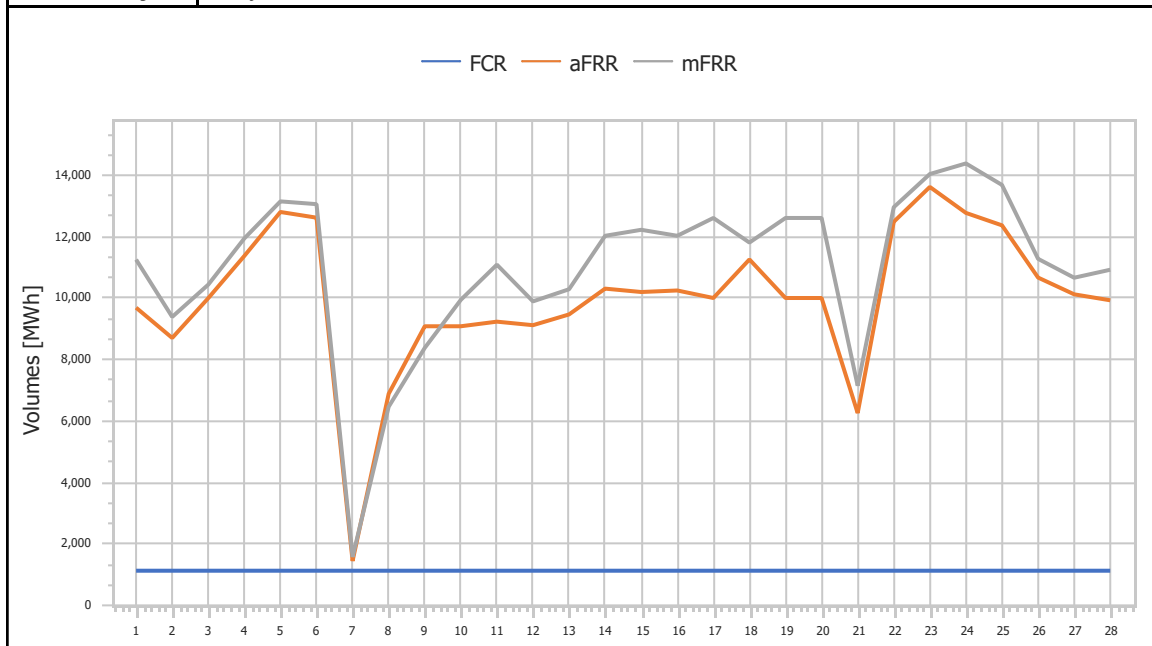
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| Ref No | Graph 3.8 |
| Title | Upward Capacity Reserves Prices |
| Scope | Integrated Scheduling Process (ISP) |
| Analysis | Daily |

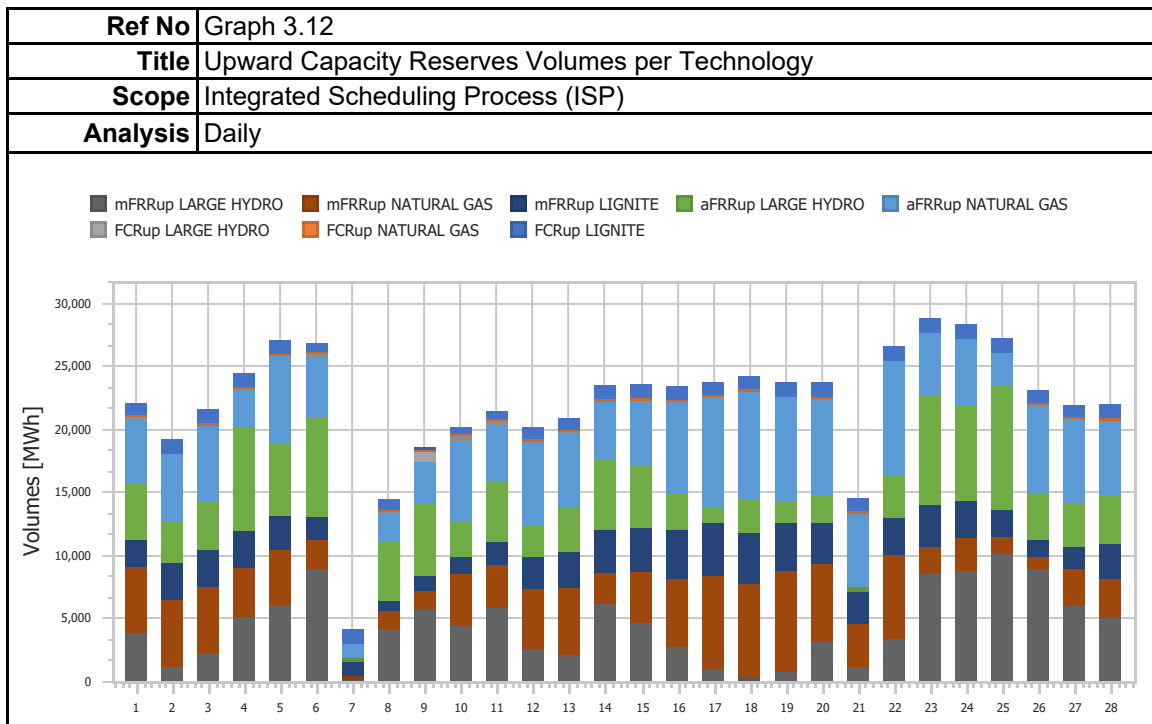
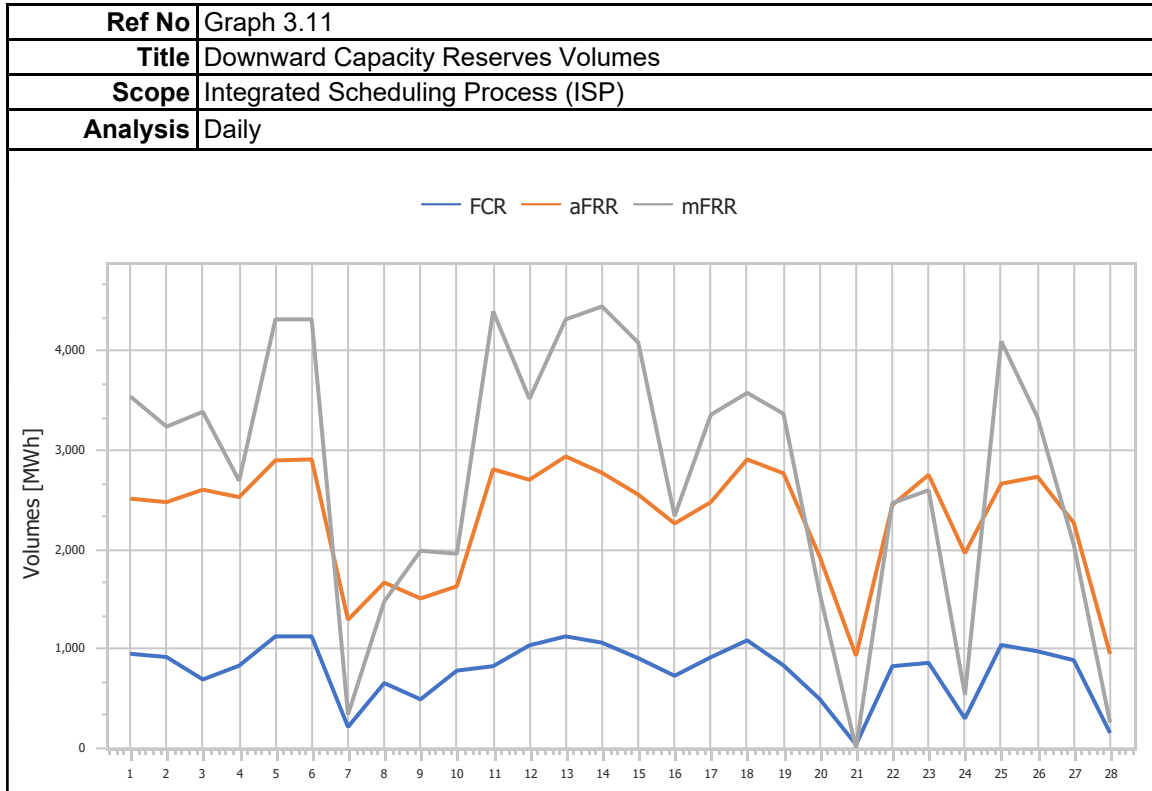


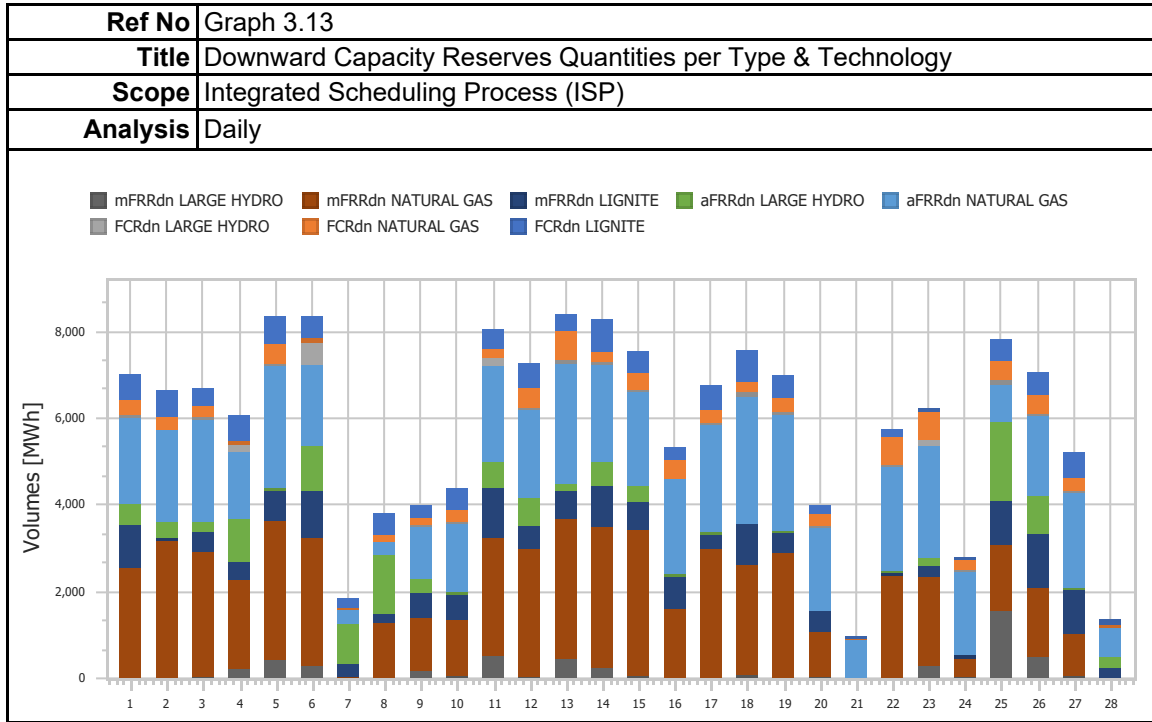
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| Ref No | Graph 3.9 |
| Title | Downward Capacity Reserves Prices |
| Scope | Integrated Scheduling Process (ISP) |
| Analysis | Daily |



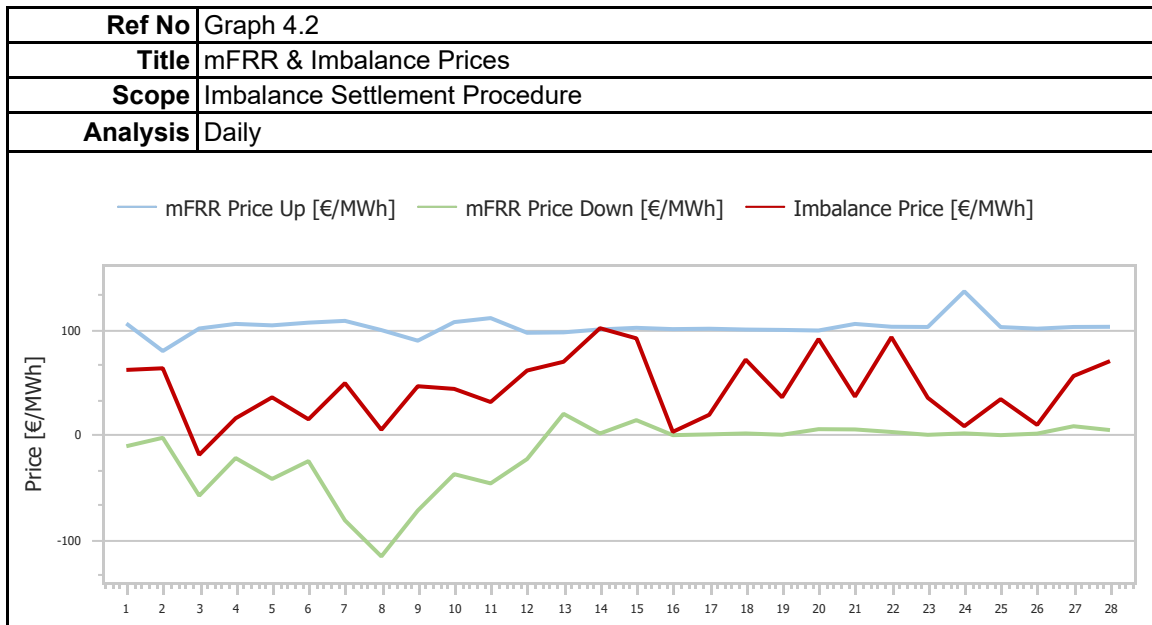
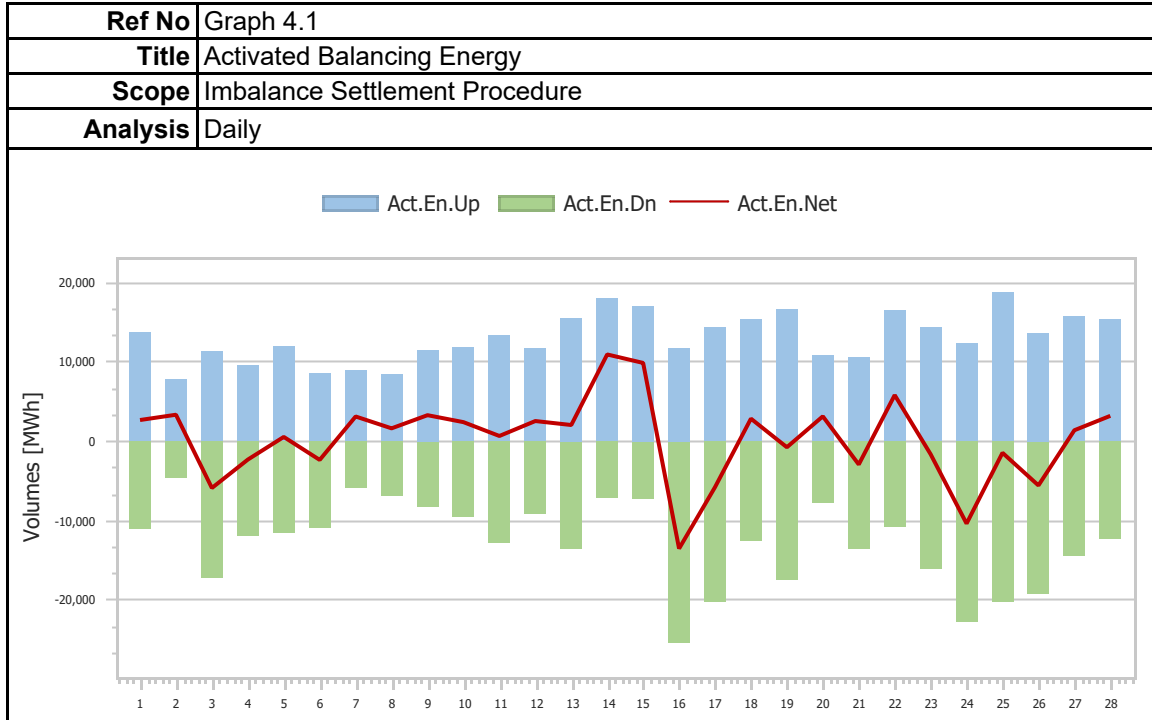
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| Ref No | Graph 3.10 |
| Title | Upward Capacity Reserves Volumes |
| Scope | Integrated Scheduling Process (ISP) |
| Analysis | Daily |



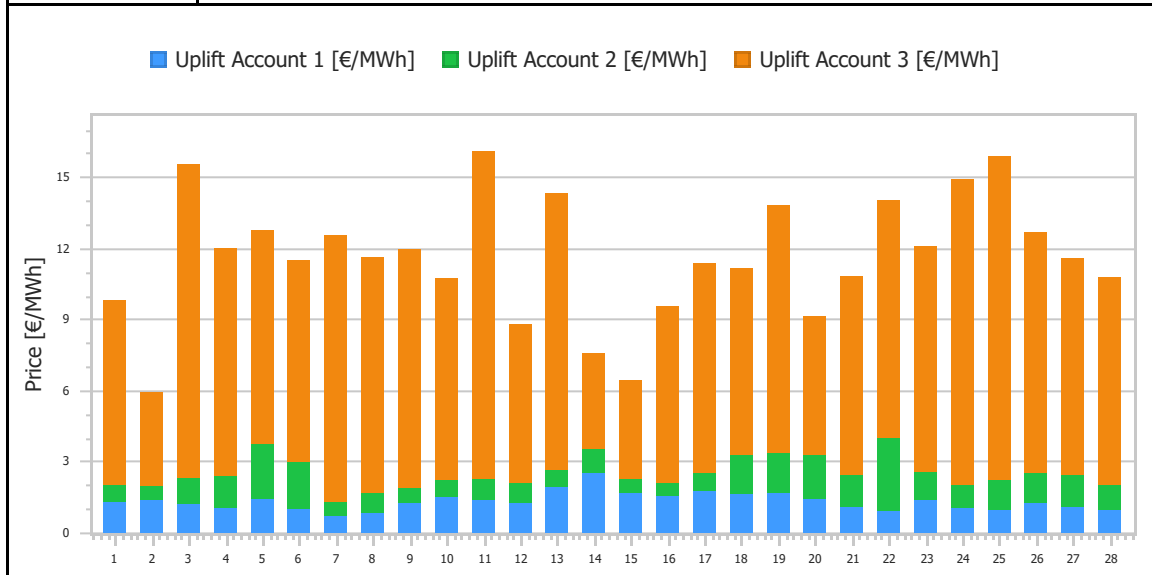




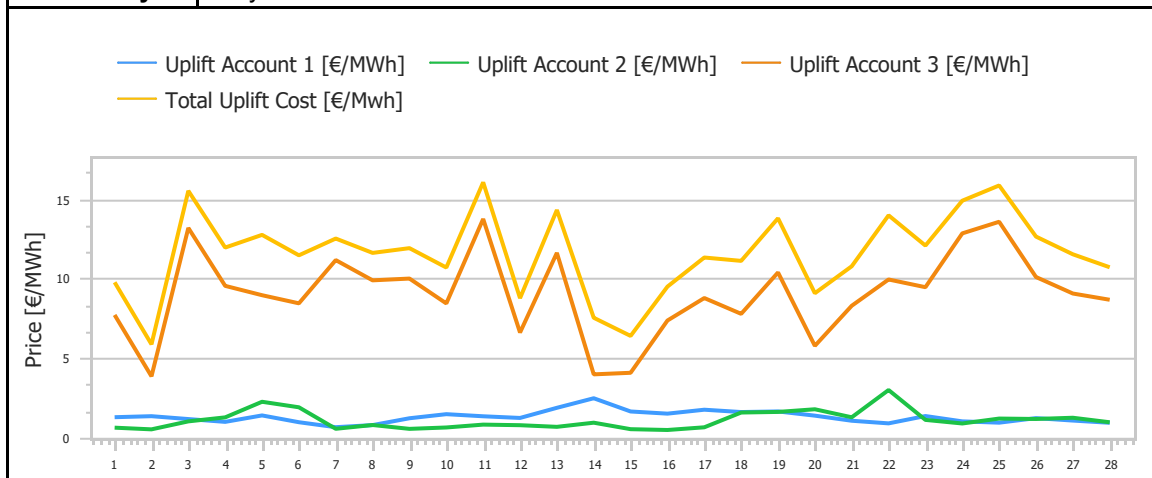
4. Imbalance Settlement Procedure



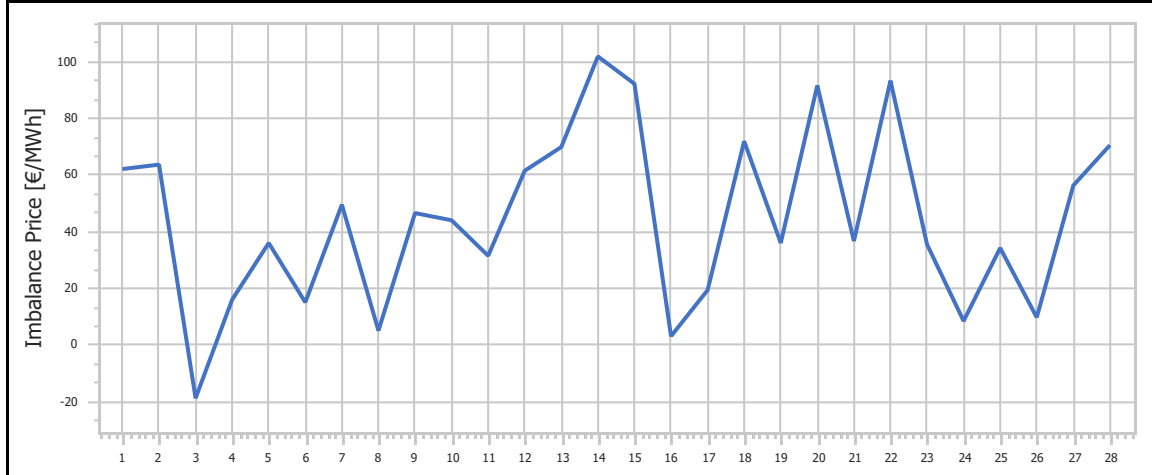
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| Ref No | Graph 4.3 |
| Title | Uplift Accounts Cost |
| Scope | Imbalance Settlement Procedure |
| Analysis | Daily |



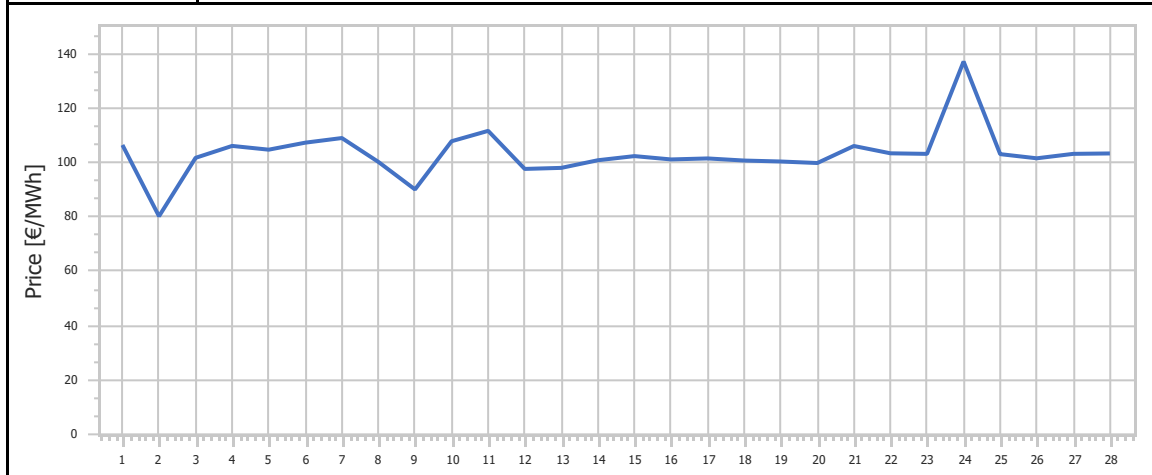
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| Ref No | Graph 4.4 |
| Title | Uplift Accounts Cost |
| Scope | Imbalance Settlement Procedure |
| Analysis | Daily |



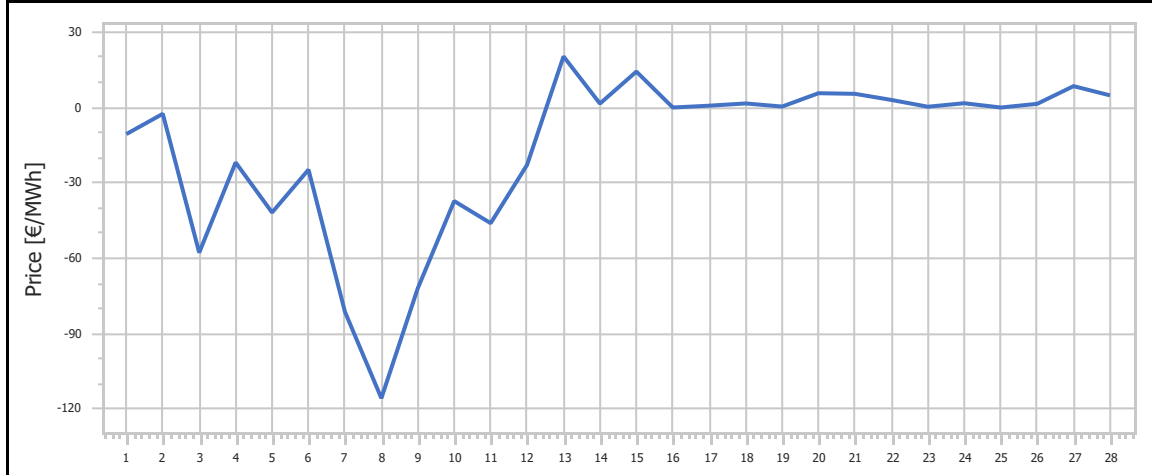
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| Title | Imbalance Price |
| Scope | Imbalance Settlement Procedure |
| Analysis | Daily |



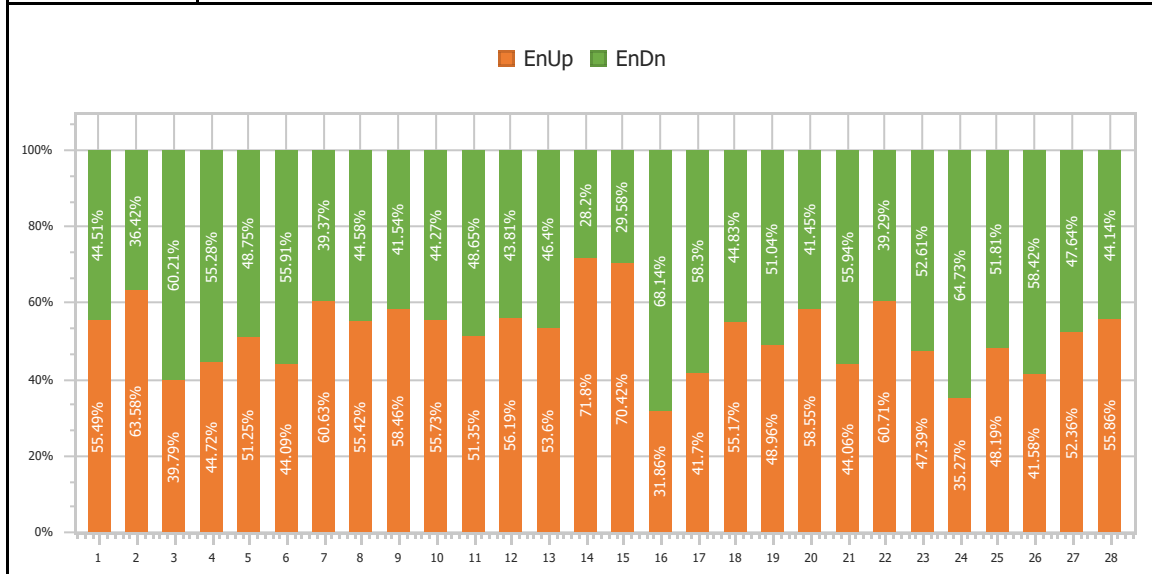
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| Ref No | Graph 4.6 |
| Title | mFRR Up Price |
| Scope | Imbalance Settlement Procedure |
| Analysis | Daily |



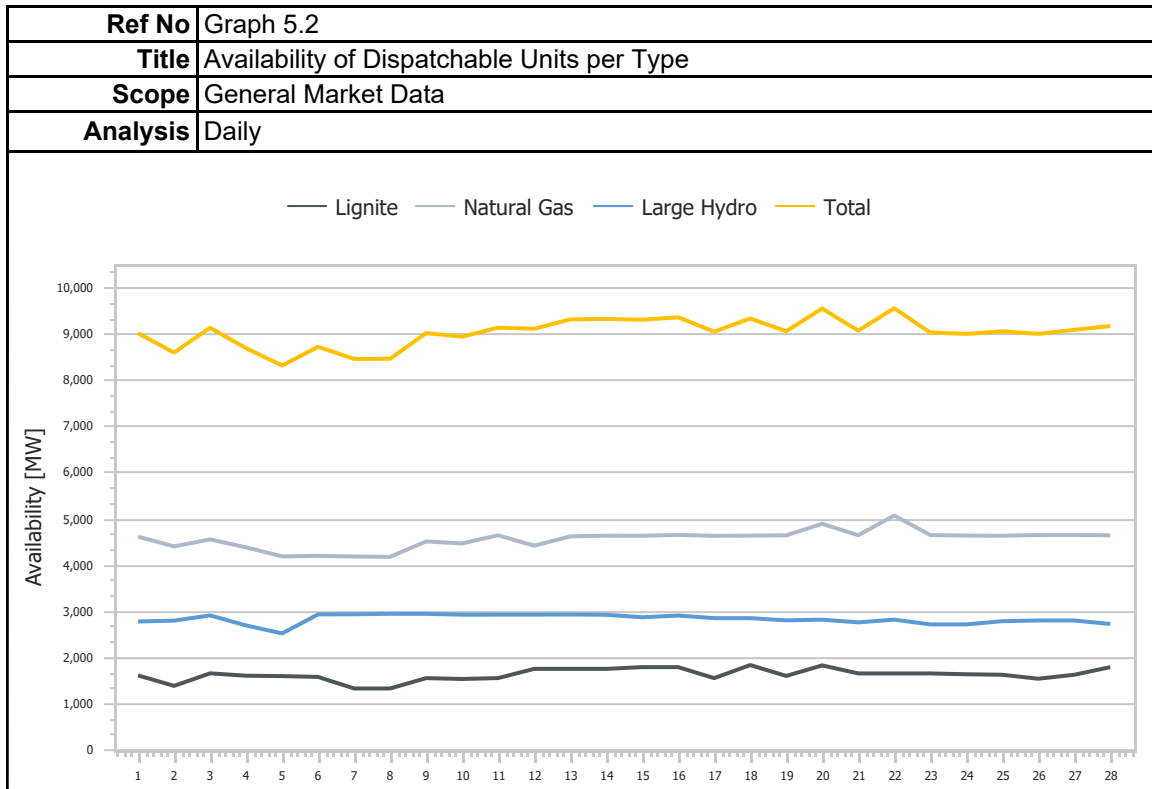
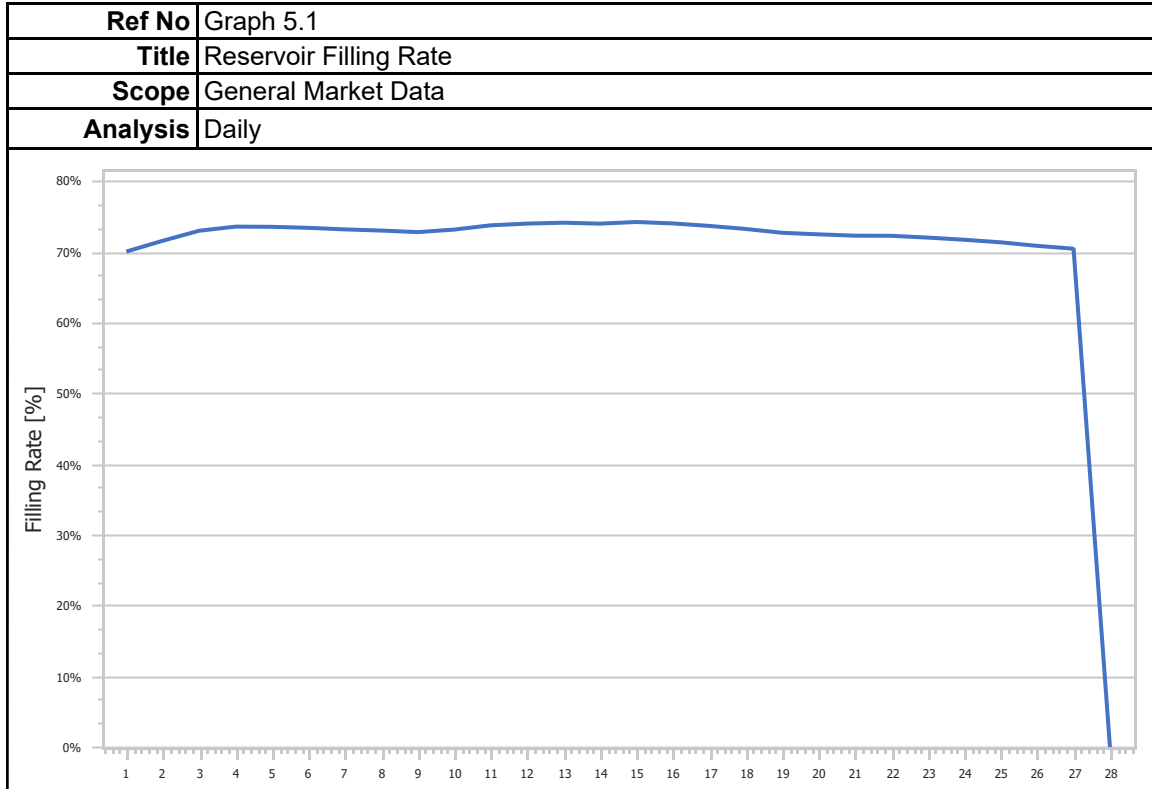
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| Ref No | Graph 4.7 |
| Title | mFRR Down Price |
| Scope | Imbalance Settlement Procedure |
| Analysis | Daily |



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|-----------------|---------------------------------------|
| Ref No | Graph 4.8 |
| Title | Balancing Energy Activation Direction |
| Scope | Imbalance Settlement Procedure |
| Analysis | Daily |



5. General Market Data



1. Statistics

| | |
|-----------------|--|
| Ref No | Table 1.1 |
| Title | Market Shares per Aggregated Classification - SELL |
| Scope | Day Ahead Market (DAM) |
| Analysis | Monthly |

| Classification | Quantity [MWh] | Share [%] | Value [EUR] | Share [%] |
|--------------------|----------------------|----------------|------------------------|----------------|
| Lignite | 464,828.214 | 10.54% | 23,925,566.82€ | 10.43% |
| Crete Conventional | - | 0.00% | - € | 0.00% |
| Natural Gas | 1,070,352.097 | 24.27% | 60,144,619.67€ | 26.22% |
| Large Hydro | 802,599.000 | 18.20% | 42,739,148.62€ | 18.63% |
| RES | 1,273,108.710 | 28.86% | 61,186,974.63€ | 26.67% |
| Crete Renewables | - | 0.00% | - € | 0.00% |
| Imports | 799,785.510 | 18.13% | 41,416,515.98€ | 18.05% |
| Total | 4,410,673.533 | 100.00% | 229,412,825.73€ | 100.00% |

| | |
|-----------------|---|
| Ref No | Table 1.2 |
| Title | Statistics per Aggregated Classification - SELL |
| Scope | Day Ahead Market (DAM) |
| Analysis | Monthly |

| | MCP [€/MWh] | Total [MWh] | Lignite [MWh] | Natural Gas [MWh] | Hydro [MWh] | RES [MWh] | Imports [MWh] |
|---------------------------|-------------|--------------|---------------|-------------------|-------------|--------------|---------------|
| Total | - | 4,410,673.53 | 464,828.21 | 1,070,352.10 | 802,599.00 | 1,273,108.71 | 799,785.51 |
| Average | 50.36 | 157,524.05 | 16,601.01 | 38,226.86 | 28,664.25 | 45,468.17 | 28,563.77 |
| Min | 27.44 | 135,020.08 | 12,720.00 | 14,588.45 | 13,838.00 | 21,590.89 | 13,033.92 |
| Min day | 7 | 27 | 11 | 7 | 28 | 3 | 1 |
| Max | 64.30 | 192,539.39 | 24,432.00 | 64,068.94 | 37,239.00 | 74,560.01 | 41,029.56 |
| Max day | 17 | 16 | 18 | 19 | 18 | 15 | 20 |
| Spread | 36.86 | 57,519.31 | 11,712.00 | 49,480.50 | 23,401.00 | 52,969.12 | 27,995.65 |
| Standard Deviation | 9.45 | 14,838.52 | 3,294.03 | 12,755.02 | 5,610.15 | 17,261.92 | 7,122.26 |

| Ref No | Table 1.3 | | | |
|-----------------|---|----------------|------------------------|----------------|
| Title | Market Shares per Aggregated Classification - BUY | | | |
| Scope | Day Ahead Market (DAM) | | | |
| Analysis | Monthly | | | |
| Classification | Quantity [MWh] | Share [%] | Value [EUR] | Share [%] |
| System Losses | 101,715.000 | 2.31% | 5,308,161.26€ | 2.31% |
| Crete Load | - | 0.00% | - € | 0.00% |
| HV Load | 647,468.126 | 14.68% | 32,317,966.92€ | 14.09% |
| MV Load | 752,441.953 | 17.06% | 39,466,334.80€ | 17.20% |
| LV Load | 2,544,625.119 | 57.69% | 135,131,857.01€ | 58.90% |
| PUMP | 4,226.092 | 0.10% | 90,529.67€ | 0.04% |
| Exports | 360,198.470 | 8.17% | 17,098,042.74€ | 7.45% |
| Total | 4,410,674.756 | 100.00% | 229,412,892.39€ | 100.00% |

| Ref No | Table 1.4 | | | | | | | |
|---------------------------|--|----------------|---------------------|-------------|-------------|--------------|---------------|------------------|
| Title | Statistics per Aggregated Classification - BUY | | | | | | | |
| Scope | Day Ahead Market (DAM) | | | | | | | |
| Analysis | Monthly | | | | | | | |
| | MCP [€/MWh] | Total [MWh] | Sys Losses [MWh] | HV [MWh] | MV [MWh] | LV [MWh] | PUMP [MWh] | Exports [MWh] |
| Total | - | 4,410,674.76 | 101,715.00 | 647,468.13 | 752,441.95 | 2,544,625.12 | 4,226.09 | 360,198.47 |
| Average | 50.36 | 157,524.10 | 3,632.68 | 23,123.86 | 26,872.93 | 90,879.47 | 352.17 | 12,864.23 |
| Min | 27.44 | 135,020.21 | 2,735.00 | 22,368.10 | 19,232.50 | 75,161.06 | 102.16 | 2,688.00 |
| Min day | 7 | 27 | 27 | 17 | 7 | 6 | 17 | 3 |
| Max | 64.30 | 192,539.50 | 4,747.50 | 24,614.05 | 32,234.81 | 123,125.26 | 990.00 | 26,876.24 |
| Max day | 17 | 16 | 22 | 14 | 16 | 16 | 7 | 11 |
| Spread | 36.86 | 57,519.28 | 2,012.50 | 2,245.96 | 13,002.31 | 47,964.20 | 887.84 | 24,188.24 |
| Standard Deviation | 9.45 | 14,838.54 | 575.45 | 809.43 | 3,419.09 | 12,665.06 | 233.52 | 6,270.26 |

2. Market Shares

| Ref No | Table 2.1.1 | | | |
|-----------------|---|----------------|----------------------|----------------|
| Title | Market Shares - Upward Capacity Reserves Volumes per Type | | | |
| Scope | Balancing Market (BM) | | | |
| Analysis | Monthly | | | |
| Type | Quantity [MW] | Share [%] | Value [EUR] | Share [%] |
| aFRR | 1,070,017.560 | 56.86% | 2,428,412.96€ | 66.35% |
| FCR | 75,552.860 | 4.01% | 76,728.14€ | 2.10% |
| mFRR | 736,398.330 | 39.13% | 1,154,620.23€ | 31.55% |
| Total | 1,881,968.750 | 100.00% | 3,659,761.34€ | 100.00% |

| Ref No | Table 2.1.2 | | | |
|-----------------|---|----------------|----------------------|----------------|
| Title | Market Shares - Downward Capacity Reserves per Type | | | |
| Scope | Balancing Market(BM) | | | |
| Analysis | Monthly | | | |
| Type | Quantity [MW] | Share [%] | Value [EUR] | Share [%] |
| aFRR | 249,106.760 | 41.73% | 700,266.04€ | 67.19% |
| FCR | 76,661.340 | 12.84% | 82,544.99€ | 7.92% |
| mFRR | 271,219.410 | 45.43% | 259,404.72€ | 24.89% |
| Total | 596,987.510 | 100.00% | 1,042,215.75€ | 100.00% |

| | |
|-----------------|--|
| Ref No | Table 2.1.3 |
| Title | Market Shares - Upward Activated Balancing Energy per Type |
| Scope | Balancing Market (BM) |
| Analysis | Monthly |

| Type | Quantity [MWh] | Share [%] | Value [EUR] | Share [%] |
|--------------|--------------------|----------------|-----------------------|----------------|
| aFRR | 85,872.590 | 23.39% | 9,311,489.50€ | 23.42% |
| mFRR | 281,248.140 | 76.61% | 30,441,409.37€ | 76.58% |
| Total | 367,120.730 | 100.00% | 39,752,898.87€ | 100.00% |

| | |
|-----------------|--|
| Ref No | Table 2.1.4 |
| Title | Market Shares - Downward Activated Balancing Energy per Type |
| Scope | Balancing Market (BM) |
| Analysis | Monthly |

| Type | Quantity [MWh] | Share [%] | Value [EUR] | Share [%] |
|--------------|--------------------|----------------|-----------------------|----------------|
| aFRR | 74,165.880 | 20.66% | -1,108,389.91€ | 21.97% |
| mFRR | 284,815.580 | 79.34% | -3,936,351.68€ | 78.03% |
| Total | 358,981.460 | 100.00% | -5,044,741.58€ | 100.00% |

3. Market Overview

| | |
|-----------------|--|
| Ref No | Table 3.1 |
| Title | Total Transactions Quantity per Market |
| Scope | DAM, IDM, Balancing Energy Market |
| Analysis | Monthly |

| Market | Quantity [MWh] | Share [%] |
|--------------------------|---------------------|----------------|
| DAM | 4,410,673.53 | 98.04% |
| IDMA1 | 52,270.50 | 1.16% |
| IDMA2 | 14,068.78 | 0.31% |
| IDMA3 | 13,543.57 | 0.30% |
| IDM (Total) | 79,882.85 | 1.78% |
| Balancing Energy (Up) | 367,120.73 | 8.16% |
| Balancing Energy (Dn) | 358,981.46 | 7.98% |
| Balancing Energy (Total) | 8,139.27 | 0.18% |
| Total | 4,498,695.66 | 100.00% |

| | |
|-----------------|-------------------------------------|
| Ref No | Table 3.2 |
| Title | Total Transactions Value per Market |
| Scope | DAM, IDM, Balancing Energy Market |
| Analysis | Monthly |

| Market | Value [EUR] | Share [%] |
|----------------------------|------------------------|----------------|
| DAM | 229,412,825.73€ | 80.91% |
| IDMA1 | 3,108,589.39€ | 1.10% |
| IDMA2 | 751,529.27€ | 0.27% |
| IDMA3 | 776,309.94€ | 0.27% |
| IDM (Total) | 4,636,428.60€ | 1.64% |
| Balancing Capacity (Up) | 3,659,761.34€ | 1.29% |
| Balancing Capacity (Dn) | 1,042,215.75€ | 0.37% |
| Balancing Capacity (Total) | 4,701,977.08€ | 1.66% |
| Balancing Energy (Up) | 39,752,898.87€ | 14.02% |
| Balancing Energy (Dn) | -5,044,741.58€ | -1.78% |
| Balancing Energy (Total) | 44,797,640.45€ | 15.80% |
| Balancing Market (Total) | 49,499,617.53€ | 17.46% |
| Total | 283,548,871.86€ | 100.00% |