



What is a price independent order and how it affects the market?

1. What is a price independent order:

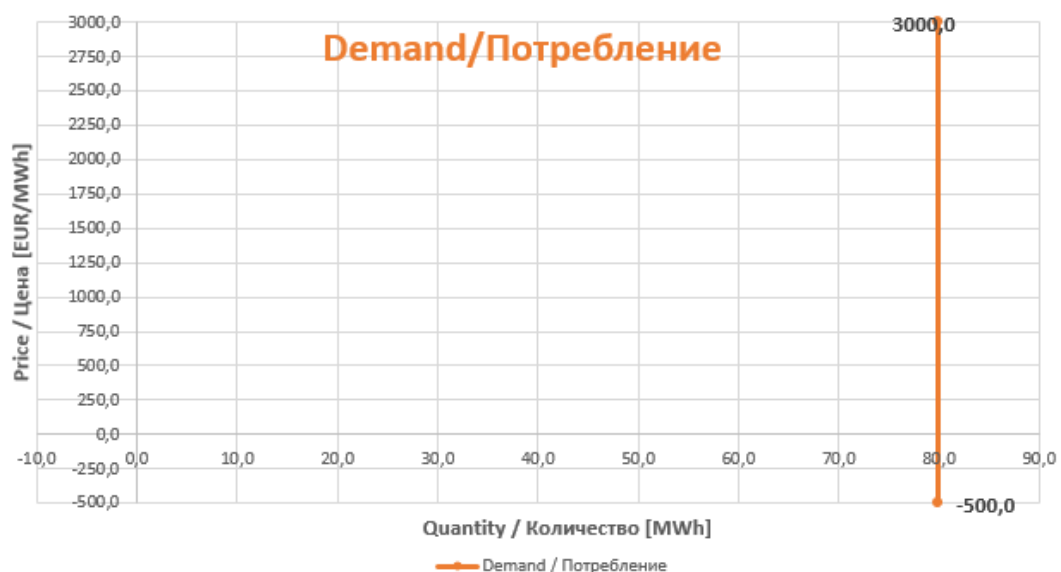
The price independent order is an order for purchase or sale, where the Market participant does not set price limits besides the minimal and the maximal price set by the exchange, thus he is willing to accept any price determined by the price calculation algorithm. The price range in most European power exchanges is unified. For the exchanges using the EUPHEMIA algorithm the minimal price is set at -500 EUR/MWh (-1000 BGN/MWh) and the maximal at +3000 EUR/MWh (+6000 BGN/MWh).

An example for price independent order:

Type	Hourly	
Exported At	05/01/2017 08:17 CET	
Date	06/01/2017	
Time Zone	CET	
Member	Your Company EAD	
Portfolio	BG-Your-BG	
Area	Bulgaria	
Currency	EUR	
Price Steps	-500,0	3000,0
Hour 1	80,0	80,0
Hour 2		
Hour 3		
Hour 4		

This order means that the Market participant is willing to buy 80 MWh at any price and he will buy this quantity with certainty as long as there is sufficient supply on the market.

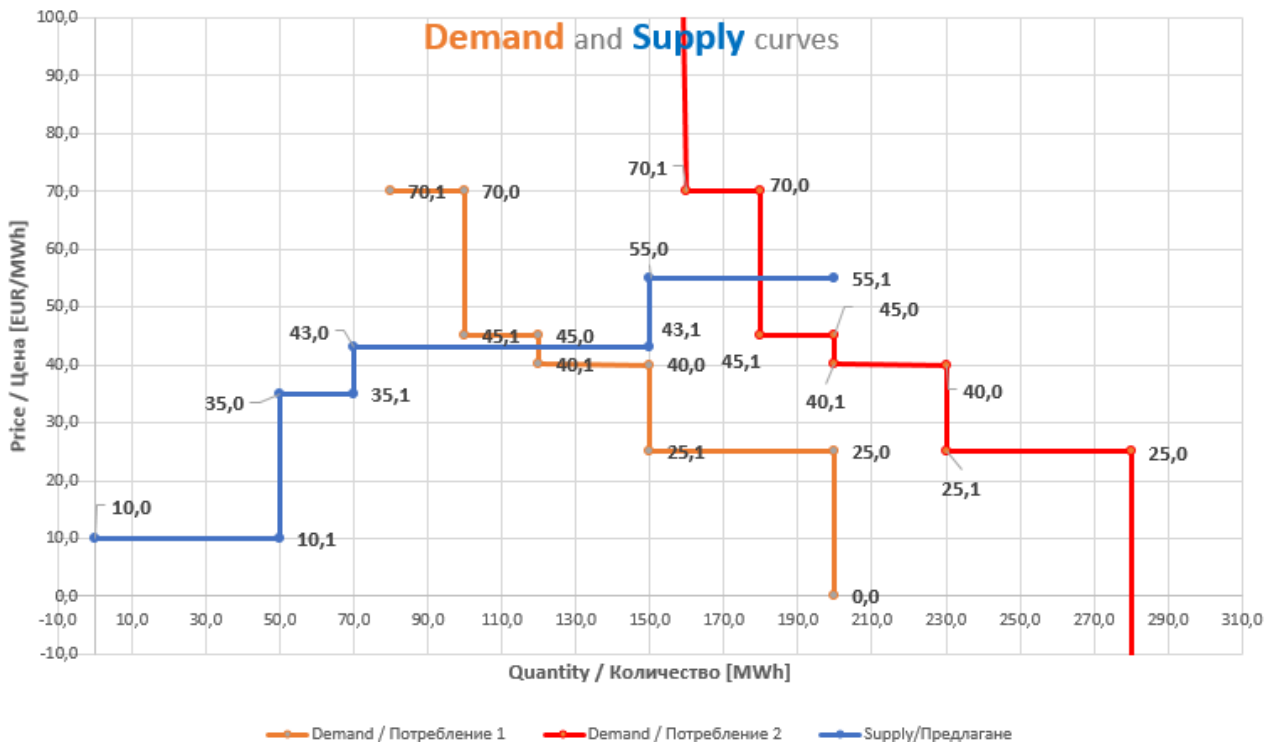
On the figure below we see the graphical representation of the price independent order from our example above:



2. How the price independent order affects the market:

EXAMPLE 1:

We will use the example from Question „How is the price on the Day-ahead market formed?“, where based on the submitted orders for purchase and sale for Hour 1 the clearing price was determined at 43,06 EUR/MWh and the volume at 120 MWh (the blue and the orange curves on the graphic below).



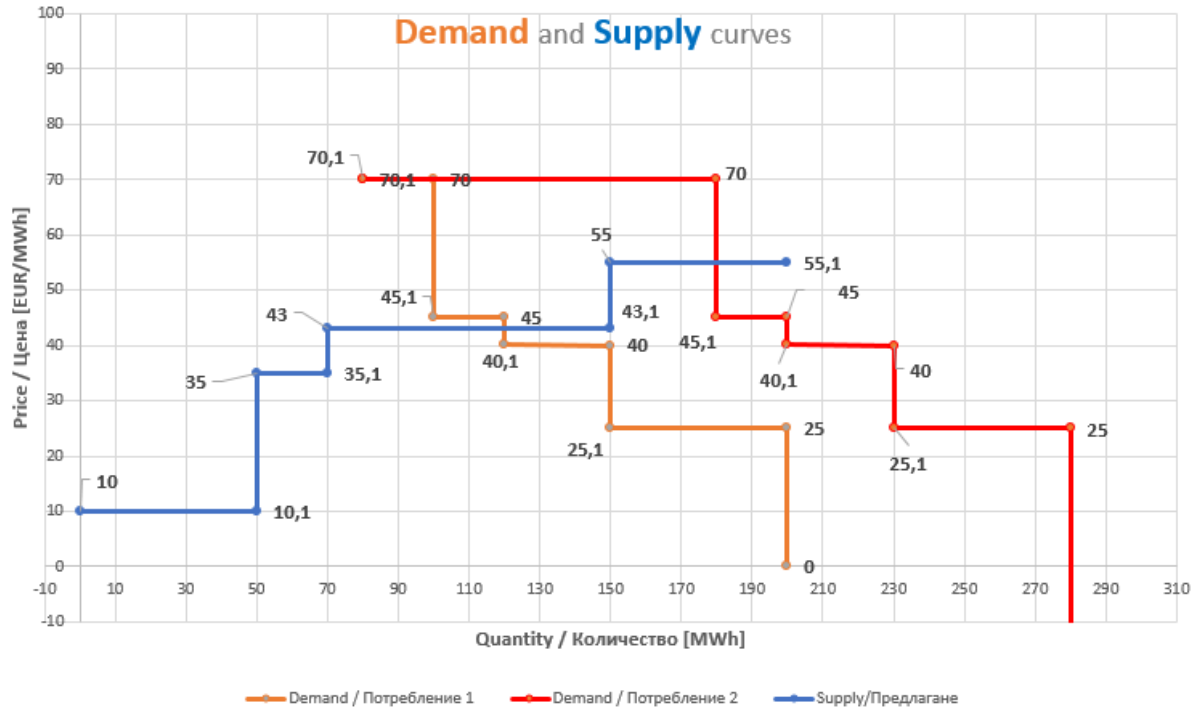
If we add the price independent order for purchase of 80 MWh to this example, the new demand curve will be represented by the red line on the graphic (the orange curve will be shifted by 80 MWh to the right) and the demand and supply curves will intersect at another point. This intersection point will determine the new clearing price of **55,05 EUR/MWh** and the new traded volume will be **180 MWh**.

EXAMPLE 2:

The influence of the price independent order on the clearing price and volume in the example above is equal to that of a price limit order for purchase with the same quantity and a price limit of up to 70 EUR/MWh. This is an example of how that order would look like:

Type	Hourly			
Exported At	05/01/2017 08:17 CET			
Date	06/01/2017			
Time Zone	CET			
Member	Your Company EAD			
Portfolio	BG-Your-BG			
Area	Bulgaria			
Currency	EUR			
Price Steps	-500,0	70,0	70,1	3000,0
Hour 1	80,0	80,0	0,0	0,0
Hour 2				
Hour 3				
Hour 4				

That order would change the red Demand curve in the following way:



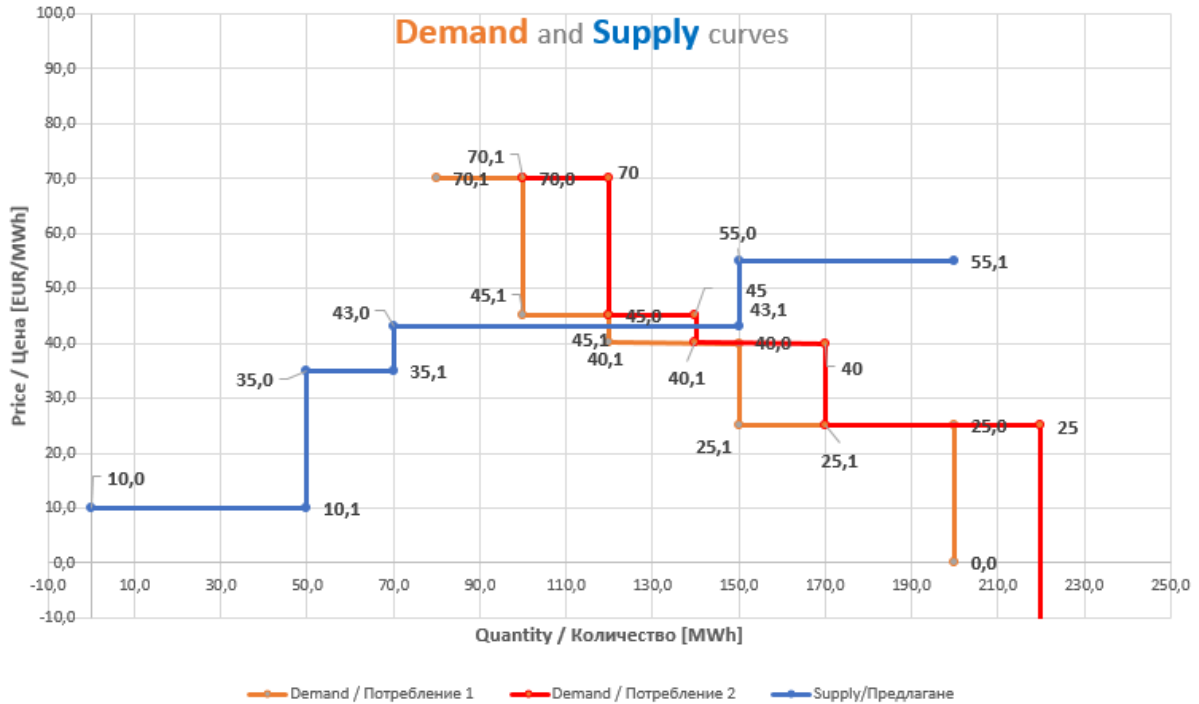
And the new price in comparison with the orange Demand curve will be **55,05 EUR/MWh** and the traded volume will increase from 120 MWh to **180 MWh**, just as in our **EXAMPLE 1**.

EXAMPLE 3:

A Market participant has submitted a price independent order for purchase of 20 MWh in Hour 1:

Type	Hourly	
Exported At	05/01/2017 08:17 CET	
Date	06/01/2017	
Time Zone	CET	
Member	Your Company EAD	
Portfolio	BG-Your-BG	
Area	Bulgaria	
Currency	EUR	
Price Steps	-500,0	3000,0
Hour 1	20,0	20,0
Hour 2		
Hour 3		
Hour 4		

That order would change the red Demand curve in the following way:



The resulting market clearing price would be close to the one in the example from Question 1 „How is the price on the Day-ahead market formed?“ and would amount to **43,09 EUR/MWh** while the traded volume would increase to **140 MWh**.

CONCLUSION:

There is no simple answer to the question “How the price independent order affects the market?”. The market clearing price and quantity depend on the supply and demand in any given hour of delivery and the intersection of the aggregated supply and demand curves.

As a rule, the price independent orders for purchase are shifting the demand curve to the right, therefore lead to higher prices – the difference could be big or very small, but the same thing goes for price limited orders where the limit is set higher than the average limit of the other market participants.

The price independent orders for sale have similar effect but in the opposite direction – they shift the supply curve to lower price levels and can result in lower, or even negative prices.