

## Ex Ante Bid Data

*Note: The shaded rows indicate the price-quantity pairs that exist below minimum stable generation. These bids are irrelevant to scheduling and determining shadow prices, but are relevant to determining SMP and are used in settlement.*

### Unit 1: Thermal Unit

| Period 1 |              | Period 2 |              | Period 3 |              |
|----------|--------------|----------|--------------|----------|--------------|
| Price    | Inc Quantity | Price    | Inc Quantity | Price    | Inc Quantity |
| 10       | 50           | 10       | 50           | 10       | 50           |
| 10       | 50           | 10       | 50           | 10       | 50           |
| 19.999   | 100          | 19.999   | 100          | 19.999   | 100          |
| 30       | 50           | 30       | 50           |          |              |

|                             |       |                         |    |                    |     |
|-----------------------------|-------|-------------------------|----|--------------------|-----|
| Start-up Cost per start (€) | 1,000 | No Load Cost (€/period) | 25 | Energy Limit (MWh) | N/A |
|-----------------------------|-------|-------------------------|----|--------------------|-----|

### Unit 2: Hydro Unit

| Period 1              |              | Period 2              |              | Period 3              |              |
|-----------------------|--------------|-----------------------|--------------|-----------------------|--------------|
| Price                 | Inc Quantity | Price                 | Inc Quantity | Price                 | Inc Quantity |
| 10                    | 50           | 10                    | 50           | 10                    | 50           |
| 20.001                | 10           | 20.001                | 10           | 20.001                | 10           |
| 20.001                | 40           | 20.001                | 40           | 20.001                | 40           |
| 25                    | 100          | 25                    | 100          | 25                    | 100          |
| Energy Limited Period |              | Energy Limited Period |              | Energy Limited Period |              |

|                             |   |                         |   |                    |     |
|-----------------------------|---|-------------------------|---|--------------------|-----|
| Start-up Cost per start (€) | 0 | No Load Cost (€/period) | 0 | Energy Limit (MWh) | 120 |
|-----------------------------|---|-------------------------|---|--------------------|-----|

### Unit 3a: Interconnector Unit

| Period 1 |              | Period 2 |              | Period 3 |              |
|----------|--------------|----------|--------------|----------|--------------|
| Price    | Inc Quantity | Price    | Inc Quantity | Price    | Inc Quantity |
| 0        | 0            | N/A      | -40          | 0        | 0            |
|          |              | 5        | 20           |          |              |
|          |              | 40       | 40           |          |              |
|          |              | 50       | 20           |          |              |

### Unit 3b: Interconnector Unit

| Period 1 |              | Period 2 |              | Period 3 |              |
|----------|--------------|----------|--------------|----------|--------------|
| Price    | Inc Quantity | Price    | Inc Quantity | Price    | Inc Quantity |
| 0        | 0            | N/A      | -60          | 0        | 0            |
|          |              | 55       | 60           |          |              |
|          |              | 65       | 60           |          |              |
|          |              |          |              |          |              |

#### Unit 4: Demand Side Unit

| Period 1 |              | Period 2 |              | Period 3 |              |
|----------|--------------|----------|--------------|----------|--------------|
| Price    | Inc Quantity | Price    | Inc Quantity | Price    | Inc Quantity |
| 120      | 100          | 120      | 100          | 120      | 100          |
|          |              |          |              |          |              |
|          |              |          |              |          |              |

|                             |     |                         |   |                    |     |
|-----------------------------|-----|-------------------------|---|--------------------|-----|
| Start-up Cost per start (€) | 500 | No Load Cost (€/period) | 0 | Energy Limit (MWh) | N/A |
|-----------------------------|-----|-------------------------|---|--------------------|-----|

#### Real-Time Data

#### Generator Dispatch Schedules- MW

| Unit                               | Period 1 (MW) | Period 2 (MW) | Period 3 (MW) |
|------------------------------------|---------------|---------------|---------------|
| 1 (predictable price maker)        | 194           | 212           | 200           |
| 2 (variable price maker)           | 60            | 60            | 120           |
| 3a (predictable price maker)       | 0             | 40            | 0             |
| 3b (predictable price maker)       | 0             | -10           | 0             |
| 4 (predictable price maker)        | 0             | 20            | 92            |
| 5 (predictable price taker)        | 14            | 15            | 15            |
| 6 (variable price taker, non-wind) | 8             | 6             | 5             |
| 7 (variable price taker, wind)     | 2             | 2             | 2             |
| 8 (autonomous generator)           | 5             | 6             | 6             |
| <b>TOTAL</b>                       | <b>283</b>    | <b>351</b>    | <b>440</b>    |

#### Generator Meter Data - MWh

| Unit                               | Period 1 (MWh) | Period 2 (MWh) | Period 3 (MWh) |
|------------------------------------|----------------|----------------|----------------|
| 1 (predictable price maker)        | 92             | 106            | 95             |
| 2 (variable price maker)           | 35             | 30             | 65             |
| 3a (predictable price maker)       | 0              | 20             | 0              |
| 3b (predictable price maker)       | 0              | -5             | 0              |
| 4 (predictable price maker)        | 0              | 10             | 46             |
| 5 (predictable price taker)        | 7              | 7.5            | 7.5            |
| 6 (variable price taker, non-wind) | 4              | 3              | 2.5            |
| 7 (variable price taker, wind)     | 1              | 1              | 1              |
| 8 (autonomous generator)           | 2.5            | 3              | 3              |
| <b>TOTALS</b>                      | <b>141.5</b>   | <b>175.5</b>   | <b>220</b>     |

### Generator Meter Data - MW

| Unit                               | Period 1<br>(MW) | Period 2<br>(MW) | Period 3<br>(MW) |
|------------------------------------|------------------|------------------|------------------|
| 1 (predictable price maker)        | 184              | 212              | 190              |
| 2 (variable price maker)           | 70               | 60               | 130              |
| 3a (predictable price maker)       | 0                | 40               | 0                |
| 3b (predictable price maker)       | 0                | -10              | 0                |
| 4 (predictable price maker)        | 0                | 20               | 92               |
| 5 (predictable price taker)        | 14               | 15               | 15               |
| 6 (variable price taker, non-wind) | 8                | 6                | 5                |
| 7 (variable price taker, wind)     | 2                | 2                | 2                |
| 8 (autonomous generator)           | 5                | 6                | 6                |
| <b>TOTALS</b>                      | <b>283</b>       | <b>351</b>       | <b>440</b>       |

## Ex Post Bid Data

*Note: The shaded rows indicate the price-quantity pairs that exist below minimum stable generation. These bids are irrelevant to scheduling and determining shadow prices, but are relevant to determining SMP and are used in settlement.*

### Unit 1: Thermal Unit

| Period 1 |              | Period 2 |              | Period 3 |              |
|----------|--------------|----------|--------------|----------|--------------|
| Price    | Inc Quantity | Price    | Inc Quantity | Price    | Inc Quantity |
| 10       | 50           | 10       | 50           | 10       | 50           |
| 10       | 50           | 10       | 50           | 10       | 50           |
| 19.999   | 100          | 19.999   | 100          | 19.999   | 100          |
| 30       | 50           | 30       | 50           |          |              |

|                             |       |                         |    |                    |     |
|-----------------------------|-------|-------------------------|----|--------------------|-----|
| Start-up Cost per start (€) | 1,000 | No Load Cost (€/period) | 25 | Energy Limit (MWh) | N/A |
|-----------------------------|-------|-------------------------|----|--------------------|-----|

### Unit 2: Hydro Unit

| Period 1              |              | Period 2              |              | Period 3              |              |
|-----------------------|--------------|-----------------------|--------------|-----------------------|--------------|
| Price                 | Inc Quantity | Price                 | Inc Quantity | Price                 | Inc Quantity |
| 10                    | 50           | 10                    | 50           | 10                    | 50           |
| 20.001                | 10           | 20.001                | 10           | 20.001                | 10           |
| 20.001                | 40           | 20.001                | 40           | 20.001                | 40           |
| 25                    | 100          | 25                    | 90           | 25                    | 100          |
| Energy Limited Period |              | Energy Limited Period |              | Energy Limited Period |              |

|                             |   |                         |   |                    |     |
|-----------------------------|---|-------------------------|---|--------------------|-----|
| Start-up Cost per start (€) | 0 | No Load Cost (€/period) | 0 | Energy Limit (MWh) | 130 |
|-----------------------------|---|-------------------------|---|--------------------|-----|

### Unit 3a: Interconnector Unit

| Period 1 |              | Period 2 |              | Period 3 |              |
|----------|--------------|----------|--------------|----------|--------------|
| Price    | Inc Quantity | Price    | Inc Quantity | Price    | Inc Quantity |
| 0        | 0            | N/A      | 0            | 0        | 0            |
|          |              | 40       | 20           |          |              |
|          |              | 50       | 20           |          |              |
|          |              |          |              |          |              |

### Unit 3b: Interconnector Unit

| Period 1 |              | Period 2 |              | Period 3 |              |
|----------|--------------|----------|--------------|----------|--------------|
| Price    | Inc Quantity | Price    | Inc Quantity | Price    | Inc Quantity |
| 0        | 0            | N/A      | -10          | 0        | 0            |
|          |              | 55       | 10           |          |              |
|          |              |          |              |          |              |
|          |              |          |              |          |              |

#### Unit 4: Demand Side Unit

| Period 1 |              | Period 2 |              | Period 3 |              |
|----------|--------------|----------|--------------|----------|--------------|
| Price    | Inc Quantity | Price    | Inc Quantity | Price    | Inc Quantity |
| 120      | 100          | 120      | 100          | 120      | 100          |
|          |              |          |              |          |              |
|          |              |          |              |          |              |
|          |              |          |              |          |              |

|                             |     |                         |   |                    |     |
|-----------------------------|-----|-------------------------|---|--------------------|-----|
| Start-up Cost per start (€) | 500 | No Load Cost (€/period) | 0 | Energy Limit (MWh) | N/A |
|-----------------------------|-----|-------------------------|---|--------------------|-----|

#### Ex Post Schedules

| Period              | 1  | 2  | 3      |
|---------------------|----|----|--------|
| Ex Post SMP (€/MWh) | 20 | 50 | 133.89 |

| Unit | Period 1<br>MSQ<br>(MW) | Period 2<br>MSQ<br>(MW) | Period 3<br>MSQ<br>(MW) |
|------|-------------------------|-------------------------|-------------------------|
| 1    | 193                     | 250                     | 200                     |
| 2    | 60                      | 60                      | 140                     |
| 3a   | 0                       | 23                      | 0                       |
| 3b   | 0                       | -10                     | 0                       |
| 4    | 0                       | 0                       | 72                      |

#### Supplier Unit Meter Data

##### Supplier Unit Meter Data – MWh

| Unit            | Period 1<br>(MWh) | Period 2<br>(MWh) | Period 3<br>(MWh) |
|-----------------|-------------------|-------------------|-------------------|
| Supplier Unit 1 | -100              | -140              | -180              |
| Supplier Unit 2 | -35               | -32               | -37               |

## Definitions

| Term/Abbreviation            | Meaning   |
|------------------------------|---|
| Commercial Offer Data        | Data of a commercial nature submitted by market participants, e.g. bid data.  |
| Demand Side Unit (DSU)       | A load or group of loads that can be curtailed upon request by a TSO. To qualify such a load or group of loads must meet the technical and operational requirements prior to registering as such.                     |
| Energy Limits                | Limit of energy a unit can produce within a period of time due to operational constraints.  |
| EPUS                         | Ex Post Unconstrained Schedule  |
| Hydro Unit                   | A unit which generates electricity from water flow (e.g. run-of-river).   |
| IMS                          | Initial Market Schedule   |
| Interconnector               | The physical link between the SEM and another market (e.g. Moyle).  |
| Interconnector Administrator | The party that manages an Interconnector  |
| Interconnector Unit          | Registered Unit which handles the settlement of Interconnector transactions for an Interconnector User holding transmission capacity. Multiple Interconnector Units can be associated with an Interconnector.         |
| MITs                         | Moyle Interconnector Trading System   |
| MIUN                         | Modified Interconnector User Nominations (determined by MITs)   |
| MSQ                          | Market Schedule Quantity in units of MW determined by EPUS.   |
| No Load Costs                | Fixed cost per Trading Period involved in running a generation unit at zero net output. These are not applied to demand side units.   |
| Predictable Unit             | Generation Unit that is dispatchable or controllable (e.g. most thermal units).   |
| Price Maker                  | A Unit that follows dispatch instructions and is eligible to set price in both the ex-ante and ex-post market schedules.  |
| Price Quantity Pairs         | Incremental price/quantity pairs for generation and demand side unit bids. For generators these values provide a measure of incremental running costs and are net of unit load (i.e. net of “load behind the meter”). |
| Price Taker                  | A participant who is not eligible to set price in either the ex-ante or ex-post market schedule. (All Autonomous Units are Price Takers).   |
| Priority Dispatch            | A unit which is dispatched first in a tied situation or a unit that is dispatched before units without Priority Dispatch.   |
| Pump Storage Unit            | A unit connected to a reservoir that can act as load while pumping water (or energy) into the reservoir or as a generator while releasing water (or energy).  |
| SEM                          | Single Electricity Market)  |
| SMO                          | Single Market Operator  |
| SMP                          | The prices used in settlement of the SEM energy market.   |
| Start Up Costs               | Start-up costs for cold, warm, or hot states. At least one (1) and up to three (3) values provided. Demand side units have just one, reflecting the cost of activating a demand reduction.                            |
| Technical Offer Data         | Data submitted by a market participant that describes the technical capabilities and limits of generators and demand side units.  |
| Thermal Unit                 | A conventional unit which is usually powered by fossil fuels.   |
| UUC                          | Unconstrained Unit Commitment – the software that determines IMP and EPUS.  |
| Variable Unit                | Generation Unit that is not dispatchable or controllable (e.g. usually wind power units).   |