

Market Monitoring Report

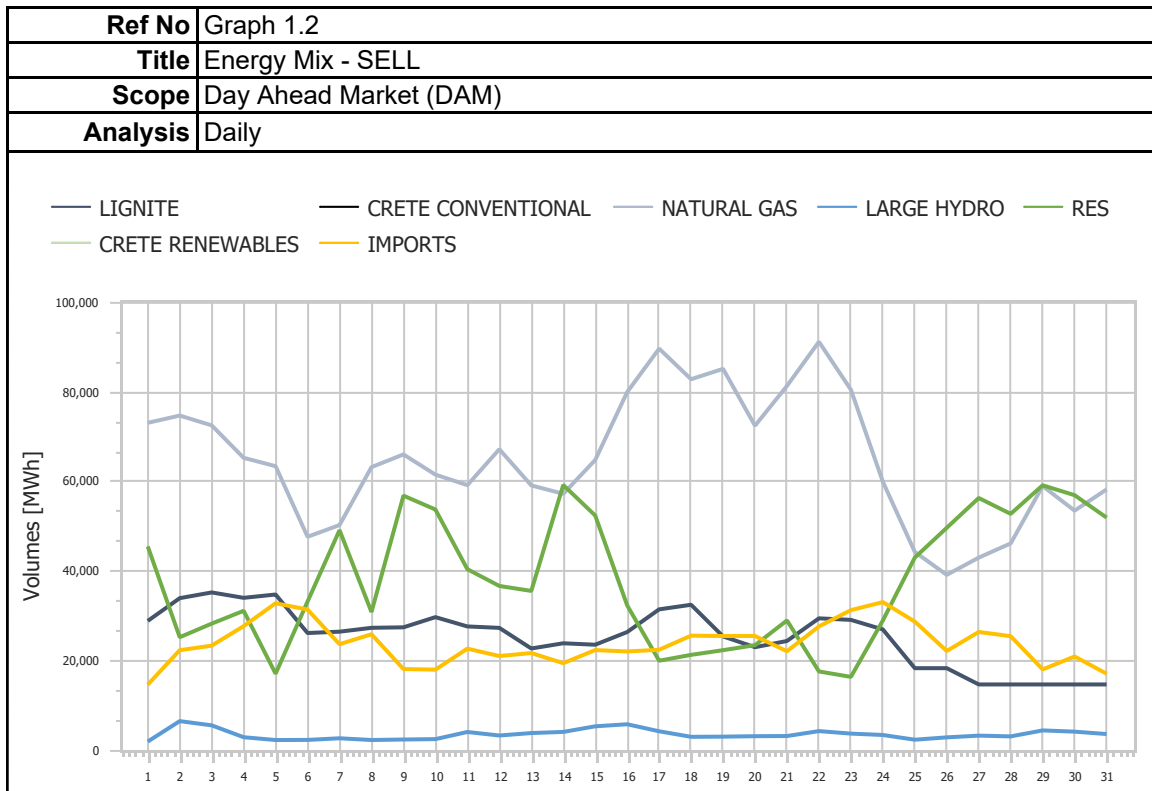
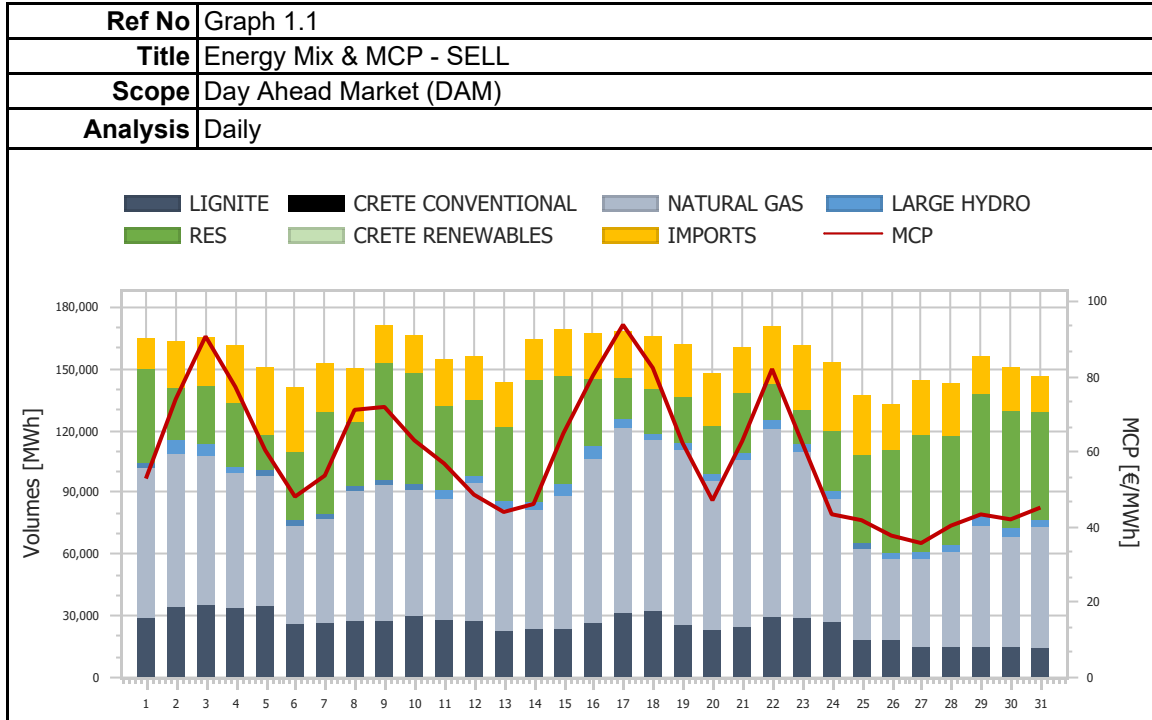
Monthly - Public - 2

12-2020

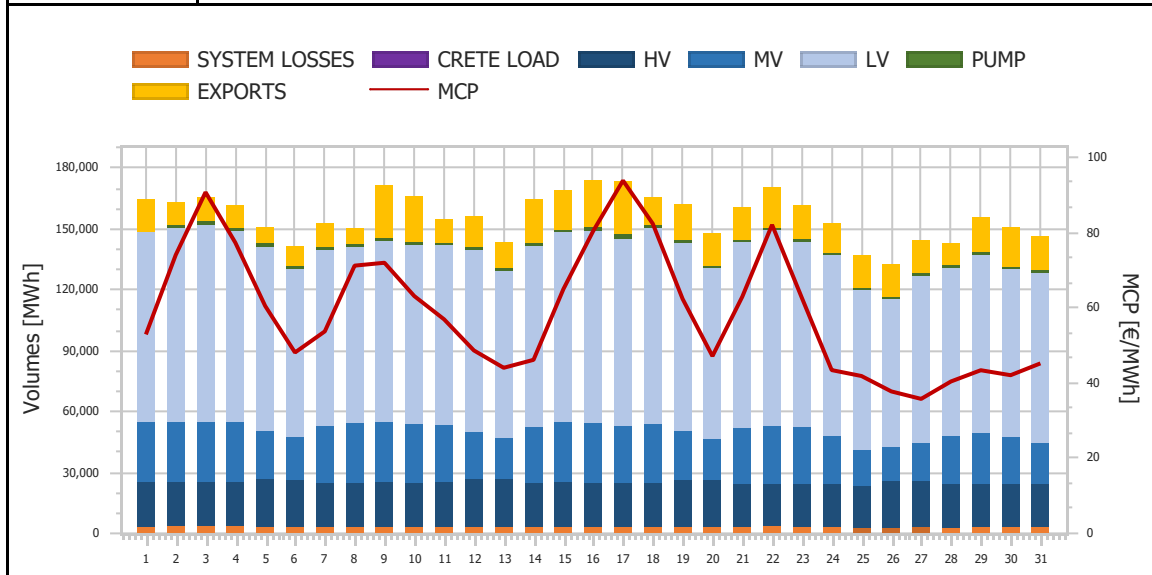


ΡΥΘΜΙΣΤΙΚΗ ΑΡΧΗ ΕΝΕΡΓΕΙΑΣ
REGULATORY AUTHORITY FOR ENERGY

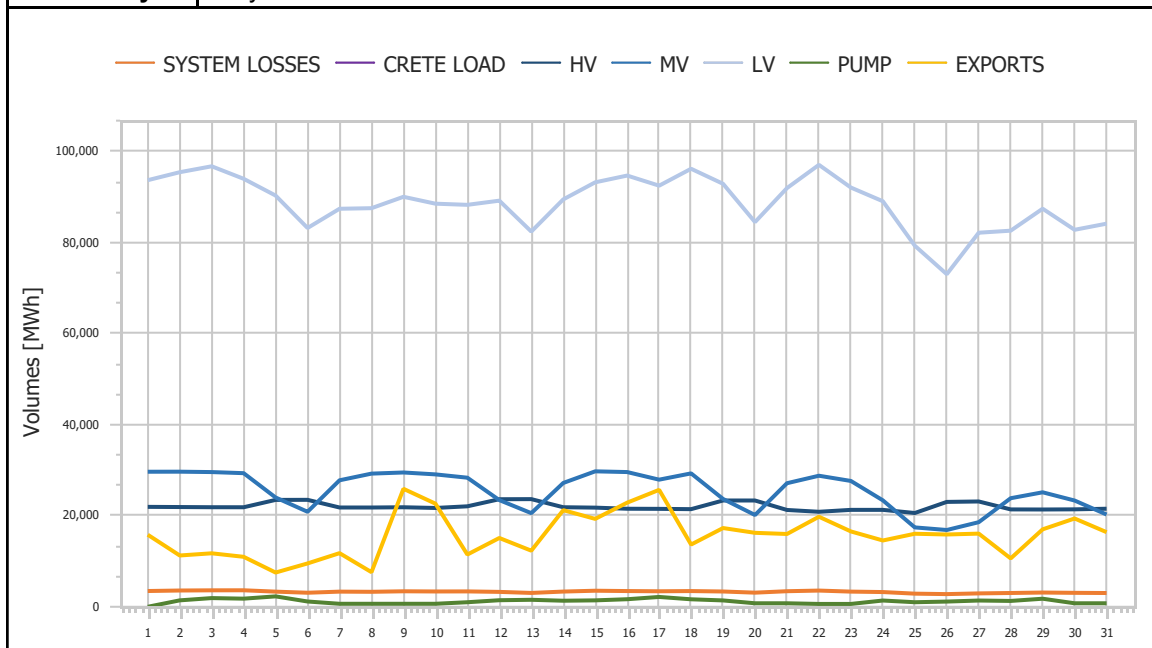
1. Day Ahead Market (DAM)



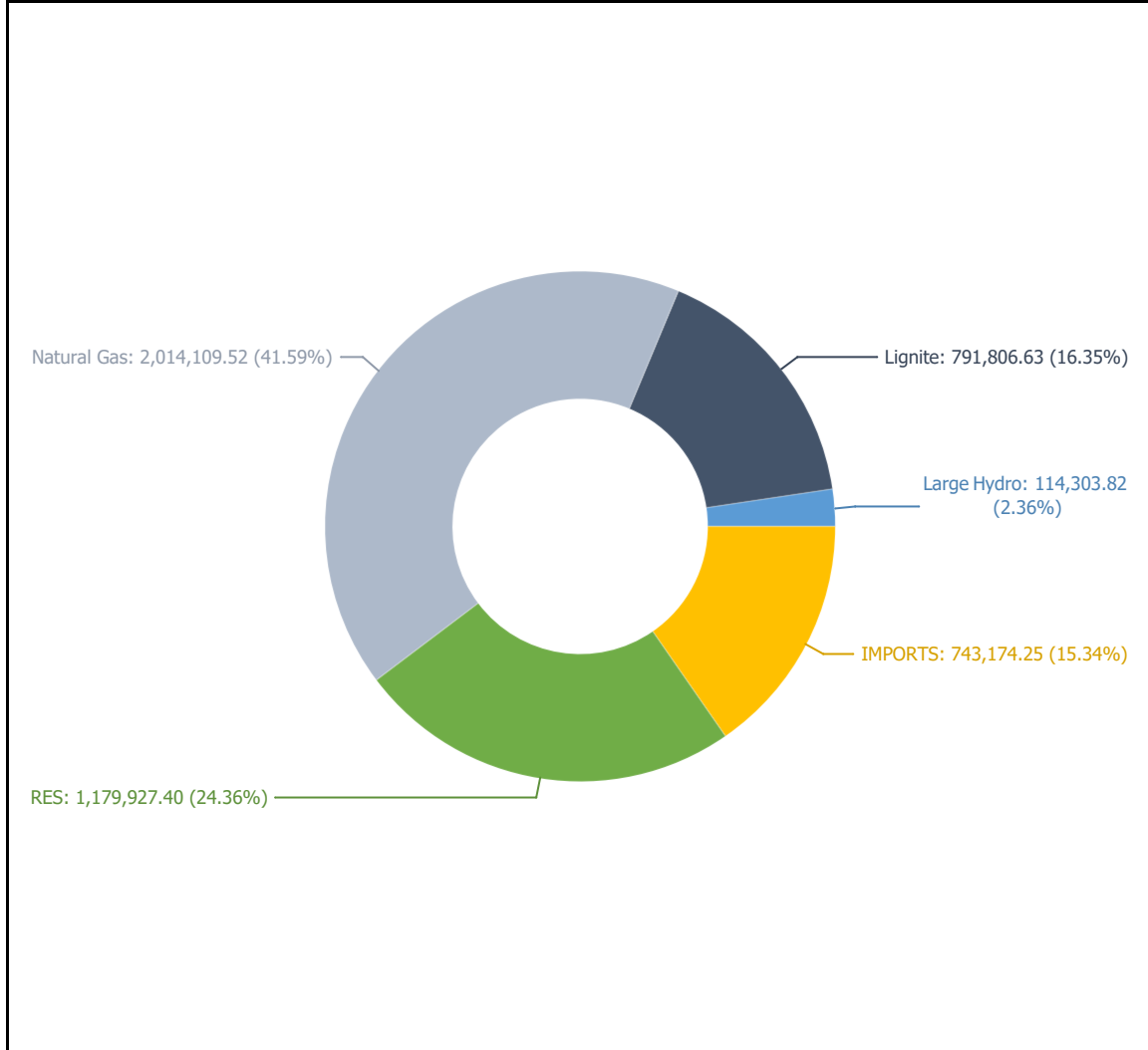
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| Ref No | Graph 1.3 |
| Title | Energy Mix & MCP - BUY |
| Scope | Day Ahead Market (DAM) |
| Analysis | Daily |



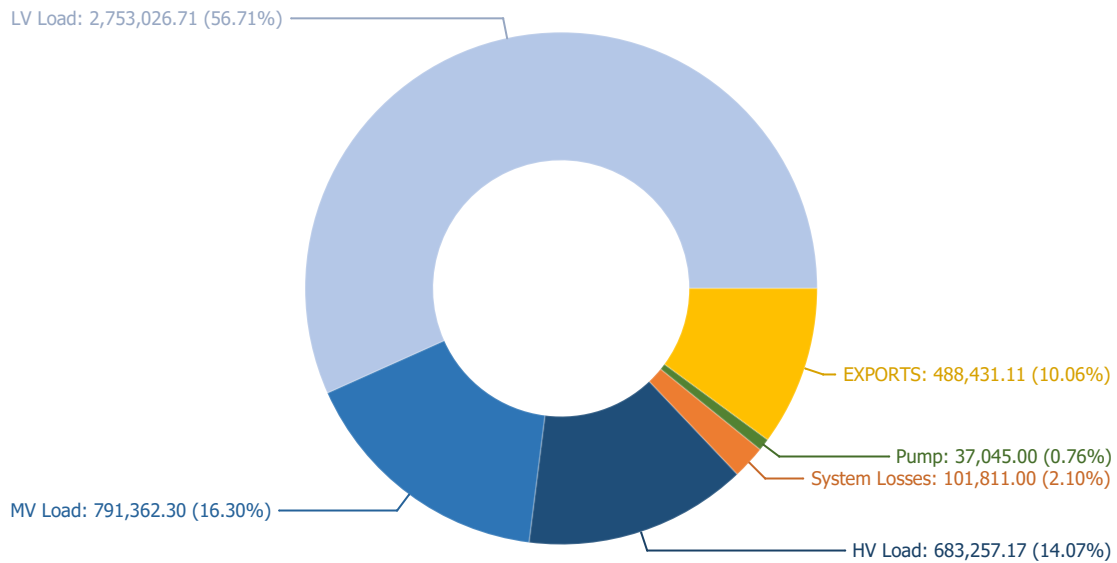
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| Title | Energy Mix - BUY |
| Scope | Day Ahead Market (DAM) |
| Analysis | Daily |



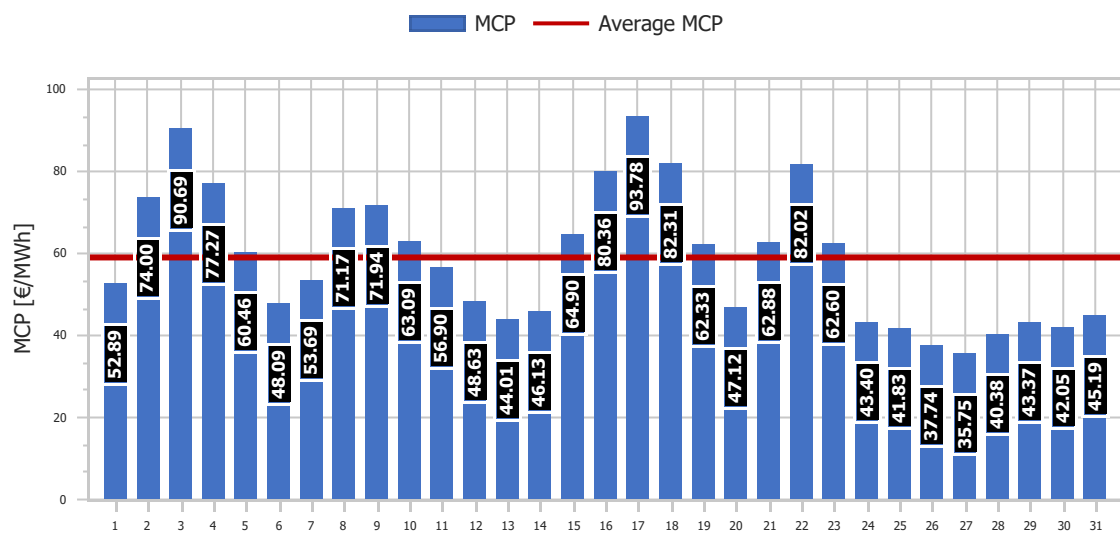
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| Title | Energy Mix - SELL |
| Scope | Day Ahead Market (DAM) |
| Analysis | Daily |



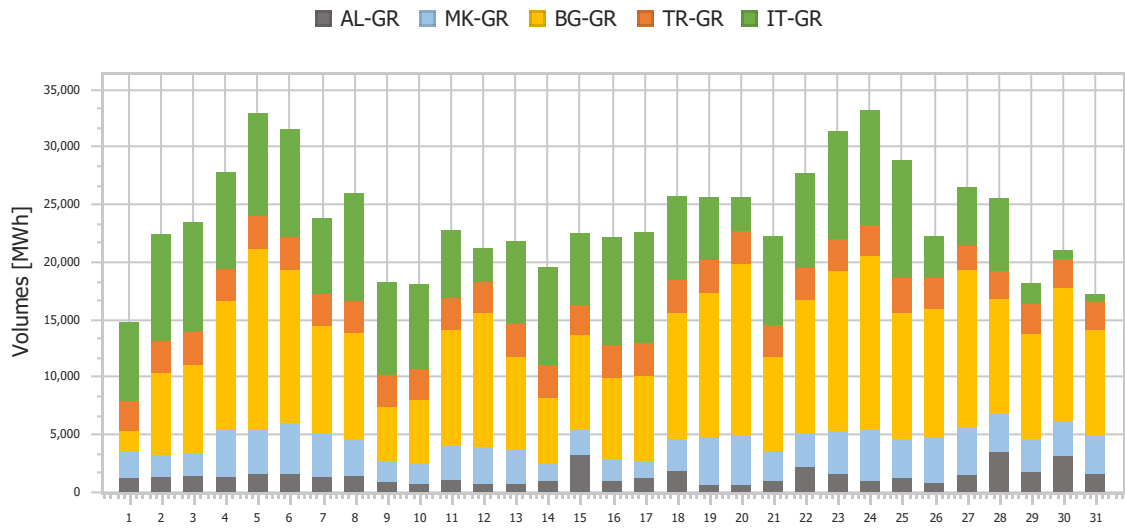
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| Title | Energy Mix - BUY |
| Scope | Day Ahead Market (DAM) |
| Analysis | Daily |



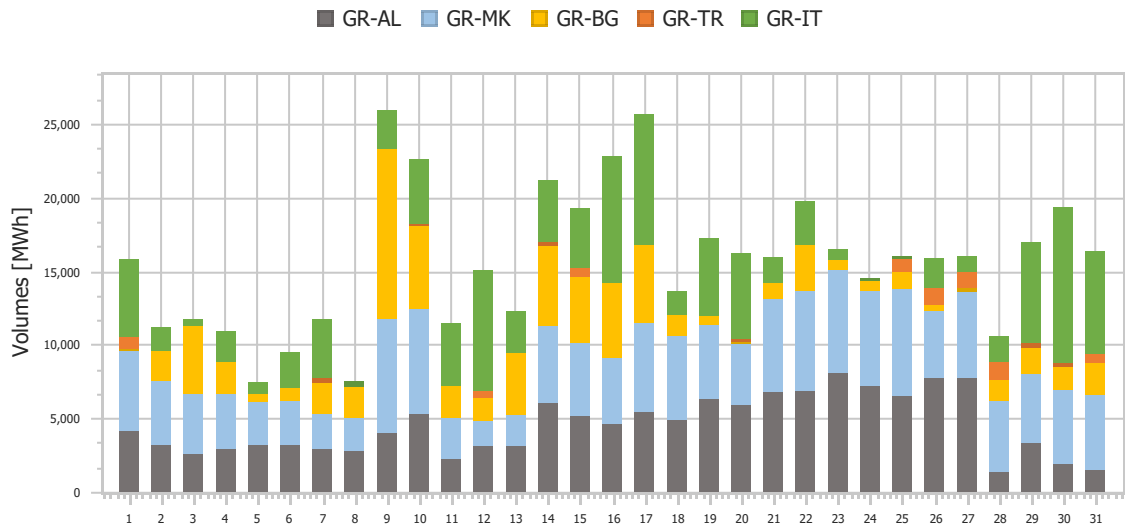
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| Ref No | Graph 1.7 |
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| Scope | Day Ahead Market (DAM) |
| Analysis | Daily |



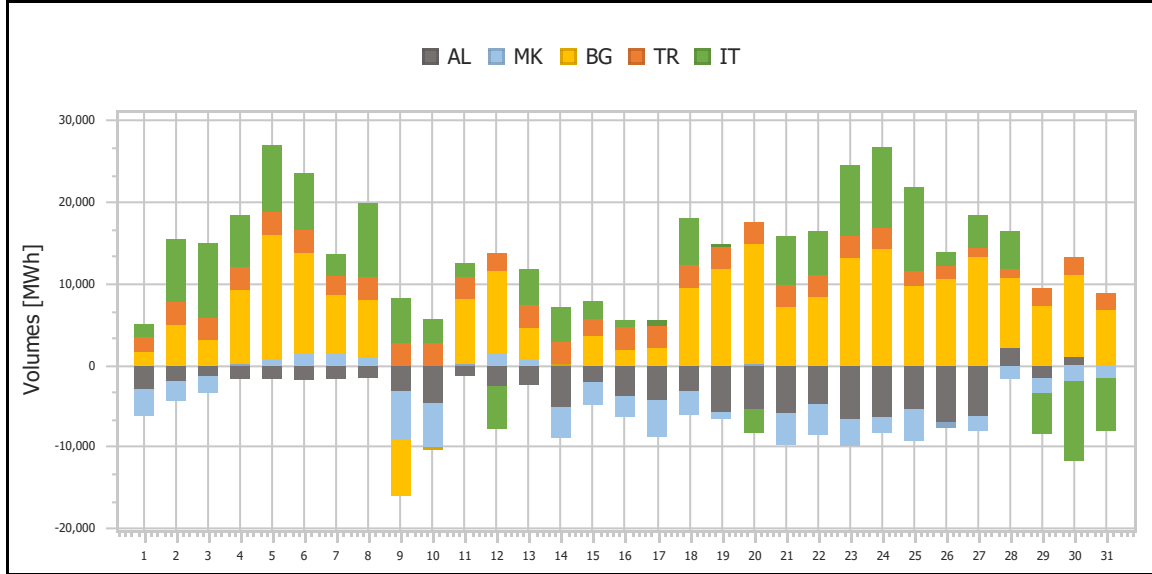
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| Title | Imports per Border |
| Scope | Day Ahead Market (DAM) |
| Analysis | Daily |



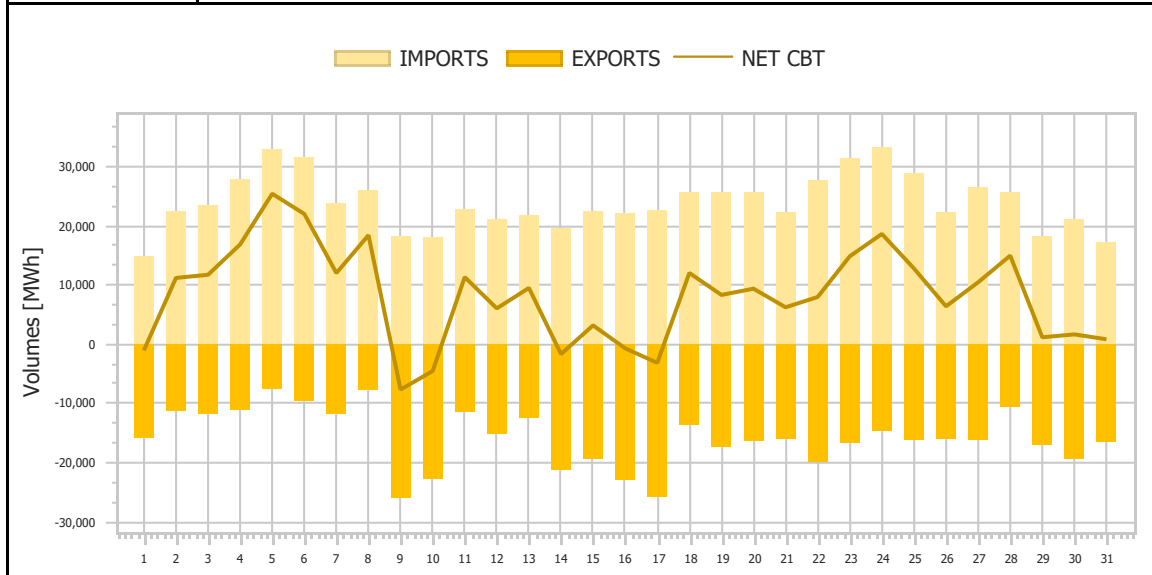
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| Title | Exports per Border |
| Scope | Day Ahead Market (DAM) |
| Analysis | Daily |



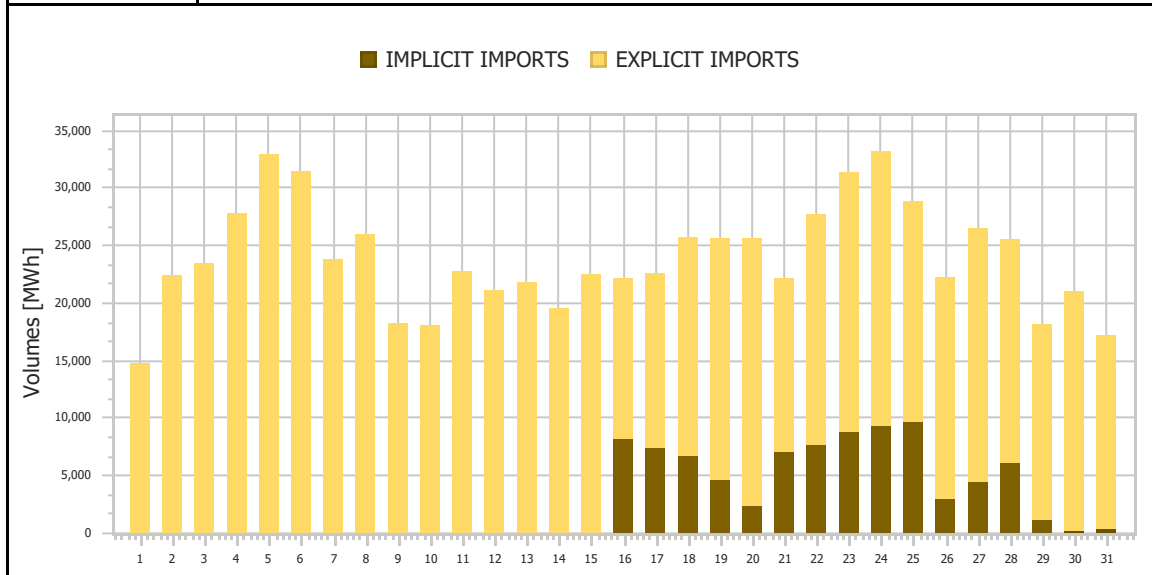
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| Ref No | Graph 1.10 |
| Title | Net Imports per Border |
| Scope | Day Ahead Market (DAM) |
| Analysis | Daily |



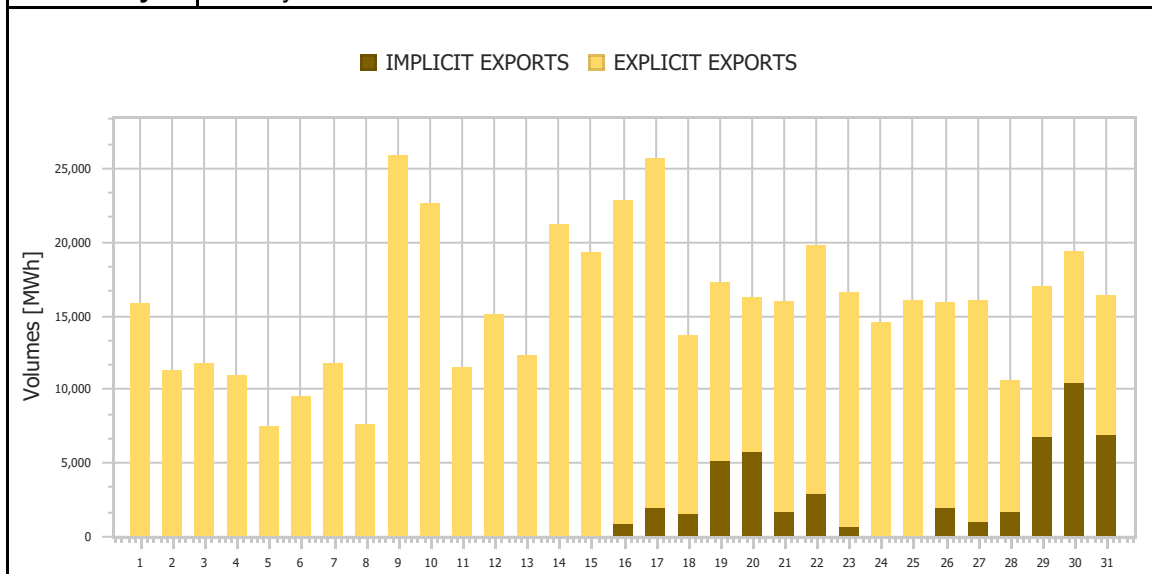
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| Title | Total Imports & Exports |
| Scope | Day Ahead Market (DAM) |
| Analysis | Daily |

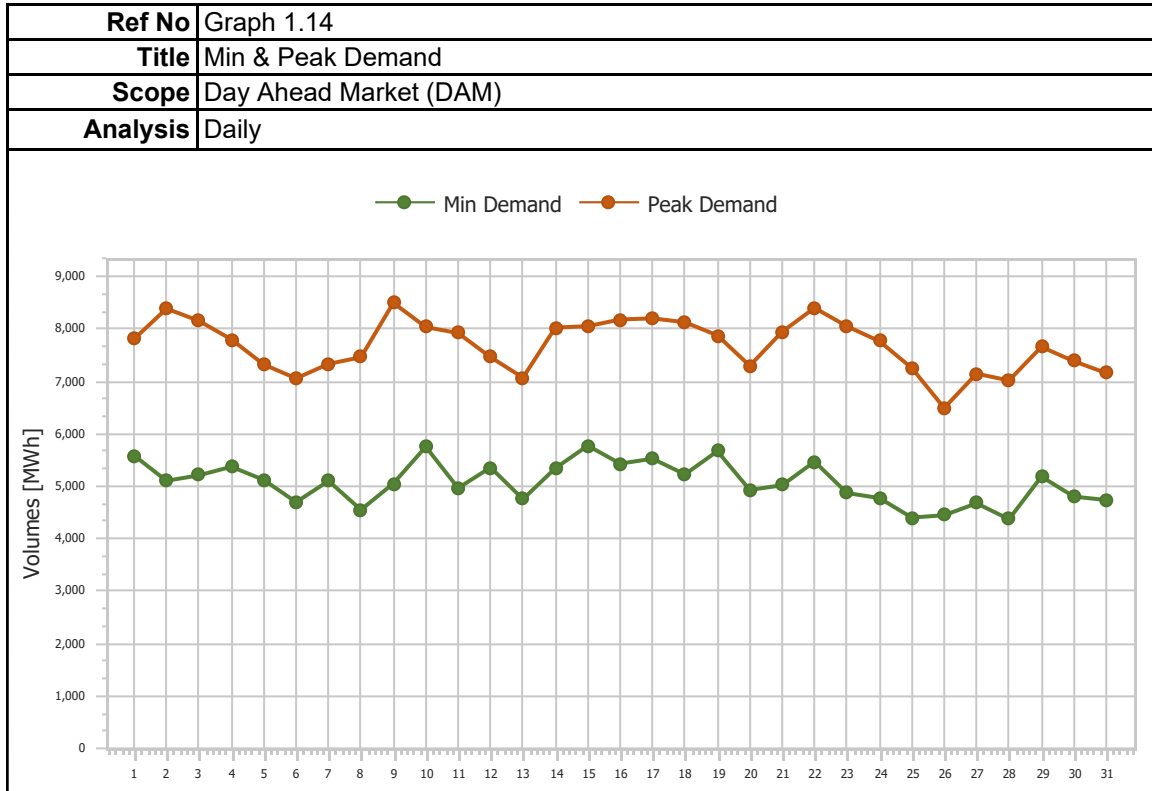


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| Ref No | Graph 1.12 |
| Title | Imports (Implicit/Explicit) |
| Scope | Day Ahead Market (DAM) |
| Analysis | Daily |

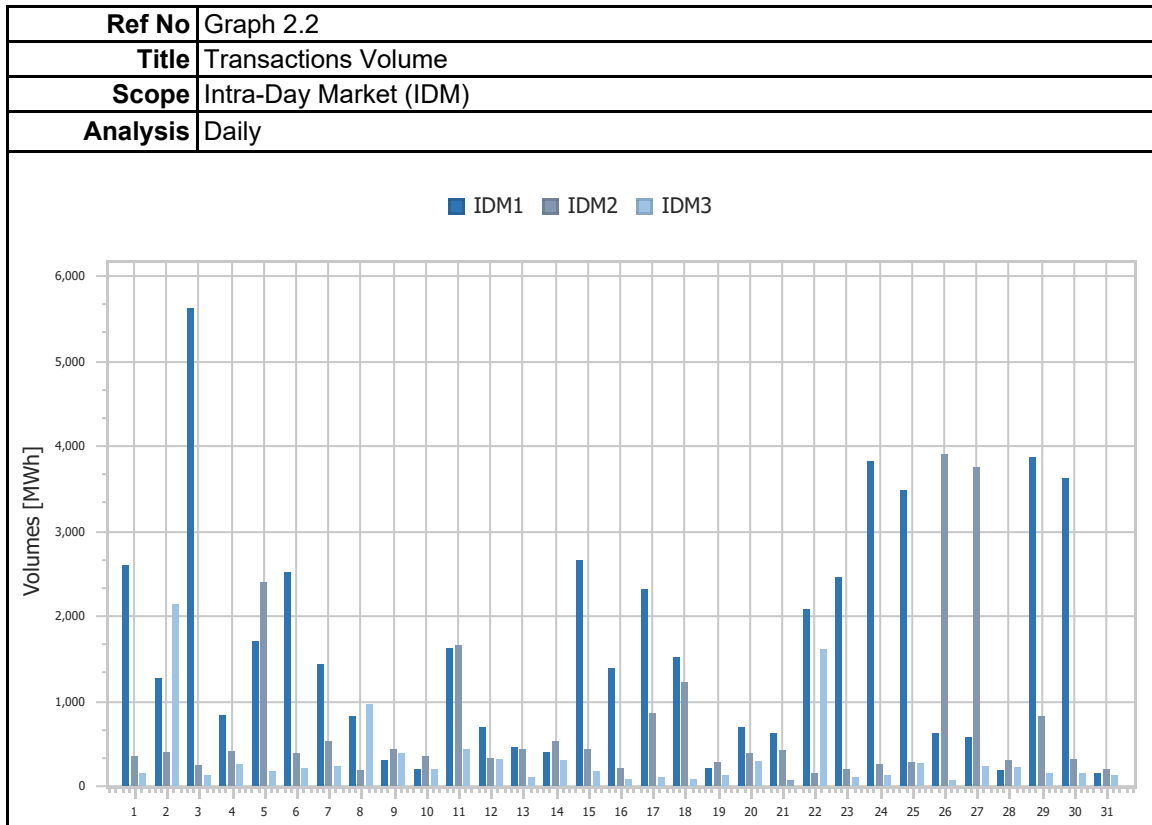
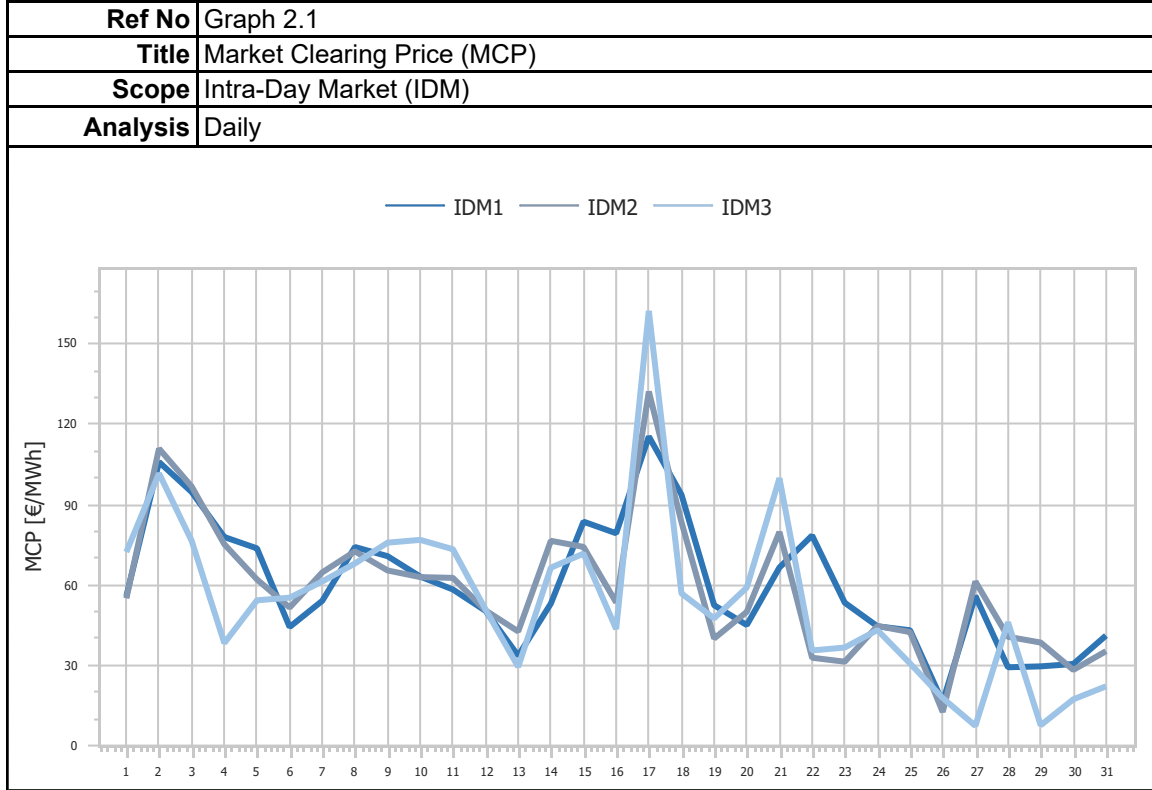


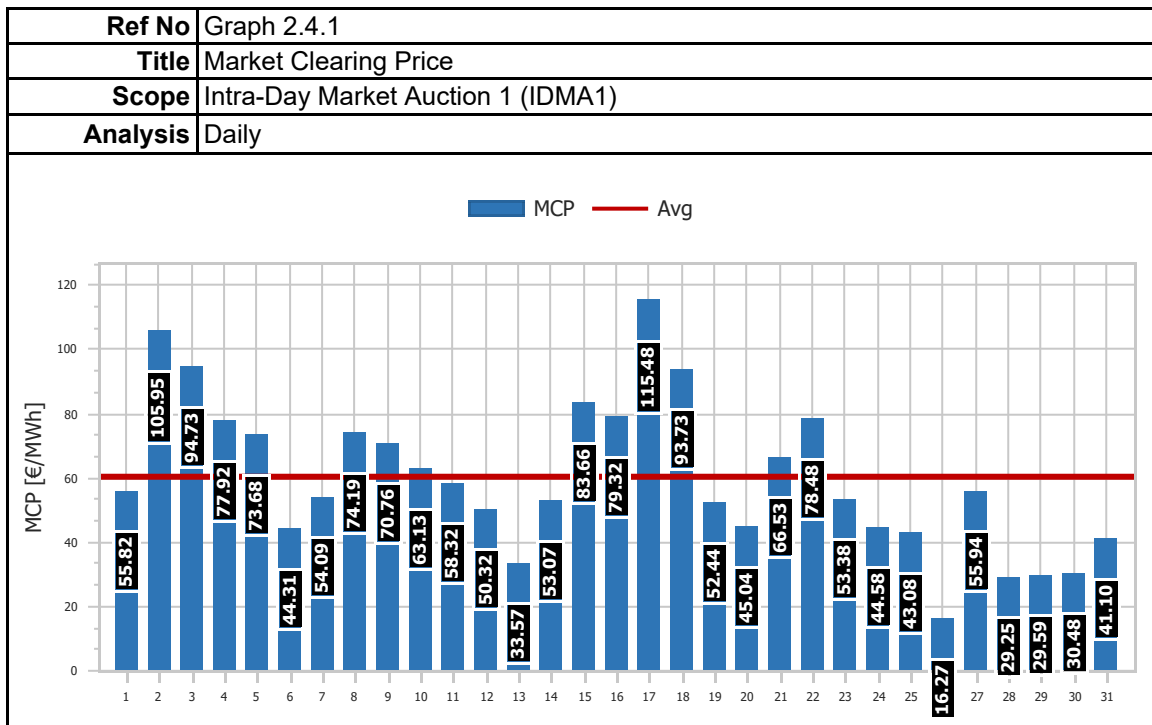
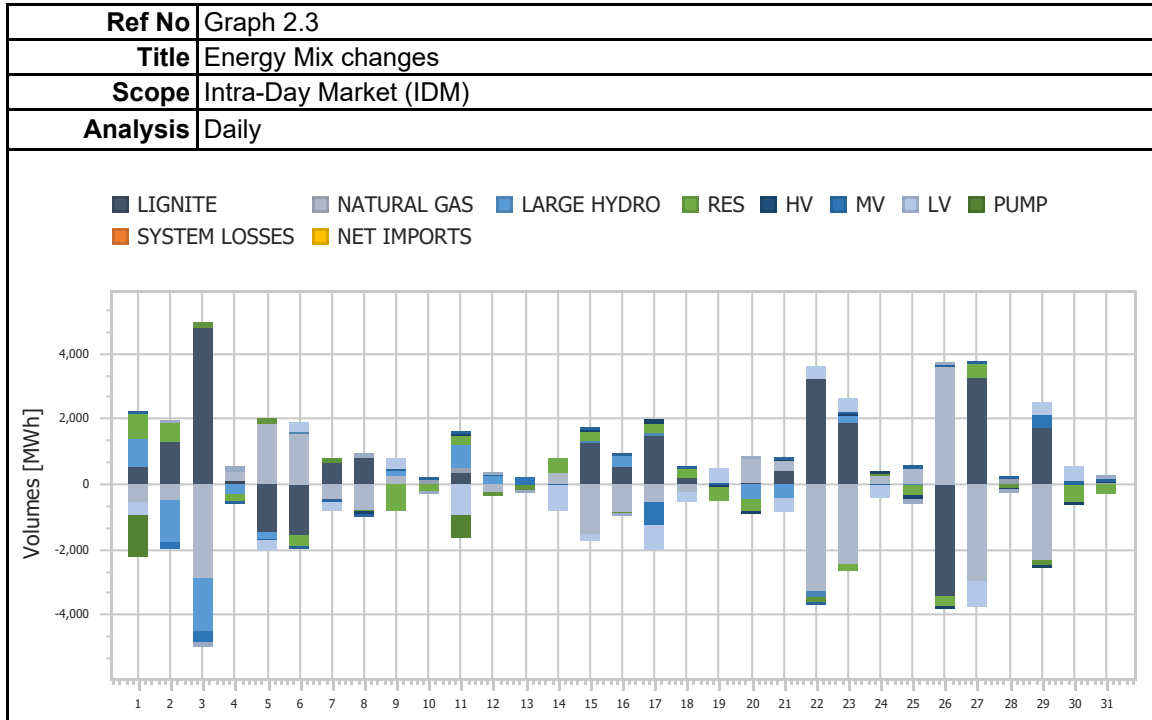
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| Ref No | Graph 1.13 |
| Title | Exports (Implicit/Explicit) |
| Scope | Day Ahead Market (DAM) |
| Analysis | Monthly |



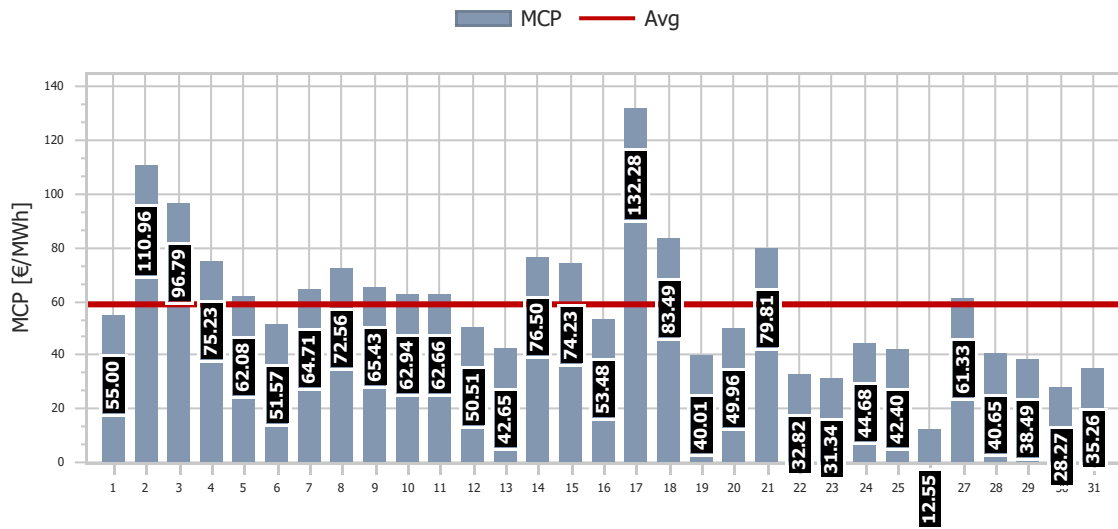


2. Intra-Day Market (IDM)

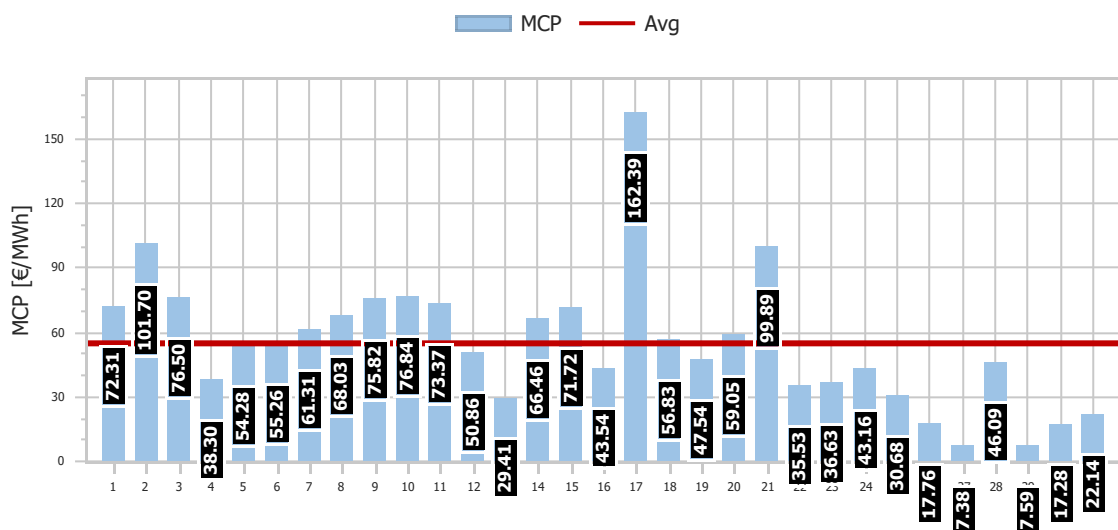


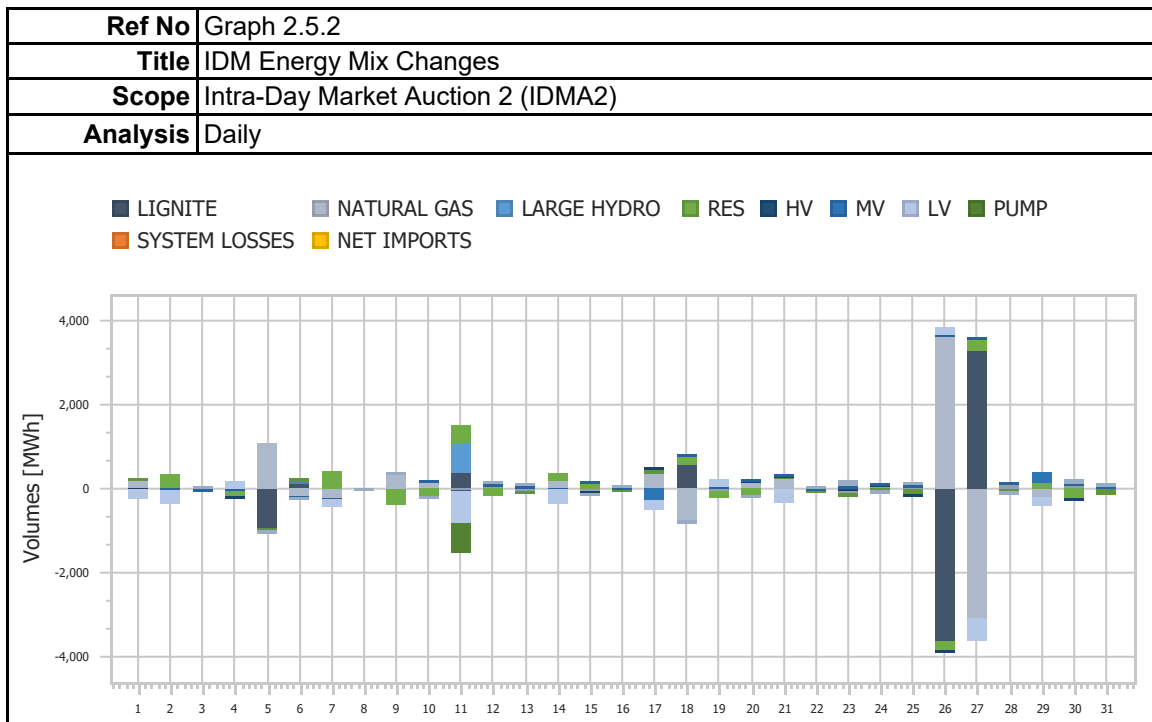
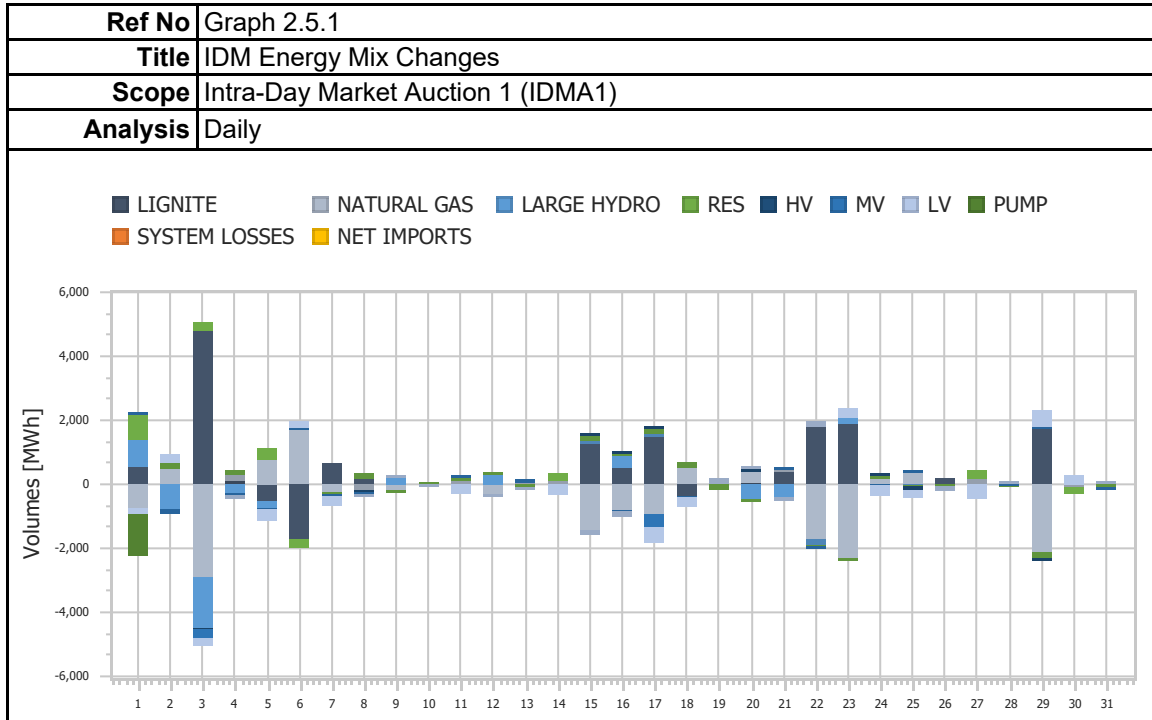


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| Ref No | Graph 2.4.2 |
| Title | Market Clearing Price |
| Scope | Intra-Day Market Auction 2 (IDMA2) |
| Analysis | Daily |

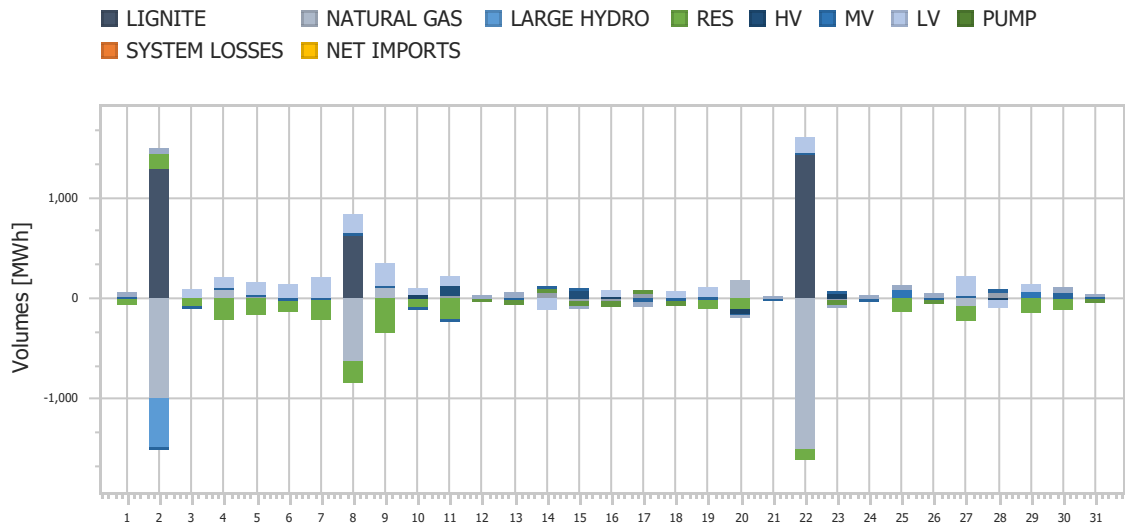


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| Ref No | Graph 2.4.3 |
| Title | Market Clearing Price |
| Scope | Intra-Day Market Auction 3 (IDMA3) |
| Analysis | Daily |

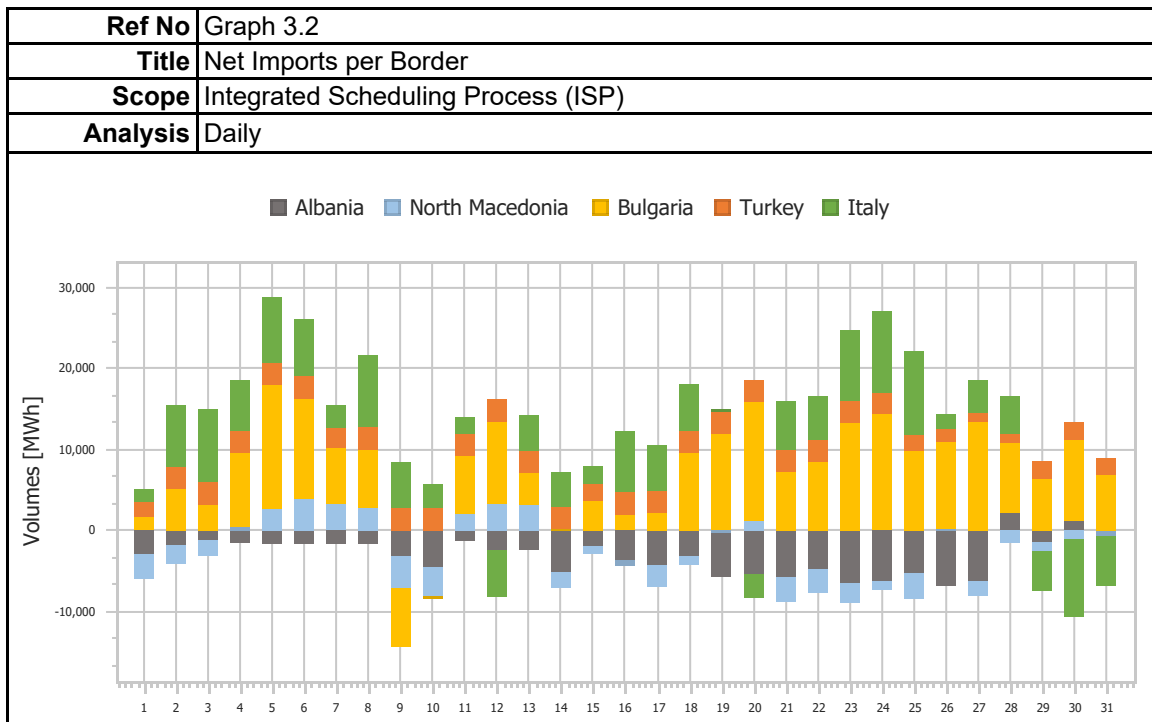
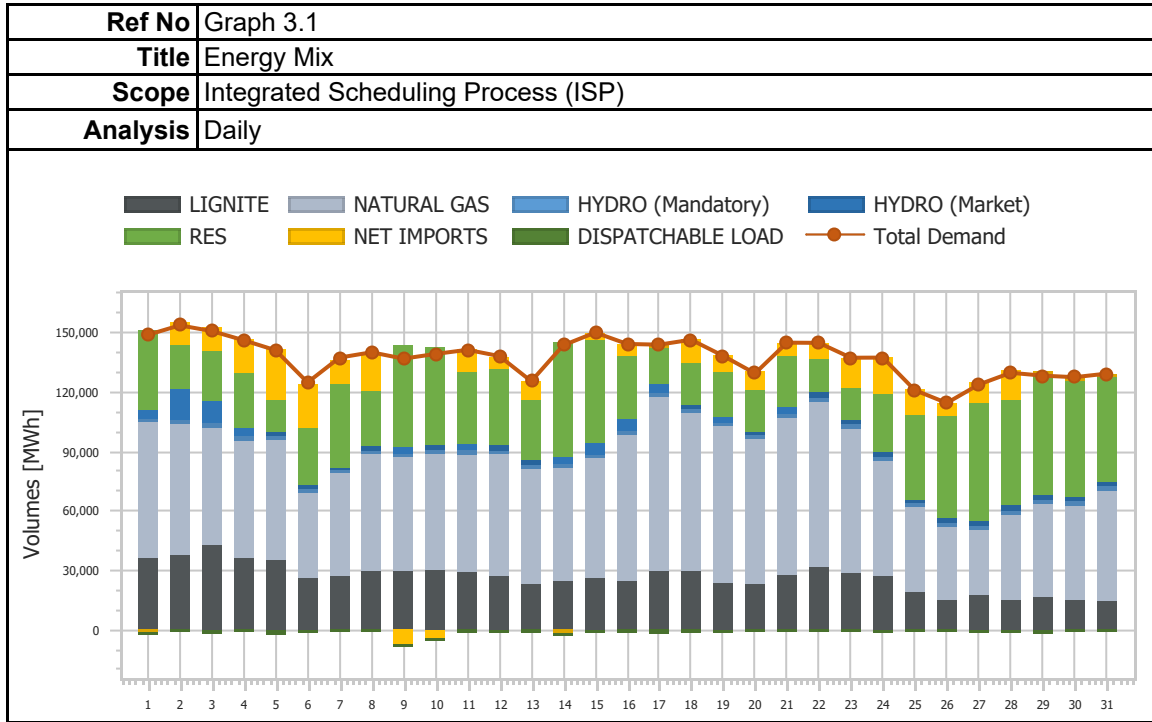




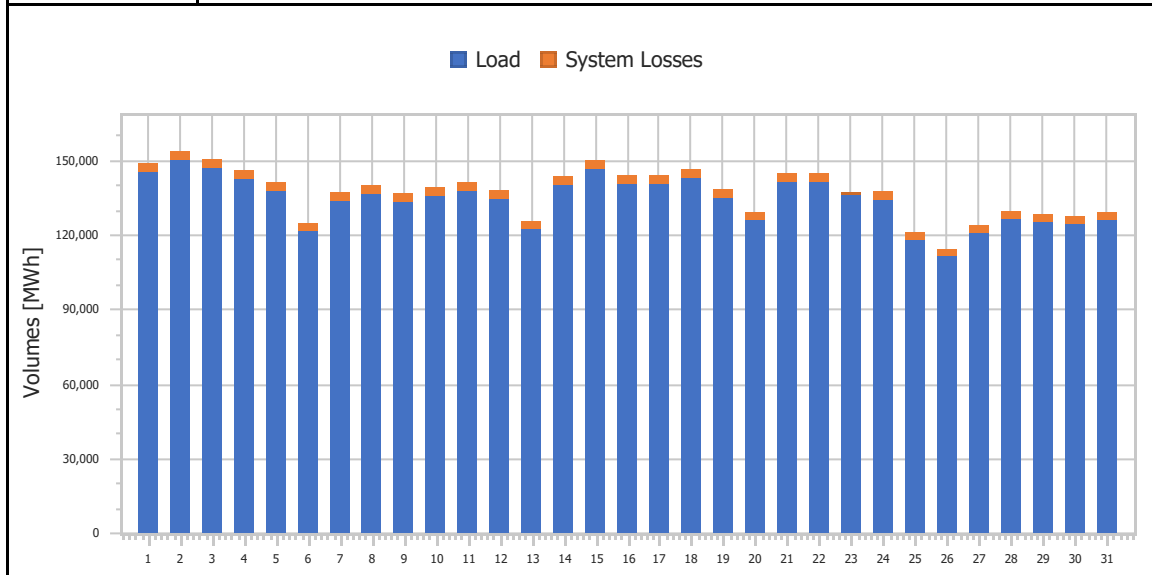
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| Ref No | Graph 2.5.3 |
| Title | IDM Energy Mix Changes |
| Scope | Intra-Day Market Auction 3 (IDMA3) |
| Analysis | Daily |



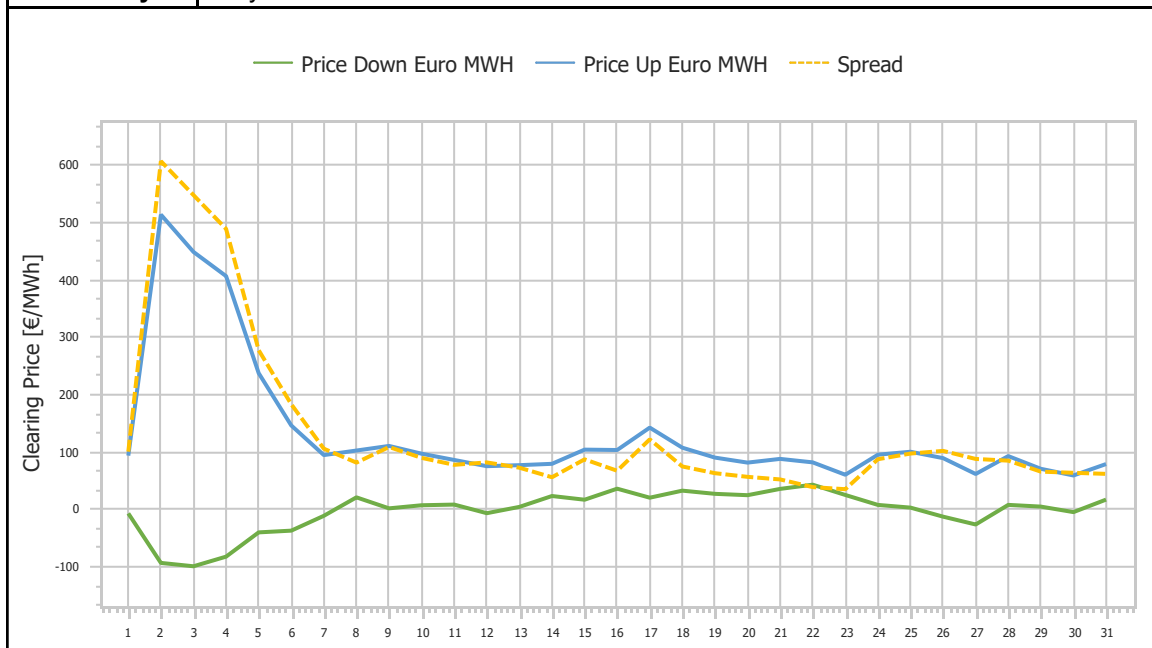
3. Integrated Scheduling Process (ISP)



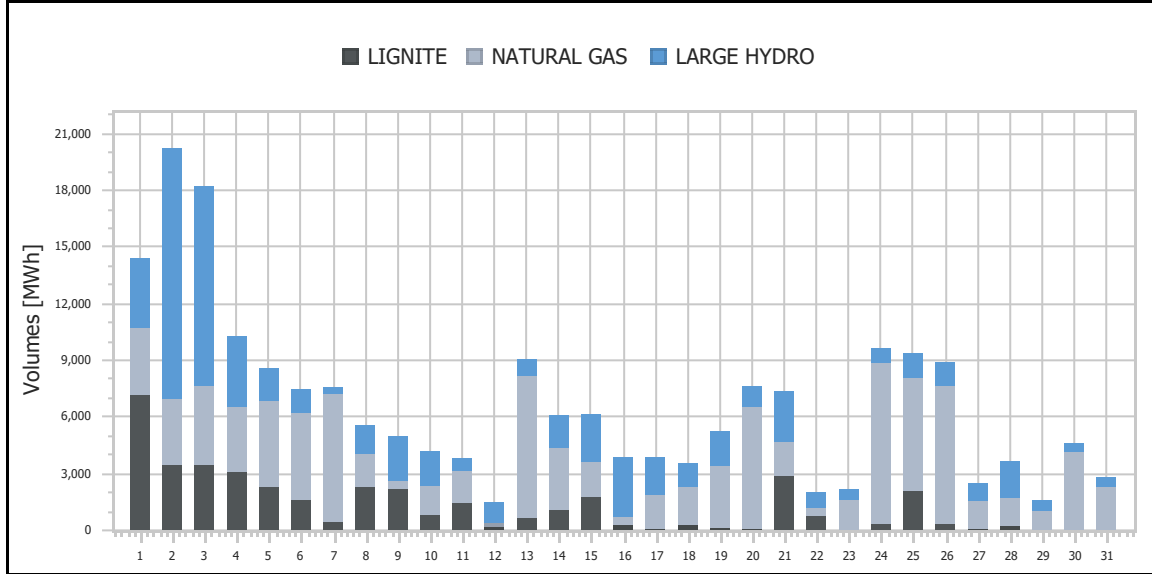
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| Title | Demand & System Losses |
| Scope | Integrated Scheduling Process (ISP) |
| Analysis | Daily |



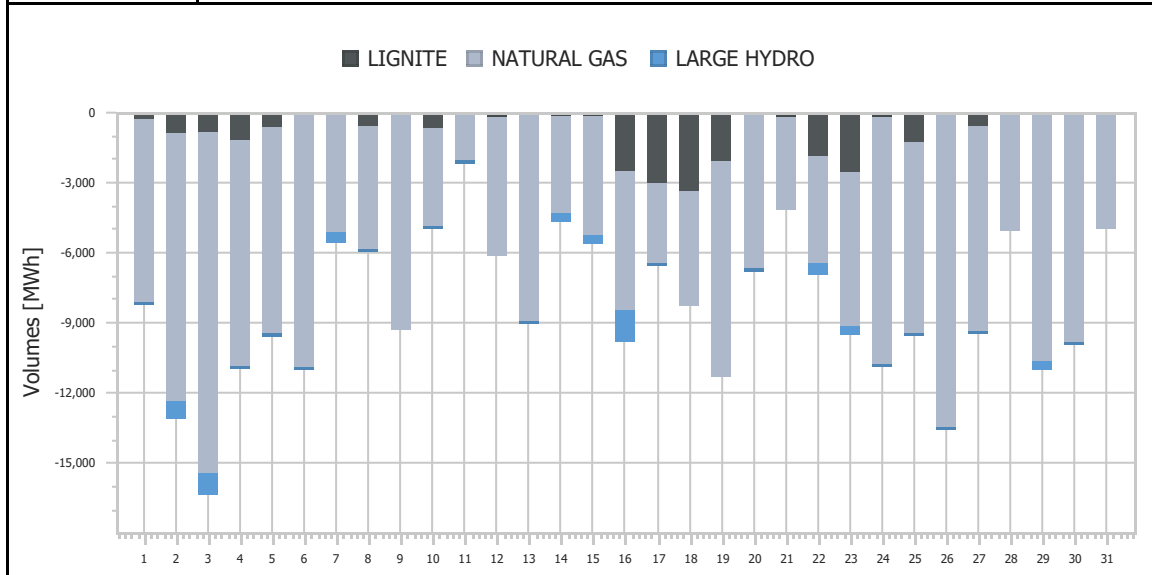
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| Title | Clearing Prices |
| Scope | Integrated Scheduling Process (ISP) |
| Analysis | Daily |



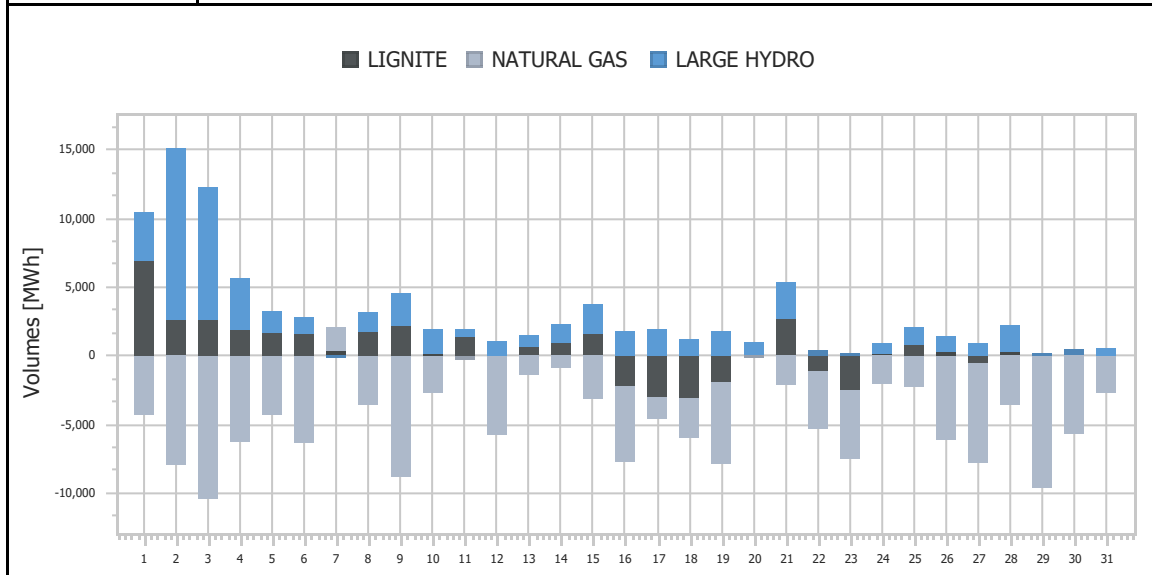
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| Ref No | Graph 3.5 |
| Title | Upward Activated Balancing energy |
| Scope | Integrated Scheduling Process (ISP) |
| Analysis | Daily |



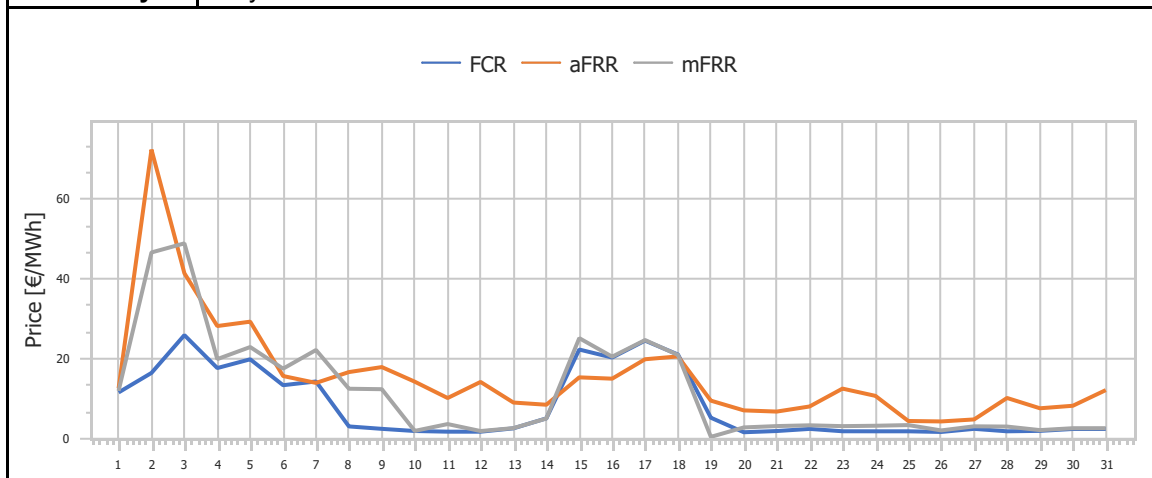
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| Ref No | Graph 3.6 |
| Title | Downward Activated Balancing energy |
| Scope | Integrated Scheduling Process (ISP) |
| Analysis | Daily |



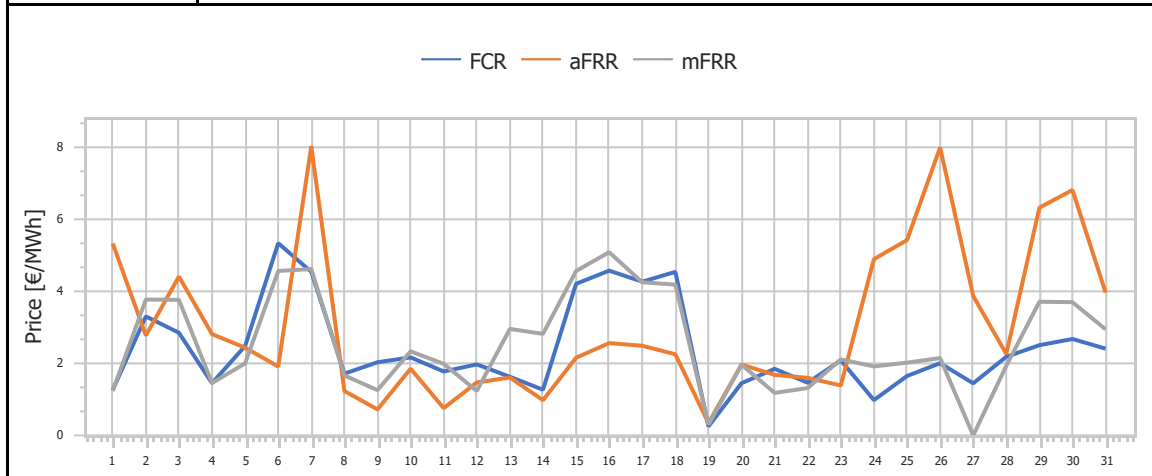
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| Ref No | Graph 3.7 |
| Title | Net Activated Balancing energy |
| Scope | Integrated Scheduling Process (ISP) |
| Analysis | Daily |



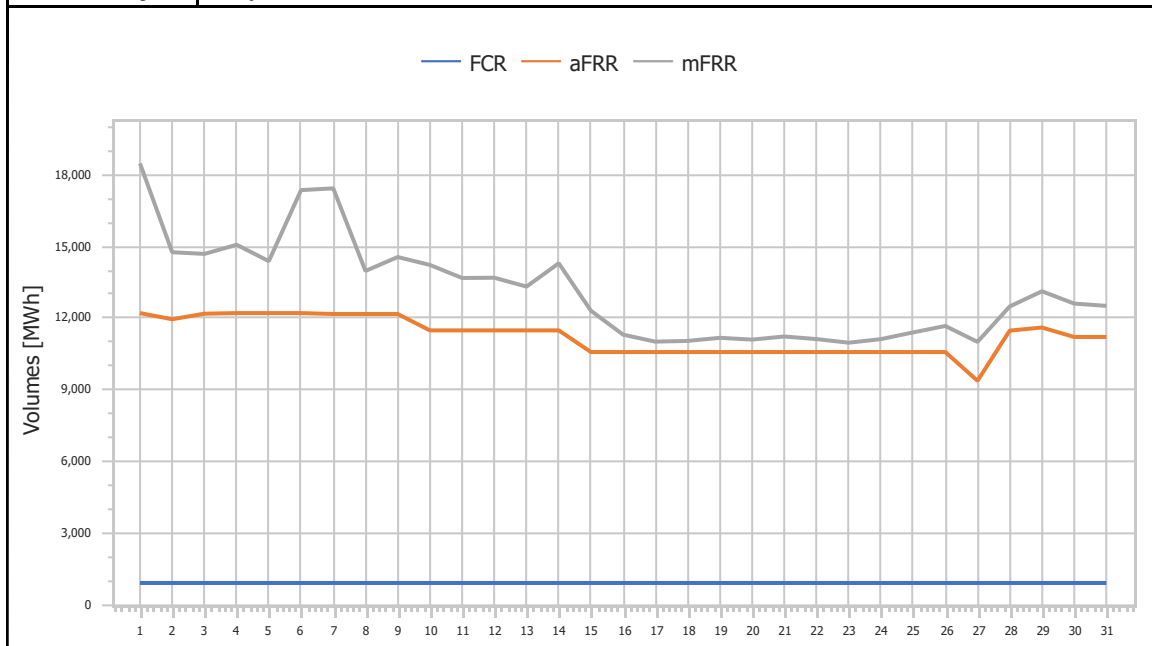
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| Ref No | Graph 3.8 |
| Title | Upward Capacity Reserves Prices |
| Scope | Integrated Scheduling Process (ISP) |
| Analysis | Daily |

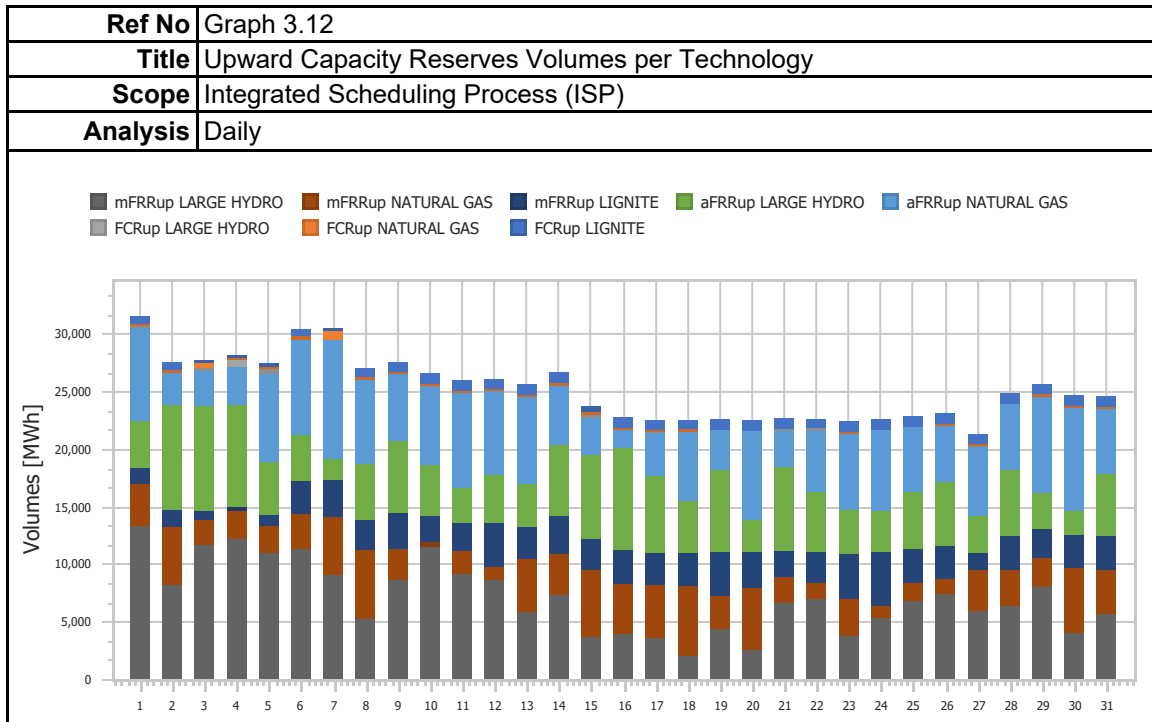
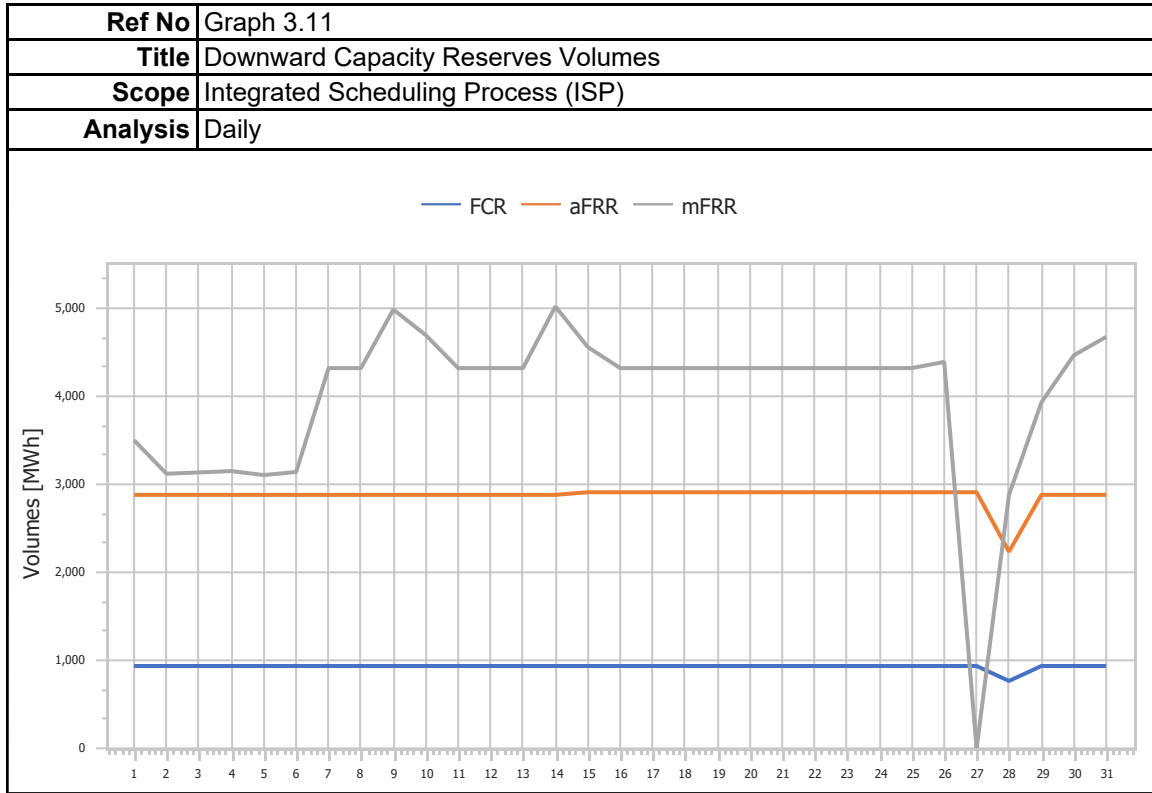


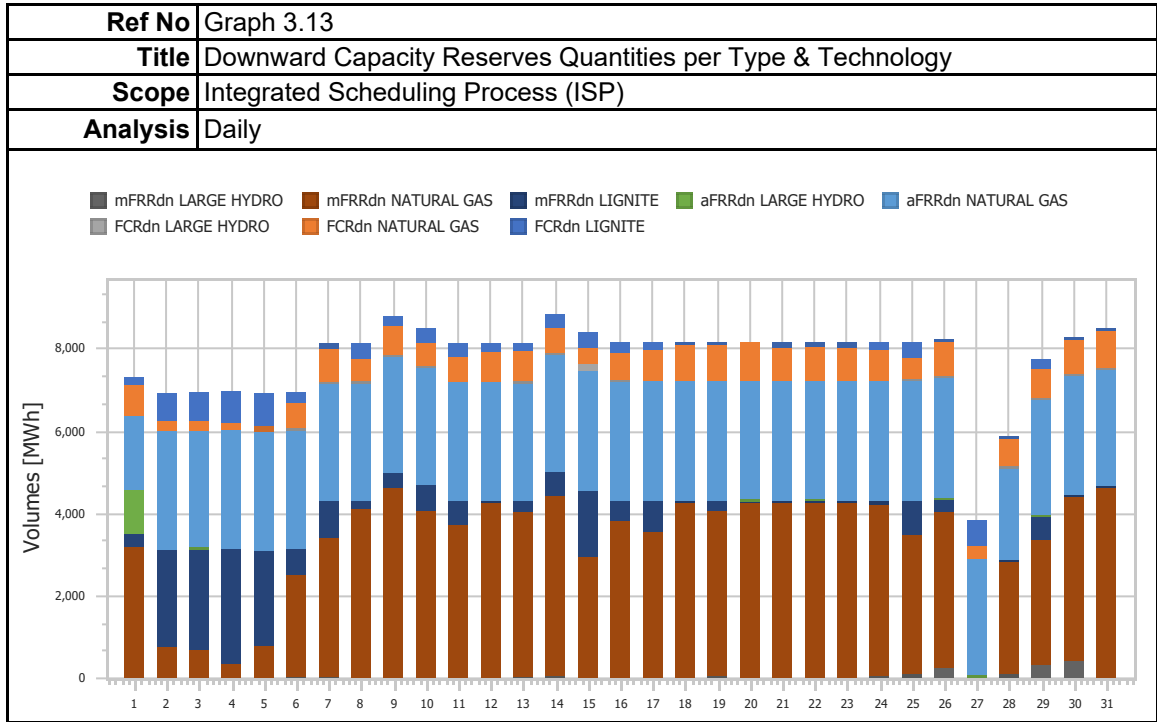
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| Ref No | Graph 3.9 |
| Title | Downward Capacity Reserves Prices |
| Scope | Integrated Scheduling Process (ISP) |
| Analysis | Daily |



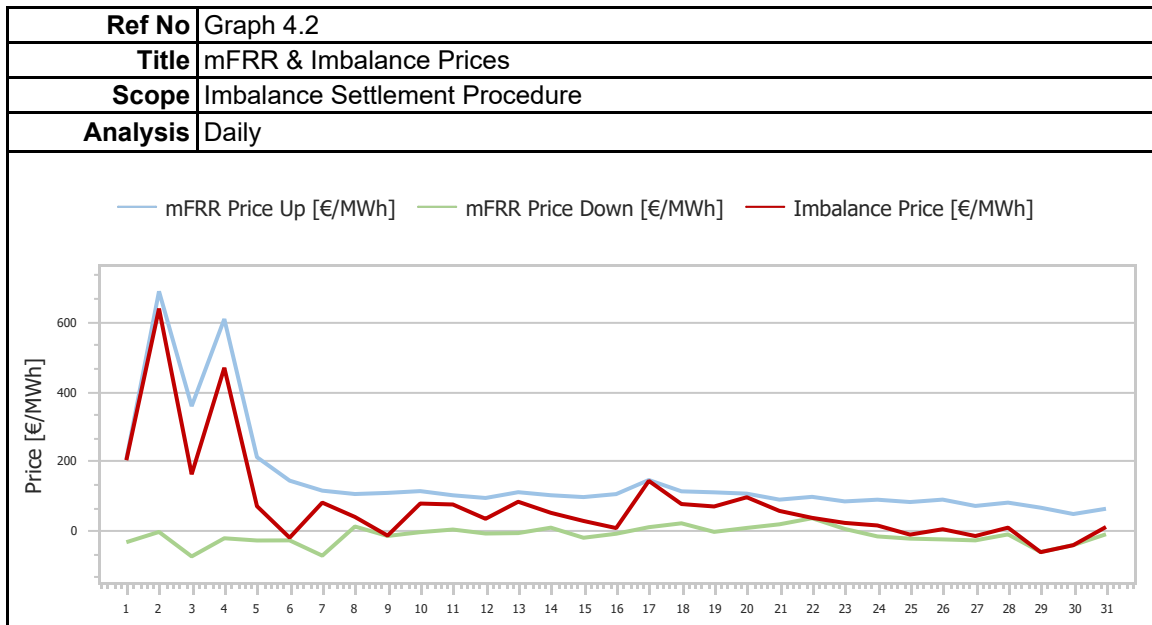
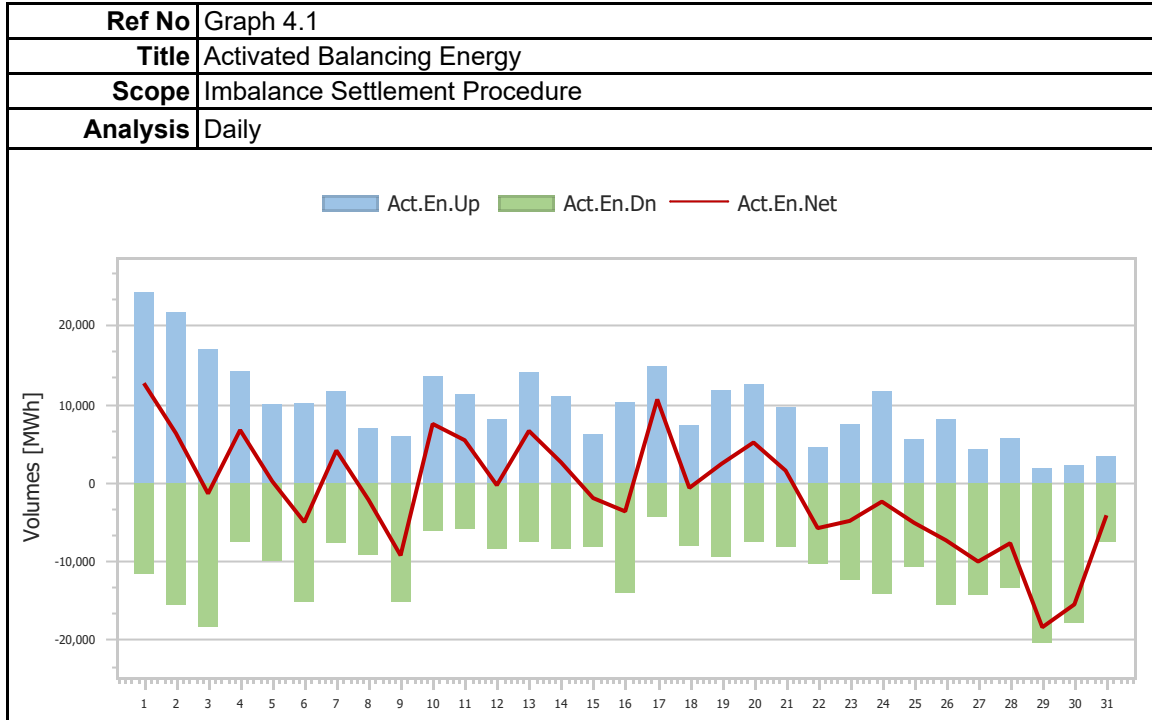
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| Ref No | Graph 3.10 |
| Title | Upward Capacity Reserves Volumes |
| Scope | Integrated Scheduling Process (ISP) |
| Analysis | Daily |



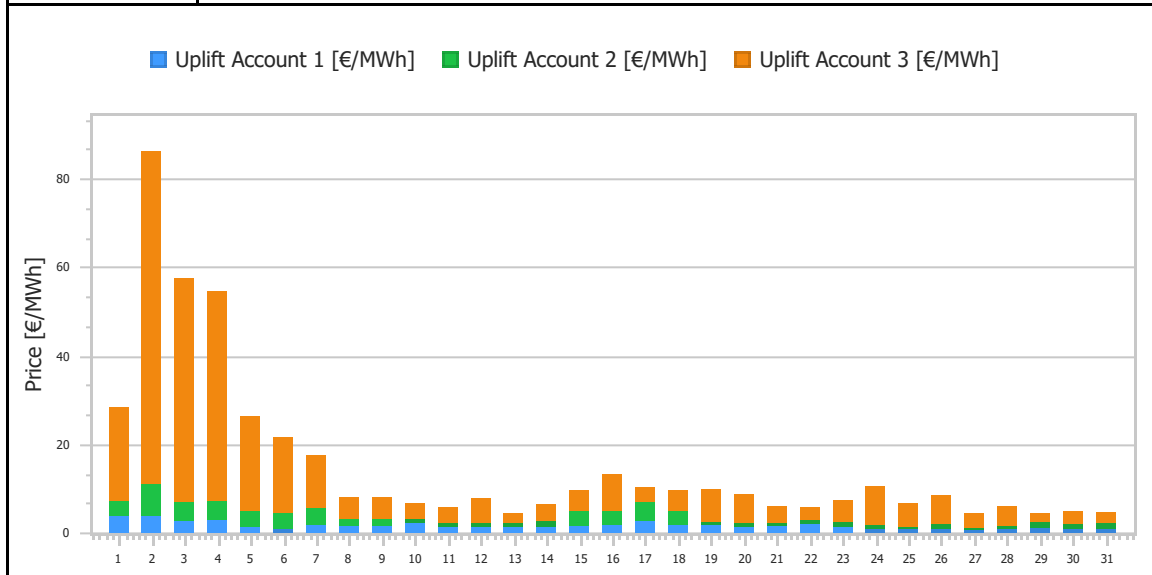




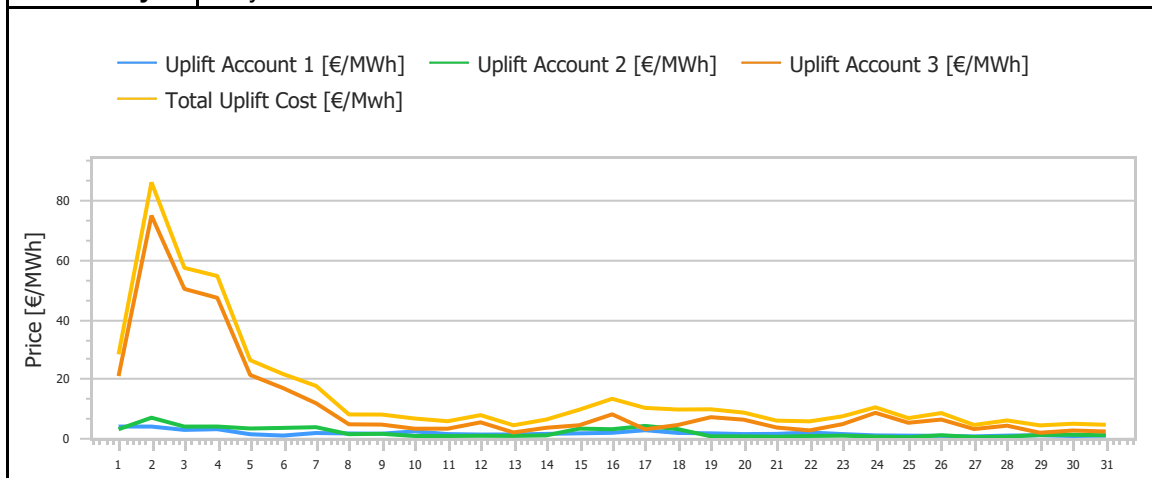
4. Imbalance Settlement Procedure



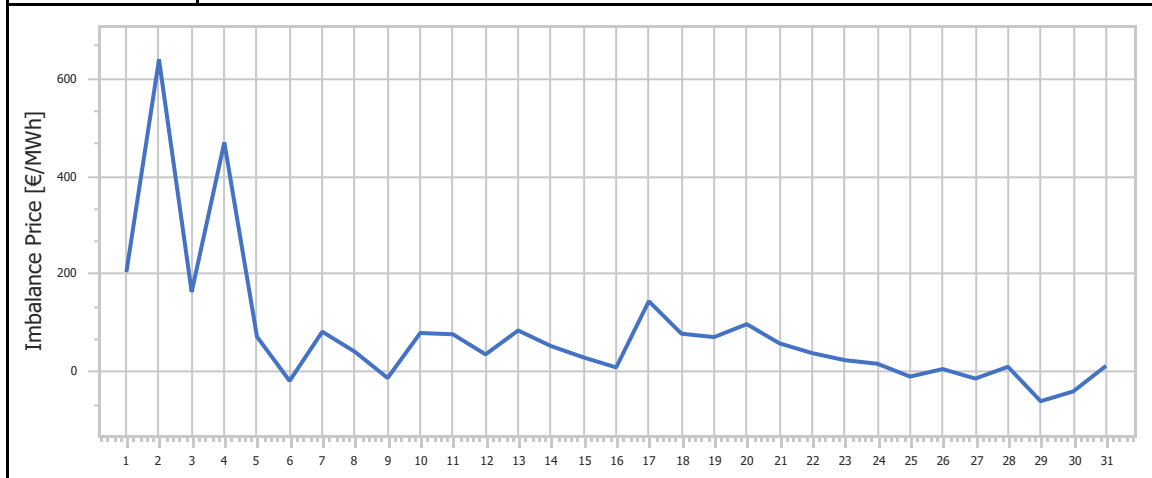
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| Ref No | Graph 4.3 |
| Title | Uplift Accounts Cost |
| Scope | Imbalance Settlement Procedure |
| Analysis | Daily |



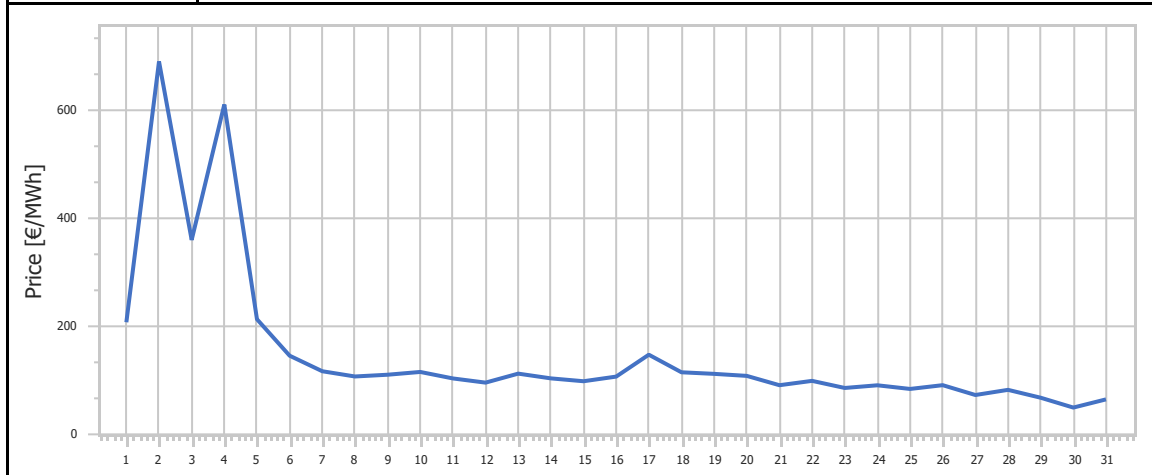
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| Ref No | Graph 4.4 |
| Title | Uplift Accounts Cost |
| Scope | Imbalance Settlement Procedure |
| Analysis | Daily |



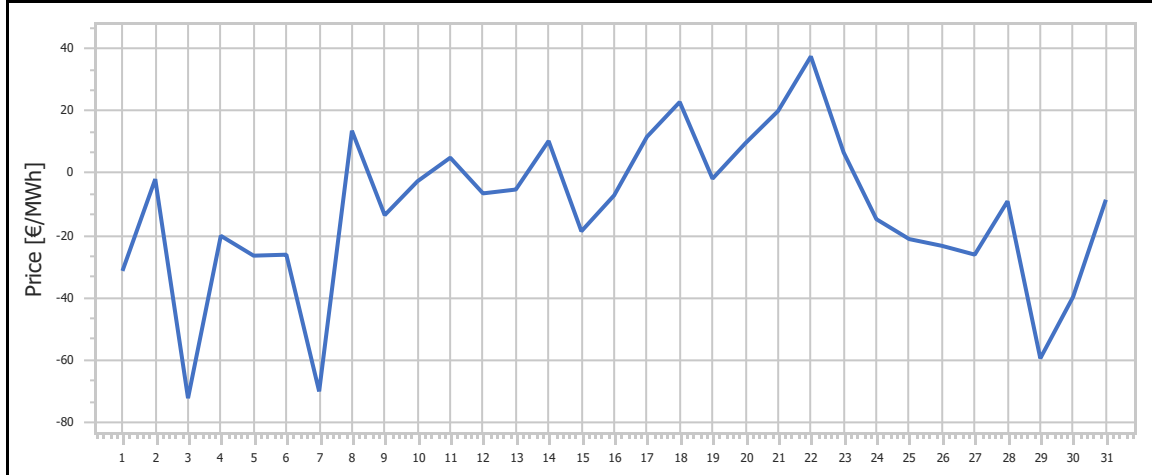
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| Ref No | Graph 4.5 |
| Title | Imbalance Price |
| Scope | Imbalance Settlement Procedure |
| Analysis | Daily |



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



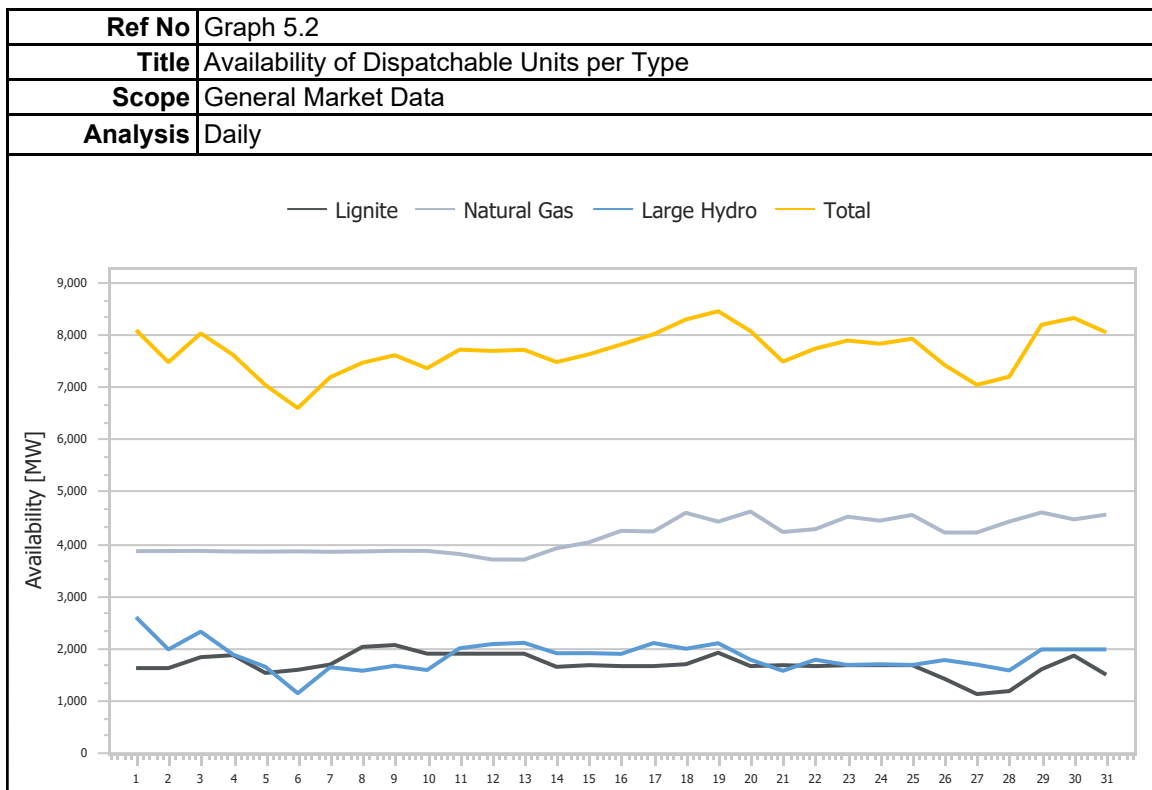
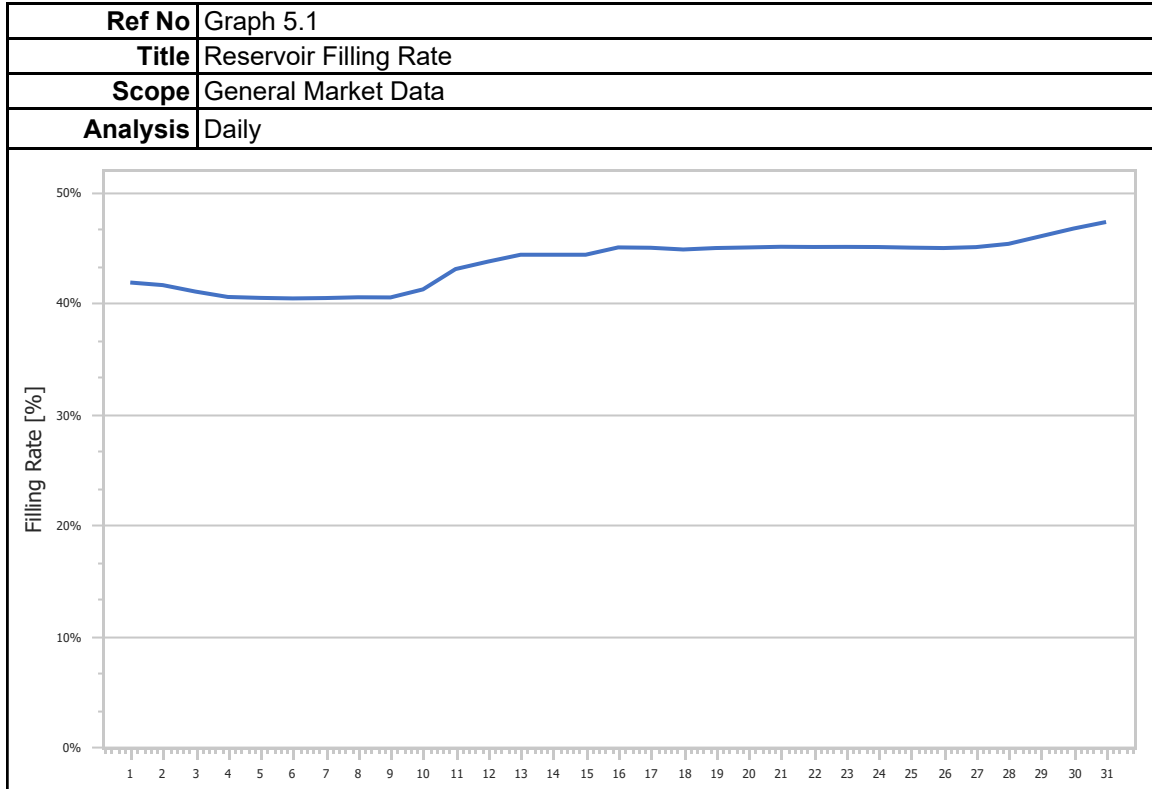
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| Ref No | Graph 4.7 |
| Title | mFRR Down Price |
| Scope | Imbalance Settlement Procedure |
| Analysis | Daily |



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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 | 791,806.631 | 16.35% | 50,286,036.78€ | 16.70% |
| Crete Conventional | - | 0.00% | - € | 0.00% |
| Natural Gas | 2,014,109.524 | 41.59% | 128,814,529.33€ | 42.78% |
| Large Hydro | 114,303.820 | 2.36% | 8,634,780.38€ | 2.87% |
| RES | 1,179,927.399 | 24.36% | 66,725,185.92€ | 22.16% |
| Crete Renewables | - | 0.00% | - € | 0.00% |
| Imports | 743,174.250 | 15.34% | 46,676,174.62€ | 15.50% |
| Total | 4,843,321.625 | 100.00% | 301,136,707.04€ | 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 | - | 4,843,321.62 | 791,806.63 | 2,014,109.52 | 114,303.82 | 1,179,927.40 | 743,174.25 |
| Average | 58.93 | 156,236.18 | 25,542.15 | 64,971.27 | 3,687.22 | 38,062.17 | 23,973.36 |
| Min | 35.75 | 132,799.36 | 14,832.00 | 39,261.42 | 2,095.00 | 16,518.81 | 14,786.02 |
| Min day | 27 | 26 | 27 | 26 | 1 | 23 | 1 |
| Max | 93.78 | 171,439.63 | 35,345.99 | 91,241.56 | 6,652.08 | 59,310.42 | 33,191.54 |
| Max day | 17 | 9 | 3 | 22 | 2 | 14 | 24 |
| Spread | 58.03 | 38,640.27 | 20,513.99 | 51,980.13 | 4,557.08 | 42,791.61 | 18,405.52 |
| Standard Deviation | 16.20 | 10,381.28 | 6,200.05 | 13,739.88 | 1,105.67 | 14,038.92 | 4,542.88 |

| 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 | 101,811.000 | 2.10% | 6,338,874.69€ | 2.10% |
| Crete Load | - | 0.00% | - € | 0.00% |
| HV Load | 683,257.173 | 14.07% | 39,465,889.74€ | 13.04% |
| MV Load | 791,362.296 | 16.30% | 50,403,394.11€ | 16.66% |
| LV Load | 2,753,026.709 | 56.71% | 175,234,804.19€ | 57.92% |
| PUMP | 37,045.000 | 0.76% | 1,392,469.55€ | 0.46% |
| Exports | 488,431.110 | 10.06% | 29,716,146.57€ | 9.82% |
| Total | 4,854,933.288 | 100.00% | 302,551,578.86€ | 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 | - | 4,854,933.29 | 101,811.00 | 683,257.17 | 791,362.30 | 2,753,026.71 | 37,045.00 | 488,431.11 |
| Average | 58.93 | 156,610.75 | 3,284.23 | 22,040.55 | 25,527.82 | 88,807.31 | 1,234.83 | 15,755.84 |
| Min | 35.75 | 132,799.23 | 2,784.50 | 20,602.74 | 16,870.90 | 73,072.12 | 625.00 | 7,523.13 |
| Min day | 27 | 26 | 26 | 25 | 26 | 26 | 22 | 5 |
| Max | 93.78 | 173,880.15 | 3,625.00 | 23,652.66 | 29,758.56 | 97,099.35 | 2,285.00 | 25,922.53 |
| Max day | 17 | 16 | 4 | 13 | 15 | 22 | 5 | 9 |
| Spread | 58.03 | 41,080.92 | 840.50 | 3,049.93 | 12,887.66 | 24,027.23 | 1,660.00 | 18,399.41 |
| Standard Deviation | 16.20 | 10,881.76 | 218.70 | 860.09 | 4,055.69 | 5,586.10 | 471.75 | 4,712.50 |

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 | 1,349,069.790 | 60.13% | 4,909,436.26€ | 58.43% | |
| FCR | 68,492.760 | 3.05% | 282,329.59€ | 3.36% | |
| mFRR | 825,842.710 | 36.81% | 3,210,048.86€ | 38.21% | |
| Total | 2,243,405.270 | 100.00% | 8,401,814.71€ | 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 | 348,656.390 | 37.50% | 378,889.50€ | 42.33% | |
| FCR | 110,822.210 | 11.92% | 93,071.75€ | 10.40% | |
| mFRR | 470,296.090 | 50.58% | 423,228.01€ | 47.28% | |
| Total | 929,774.690 | 100.00% | 895,189.26€ | 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 | 35,739.280 | 11.59% | 6,207,958.67€ | 9.07% |
| mFRR | 272,630.900 | 88.41% | 62,260,146.35€ | 90.93% |
| Total | 308,370.190 | 100.00% | 68,468,105.02€ | 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 | 111,766.250 | 32.85% | -1,932,362.04€ | 22.42% |
| mFRR | 228,418.600 | 67.15% | -6,686,050.51€ | 77.58% |
| Total | 340,184.850 | 100.00% | -8,618,412.55€ | 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 | 4,843,321.62 | 98.94% |
| IDMA1 | 50,768.33 | 1.04% |
| IDMA2 | 22,673.29 | 0.46% |
| IDMA3 | 10,043.24 | 0.21% |
| IDM (Total) | 83,484.85 | 1.71% |
| Balancing Energy (Up) | 308,370.19 | 6.30% |
| Balancing Energy (Dn) | 340,184.85 | 6.95% |
| Balancing Energy (Total) | -31,814.66 | -0.65% |
| Total | 4,894,991.81 | 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 | 301,136,707.04€ | 76.70% |
| IDMA1 | 3,220,564.03€ | 0.82% |
| IDMA2 | 1,304,163.78€ | 0.33% |
| IDMA3 | 589,394.81€ | 0.15% |
| IDM (Total) | 5,114,122.62€ | 1.30% |
| Balancing Capacity (Up) | 8,401,814.71€ | 2.14% |
| Balancing Capacity (Dn) | 895,189.26€ | 0.23% |
| Balancing Capacity (Total) | 9,297,003.98€ | 2.37% |
| Balancing Energy (Up) | 68,468,105.02€ | 17.44% |
| Balancing Energy (Dn) | -8,618,412.55€ | -2.20% |
| Balancing Energy (Total) | 77,086,517.57€ | 19.63% |
| Balancing Market (Total) | 86,383,521.55€ | 22.00% |
| Total | 392,634,351.21€ | 100.00% |