

# MONTHLY DAS TRADING SYSTEM REPORT

*JANUARY 2019*

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## Monthly Report Highlights

### Participation in DAS

- In Participants' Register for month January 2019, there were: **64** Participants from which **47** were active during the month: **8** Producers, **25** Suppliers and **14** Traders.

### System Marginal Price (SMP)

- The average SMP for January was 4,03 €/MWh **higher** than the SMP of the previous month but remained significantly **higher** (+21,78 €/MWh) comparing to the same month of the previous year and the average of the last twelve months (+13,13 €/MWh).

### DAS Energy Balance

- Comparing to January 2018, power generation from *Natural Gas Units*, *Hydro Units* and *Exports* was remarkably increased (**58%**, **60%** and **191%** respectively).
- Electricity demand slightly increased (**7%**) relative to January 2018 demand. The highest load for January 2019 appeared at 19:00 07/01/2019 (**8975 MW**) while the lowest load was **4548 MW** at 05:00 28/01/2019.
- The monthly DAS value for January reached **434,7 M EUR** while the daily average DAS value was **14 M EUR**.

### Domestic Power Generation

- *Natural Gas Units* provided the most amount of energy for 30 days while *Lignite Units* provided the second largest share of generation.
- The largest production shares in January were: *PPC* (**52,53%**), *DAPEEP* (**18,04%**) and *MYTILINEOS* (**6,76%**)

### Supply of Electricity

- The daily average load for January was **162.130 MWh**.
- The monthly consumption share of *PPC* in January was **79,76%** (High Voltage: 9,58%, Medium Voltage: 16,41%, Low Voltage: 53,77%). The second higher consumption share belongs to *MYTILINEOS* **4,17%** (HV: 0,02%, MV: 1,87%, LV: 2,28%) and the third to *HERON* **4,09%** (HV: 0%, MV: 1,74%, LV: 2,35%). The relevant numbers for the previous month were *PPC*: 80,29%, *HERON*: 4,05% and *MYTILINEOS*: 4,06%.

### Electricity Trading

- Total energy injections from Imports amounted **941 TWh** while Exports reached **661 TWh**. The Interconnection with Italy provided the most Imports (**44,5%** of total Imports) and the Interconnection with F.Y.R.O.M. the most Exports (**37,5%** of total Exports).
- In January, the net positions (Imports-Exports) for Interconnections of Italy, Bulgaria and Turkey were **positive** while the Interconnections with F.Y.R.O.M. and Albania were **negative**.
- For the Interconnection with Italy, wrong direction energy flows were scheduled for **744 hours** (100% of total month hours) while for the Interconnection with Bulgaria wrong direction energy flows were scheduled for **353 hours** (47% of total month hours).

## 1. Participation in DAS

### 1.1 Participants Register

The following tables present the registered Participants from the Participants' Register at the end of the month. Participants who participated in DAS during the month with the specific Participant Type which is stated at the top of each table are indicated with blue color.

#### Producers

S/N	PARTICIPANT NAME	ABBREVIATION
1	ELPEDISON ΠΑΡΑΓΩΓΗ ΗΛΕΚΤΡΙΚΗΣ ΕΝΕΡΓΕΙΑΣ Α.Ε.	ELPEDISON
2	ΔΗΜΟΣΙΑ ΕΠΙΧΕΙΡΗΣΗ ΗΛΕΚΤΡΙΣΜΟΥ Α.Ε.	PPC
3	ΗΡΩΝ II ΒΟΙΩΤΙΑΣ Α.Ε.	HERON_II_VIOTIAS
4	ΗΡΩΝ ΘΕΡΜΟΗΛΕΚΤΡΙΚΗ Α.Ε	HERON
5	ΚΟΡΙΝΘΟΣ POWER Α.Ε.	KORINTHOS_POWER
6*	ΛΙΓΝΙΤΙΚΗ ΜΕΓΑΛΟΠΟΛΗΣ Α.Ε.	LIG_MEGALOPOLIS
7	ΛΙΓΝΙΤΙΚΗ ΜΕΛΙΤΗΣ Α.Ε.	LIG_MELITIS
8	ΜΥΤΙΛΗΝΑΙΟΣ ΑΝΩΝΥΜΟΣ ΕΤΑΙΡΕΙΑ – ΟΜΙΛΟΣ ΕΠΙΧΕΙΡΗΣΕΩΝ	MYTILINEOS

\* LIG\_MEGALOPOLIS, holder of production license, participated also in DAS as Supplier for serving the auxiliary loads of the generation unit.

The RES and GOs Operator S.A. (DAPEEP) participated in DAS as a “Producer”, as the credits for the RES production are transferred to the RES Special Account of Article 40 of Law 2773/1999.

#### Suppliers

S/N	PARTICIPANT NAME	ABBREVIATION
1*	ALPIQ ENERGY SE	ALPIQ_ENERGY
2	ECONOMIC GROWTH A.E.	GROWTH
3	EDELWEISS ENERGIA S.P.A.	EDELWEISS
4*	ELECTRADE S.P.A.	ELECTRADE SPA
5*	ELPEDISON ΠΑΡΑΓΩΓΗ ΗΛΕΚΤΡΙΚΗΣ ΕΝΕΡΓΕΙΑΣ Α.Ε.	ELPEDISON
6	ENEL GREEN POWER HELLAS ΠΡΟΜΗΘΕΙΑ Α.Ε.	EGPH_SUPPLY
7	EUNICE TRADING A.E.	EUNICE_TRADING
8*	EVN TRADING SOUTH EAST EUROPE EAD	EVN_TRADING_SEE
9*	GEN-I ATHENS Μ.Ε.Π.Ε. (SMLLC)	GEN-I-ATHENS
10*	GREEK ENVIRONMENTAL & ENERGY NETWORK A.E.	GREENENV
11	GREENSTEEL-CEDALION COMMODITIES A.E.	GREENSTEEL
12	NOVAERA ENERGY A.E.	NOVAERA_ENERGY
13*	NRG TRADING HOUSE S.A.	NRG_TRADING_HOUS
14	NECO A.E.	NECO_HELLAS
15	PROTERGIA ΘΕΡΜΟΗΛΕΚΤΡΙΚΗ Α.Ε.	PROTERGIA_THER
16	SOLAR ENERGY	SOLARENERGY
17*	VOLTERRA A.E.	VOLTERRA
18*	VOLTON ΕΛΛΗΝΙΚΗ ΕΝΕΡΓΕΙΑΚΗ Α.Ε.	VOLTON
19*	WATT AND VOLT A.E.	WATT_AND_VOLT
20	ΑΝΩΝΥΜΗ ΕΤΑΙΡΕΙΑ ΤΣΙΜΕΝΤΩΝ TITAN	TITAN
21	ΒΙΕΝΕΡ Α.Ε. ΕΝΕΡΓΕΙΑΚΕΣ ΕΠΙΧΕΙΡΗΣΕΙΣ Α.Ε.	VIENER
22	ΒΙΟΛΑΡ Α.Ε.	VIOLAR
23*	ΔΗΜΟΣΙΑ ΕΠΙΧΕΙΡΗΣΗ ΗΛΕΚΤΡΙΣΜΟΥ Α.Ε.	PPC
24	ΕΛΙΝΟΙΛ ΕΛΛΗΝΙΚΗ ΕΤΑΙΡΙΑ ΠΕΤΡΕΛΑΙΩΝ Α.Ε.	ELINOIL
25*	ΕΛΛΗΝΙΚΑ ΤΑΧΥΔΡΟΜΕΙΑ Α.Ε.	ELTA
26*	ZENIO GAS & LIGHT	EPA_THESS
27*	ΗΛΕΚΤΡΟΠΑΡΑΓΩΓΗ ΣΟΥΣΑΚΙΟΥ Α.Ε.	SUSAKI_POWER
28*	ΗΡΩΝ ΘΕΡΜΟΗΛΕΚΤΡΙΚΗ Α.Ε.	HERON
29*	ΙΝΤΕΡΜΠΕΤΟΝ – ΔΟΜΙΚΑ ΥΛΙΚΑ Α.Ε.	INTERBETON
30*	ΚΕΝ ΠΑΡΑΓΩΓΗ ΚΑΙ ΕΜΠΟΡΙΑ ΕΝΕΡΓΕΙΑΚΩΝ ΠΡΟΪΟΝΤΩΝ Α.Ε.	KEN
31	ΚΩΝΣΤΑΝΤΙΝΟΣ Β. ΜΑΡΚΟΥ Α.Β.Ε.Ε.	KVMARKOUSA
32*	ΜΥΤΙΛΗΝΑΙΟΣ Α.Ε. – ΟΜΙΛΟΣ ΕΠΙΧΕΙΡΗΣΕΩΝ	MYTILINEOS
33	ΟΤΕ ΑΚΙΝΗΤΑ Α.Ε.	OTEESTATE

34	ΠΡΟΜΗΘΕΥΤΗΣ ΚΑΘΟΛΙΚΗΣ ΥΠΗΡΕΣΙΑΣ	PPC_USS
35	ΠΡΟΜΗΘΕΥΤΗΣ ΤΕΛΕΥΤΑΙΟΥ ΚΑΤΑΦΥΓΙΟΥ	PPC_LRS
36*	ΦΥΣΙΚΟ ΑΕΡΙΟ-ΕΛΛΗΝΙΚΗ ΕΤΑΙΡΕΙΑ ΕΝΕΡΓΕΙΑΣ	ATTIKI_GSC

\* Participants who are holders of supply license, participated in DAS as Traders.

### Traders

S/N	PARTICIPANT NAME	ABBREVIATION
1	ALPIQ ENERGY HELLAS A.E.	ALPIQ_HELLAS
2	AYEN ENERGIJA D.O.O.	AYEN_ENERGIJA
3	AXPO ENERGY ROMANIA S.A.	AXPO_ROMANIA
4	CEZ A.S.	CEZ_A.S.
5	DANSKE COMMODITIES A/S	DANSKECOM
6	DUFERCO ENERGIA S.P.A.	DUFERCO
7	EDISON S.P.A	EDISON_TRADING
8	EDF TRADING LIMITED	EDF_TRADING_LTD
9	ELEKTRICNI FINANCNI TIM D.O.O.	EFT_SLOVENIA
10	ENEL TRADE S.P.A.	ENEL_TRADE
11	ENERGY MT EAD	ENERGY_MT_EAD
12	ENSCO S.A.	ENSCO_ENERGY
13	EZPADA S.R.O.	EZPADA
14	GAZPROM MARKETING & TRADING LIMITED	GAZPROM
15	GROUP TRANS ENERGY OOD	GT_ENERGY
16	HSE D.O.O.	HSE
17	INTERENERGO D.O.O.	INTERENERGO
18	LE TRADING A.S.	LE TRADING
19	NVALUE A.G.	NVALUE
20	SENTRADE A.E.	SENTRADE
21	STATKRAFT MARKETS GMBH	STATKRAFT_MARKET
22	VITOL GAS AND POWER B.V.	VITOL
23	ΣΟΛΑΡΙΣ ΕΝΕΡΓΕΙΑΚΗ Α.Ε.	SOLARIS
24	TEPNA ΕΝΕΡΓΕΙΑΚΗ ΑΒΕΤΕ	TERNA_ENERGY

## 1.2 Generation Units in Interconnected System

	UNIT	OWNER	INSTALLED CAPACITY (MW)
<b>Lignite Units</b>	AG. DIMITRIOS I	PPC	274.0
	AG. DIMITRIOS II	PPC	274.0
	AG. DIMITRIOS III	PPC	283.0
	AG. DIMITRIOS IV	PPC	283.0
	AG. DIMITRIOS V	PPC	342.0
	AMYNDEO I	PPC	273.0
	AMYNDEO II	PPC	273.0
	MELITI	LIG_MELITIS	289.0
	KARDIA I	PPC	271.1
	KARDIA II	PPC	270.8
	KARDIA III	PPC	280.0
	KARDIA IV	PPC	280.0
	MEGALOPOLI III	LIG_MEGALOPOLIS	255.0
	MEGALOPOLI IV	LIG_MEGALOPOLIS	256.0
	<b>Total of Lignite Units</b>		<b>3,903.9</b>
<b>Natural Gas Units</b>	KOMOTINI	PPC	476.0
	LAVRIO 4	PPC	550.0
	LAVRIO 5	PPC	378.0
	ALIVERI V	PPC	417.0
	MEGALOPOLI V	PPC	500.0
	ELPEDISON THESS	ELPEDISON	400.2
	ELPEDISON THISVI	ELPEDISON	410.0
	HERON CC	HERON_II_VIOTIAS	422.0
	PROTERGIA CC	MYTILINEOS	432.7
	KORINTHOS POWER	KORINTHOS POWER	433.4
	ALOUMINIO	MYTILINEOS	334.0
	HERON 1	HERON	49.0
	HERON 2	HERON	49.0
	HERON 3	HERON	49.0
	<b>Total of Natural Gas Units</b>		<b>4,900.3</b>
<b>Hydro Units</b>	AGRAS	PPC	50.0
	ASOMATA	PPC	108.0
	P_AOOU	PPC	210.0
	EDESSAIOI	PPC	19.0
	THESAVROS	PPC	384.0
	ILARIONAS	PPC	153.0
	KASTRAKI	PPC	320.0
	KREMASTA	PPC	437.2
	LADONAS	PPC	70.0

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	PLASTIRAS	PPC	129.9
	PLATANOVRYSI	PPC	116.0
	POLYFYTO	PPC	375.0
	POURNARI 1	PPC	300.0
	POURNARI 2	PPC	33.6
	STRATOS 1	PPC	150.0
	SFIKIA	PPC	315.0
	Total of Hydro Units		3,170.7
RES	WIND	RES	2,579.5
	PV	RES	2,141.0
	PV ROOFS	RES	351.3
	HYDRO	RES	239.5
	BIOMASS	RES	82.3
	CHP	RES	100.8
	Total of RES Units		5,494.2
	Total of Thermal Units		8,804.2
	Total of RES & Hydro Units		8,664.9
	Total of all Units		17,469.1

Source: DAPEEP, ADMIE

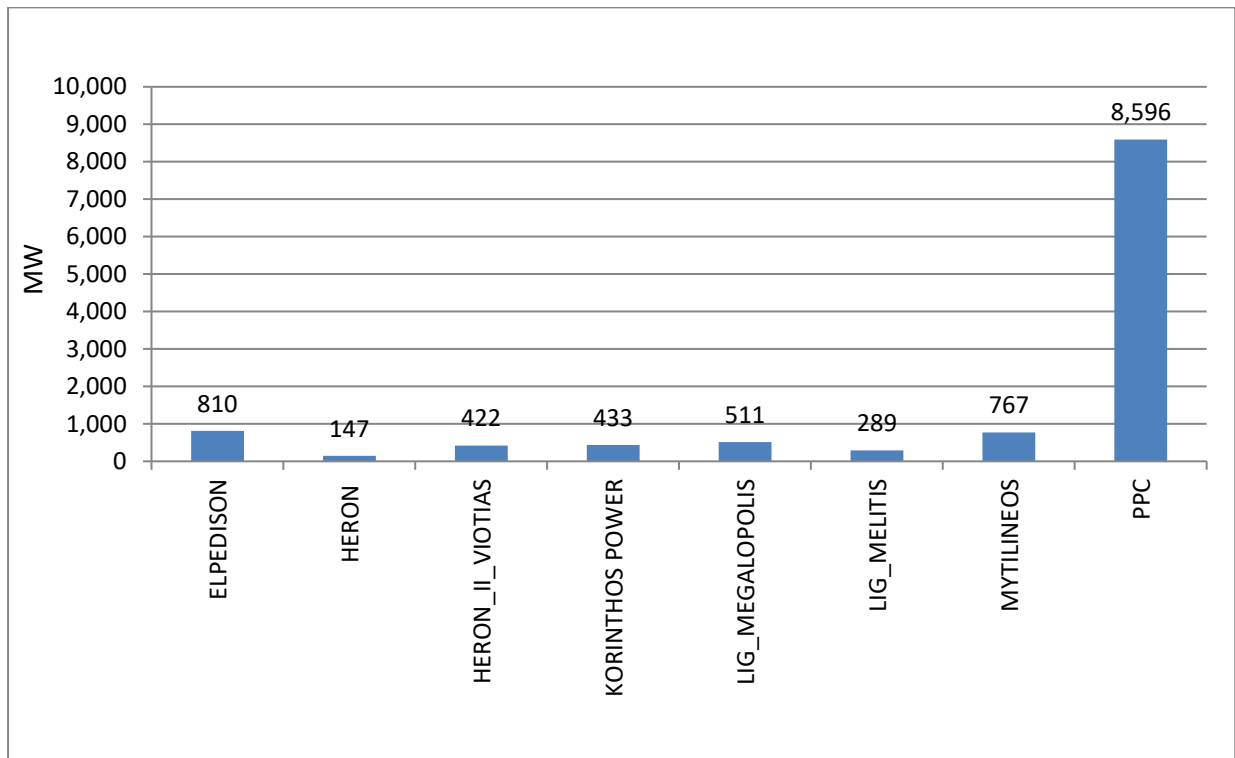


Figure 1: Total Installed Capacity of Units per Producer (RES excluded)

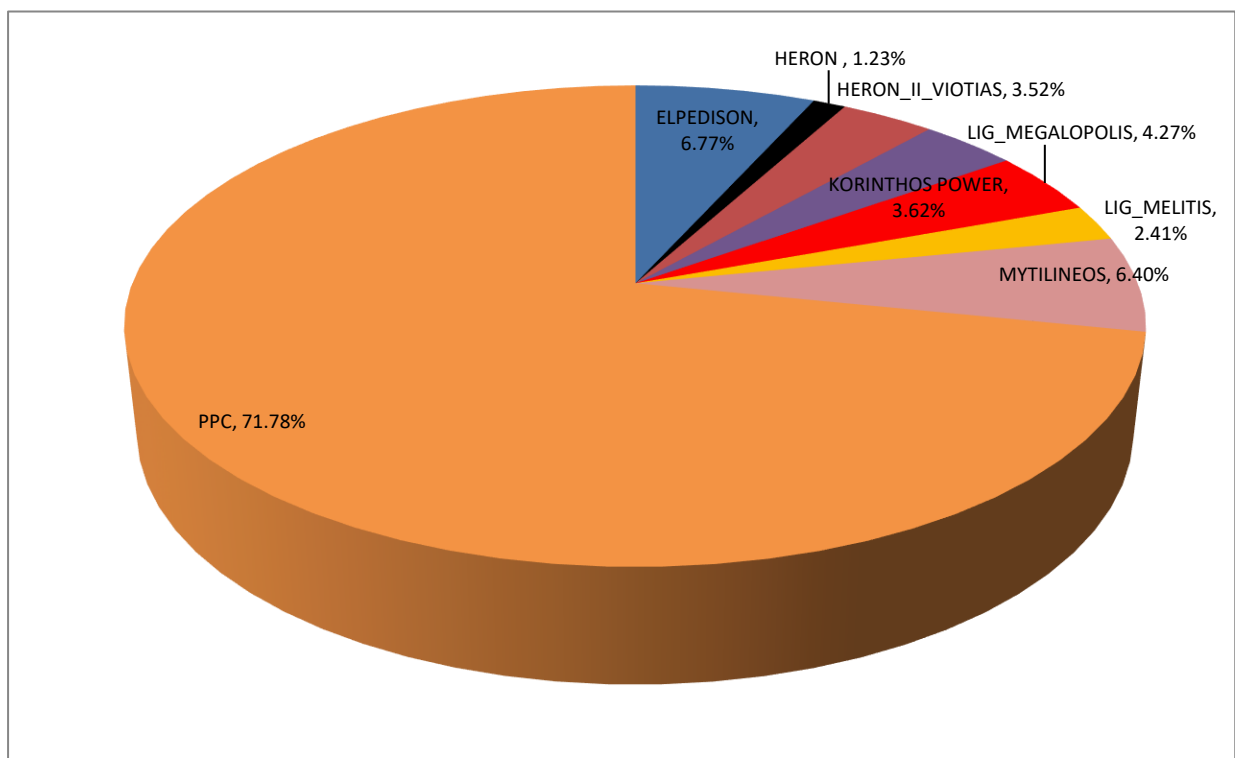


Figure 2: Percentage (%) of Total Installed Capacity per Producer (RES excluded)



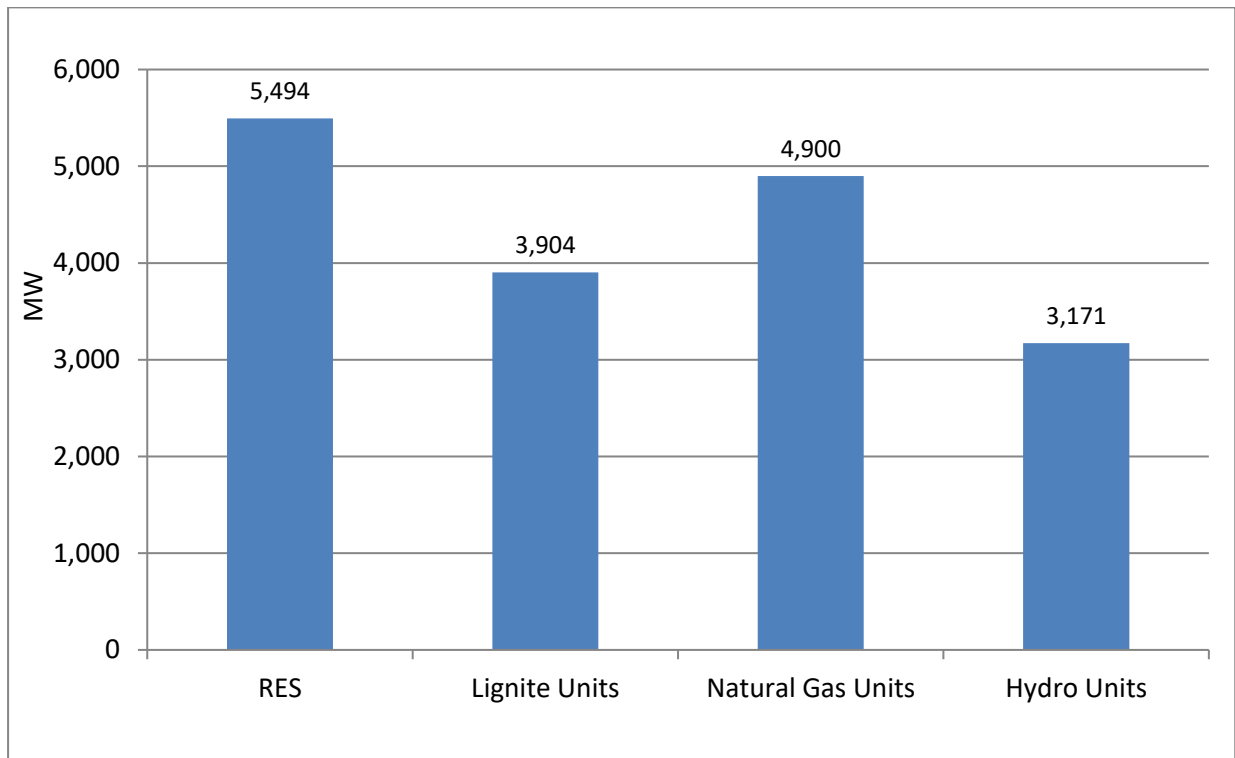


Figure 3: Total Installed Capacity of Units per Fuel type in the Interconnected System

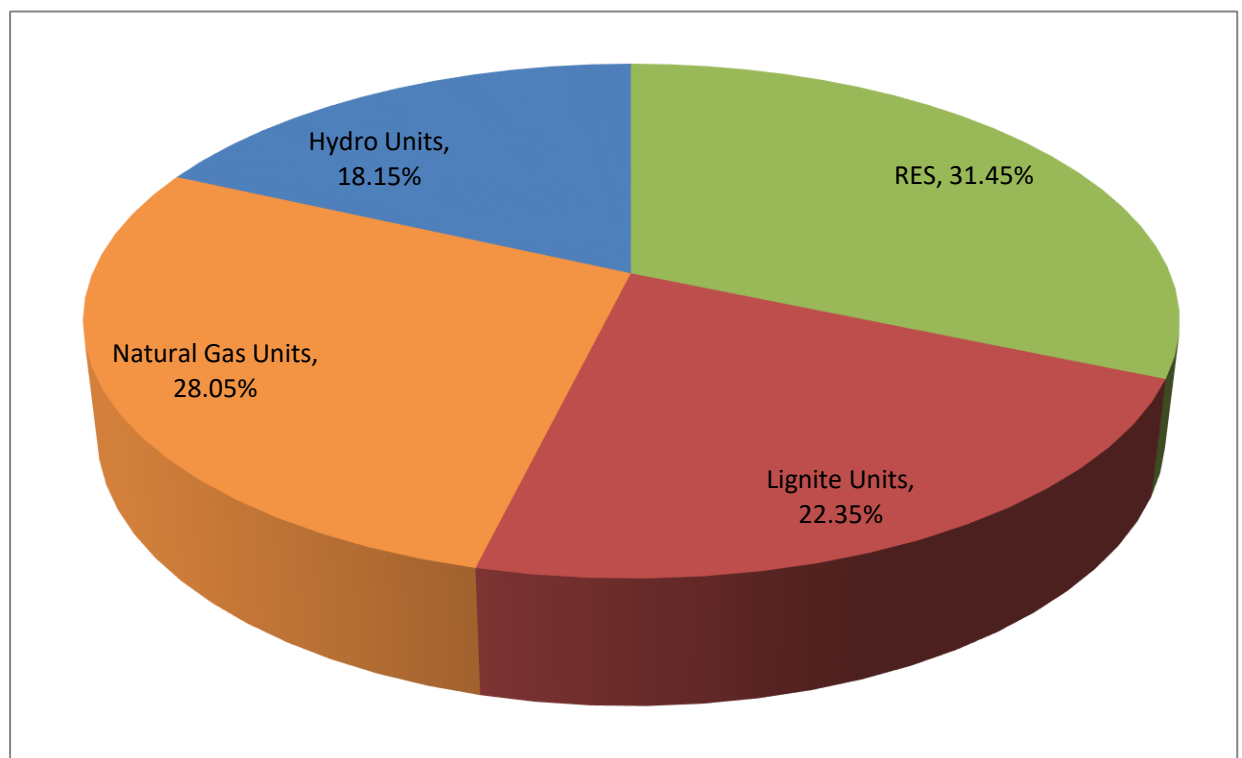


Figure 4: Percentage (%) of total Installed Capacity per Fuel type in the Interconnected System

## 2. System Marginal Price (SMP) and Reserves Prices

	SMP (€/MWh)	Date	Hour
Minimum	0,000	11/01/2019	01
		30/01/2019	01
Maximum	145,000	17/01/2019	20
Average	75,283		

Table 1: SMP data

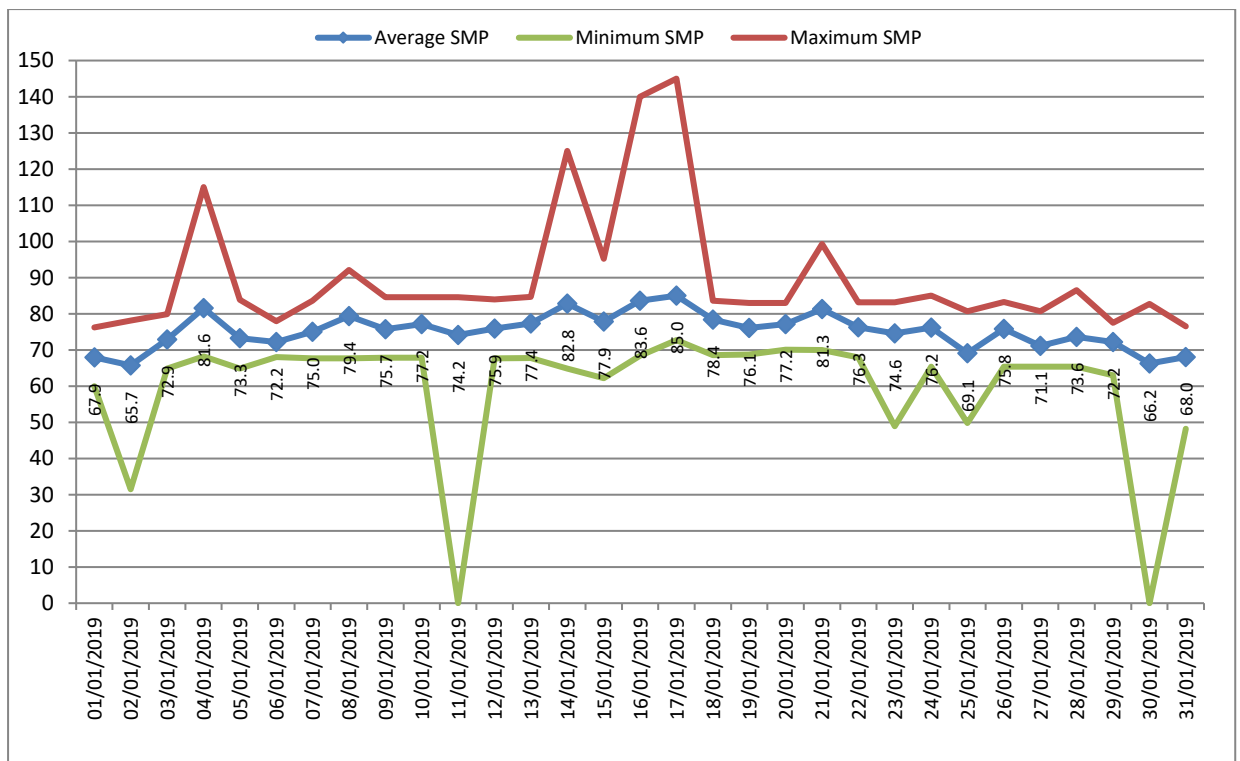


Figure 5: Average, Minimum and Maximum Daily SMP (€/MWh)

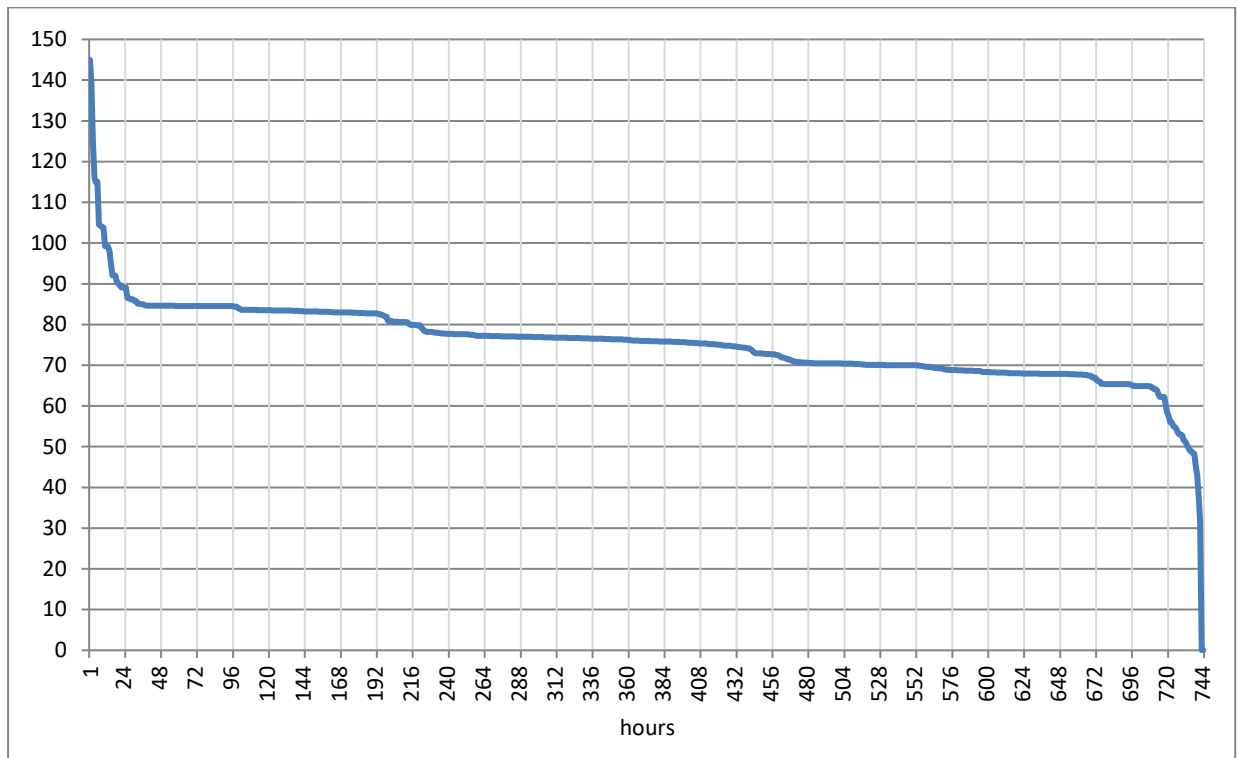


Figure 5a: SMP duration curve (€/MWh)

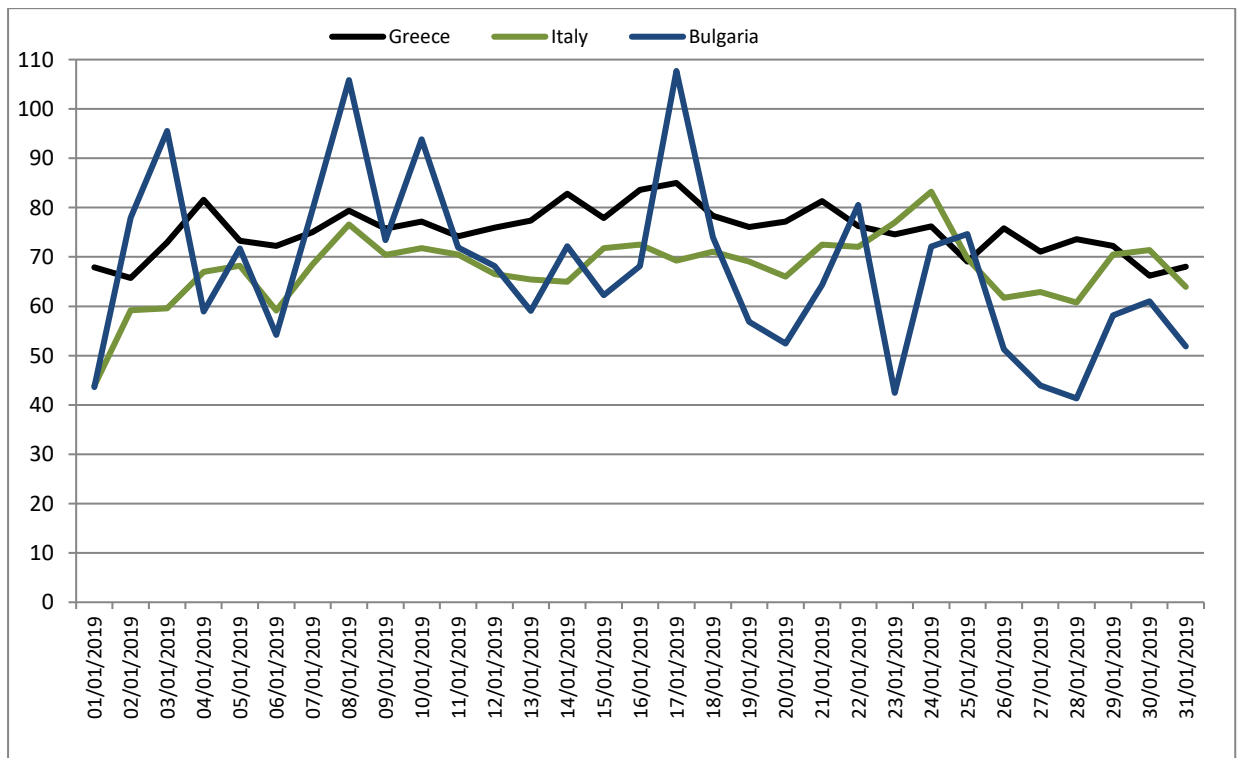


Figure 5b: Daily average marginal energy prices (€/MWh) of Greece, Italy, Bulgaria

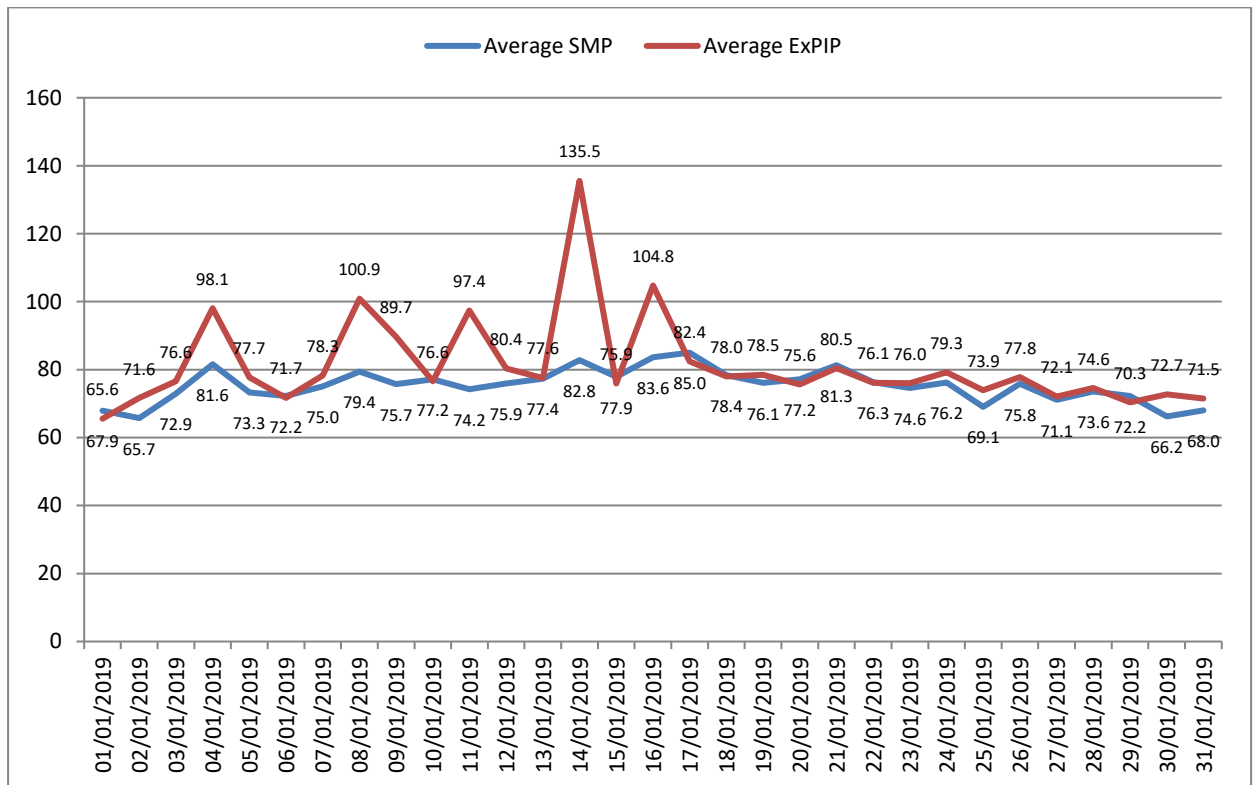


Figure 6: Average Daily SMP and ExPIP

Source: HENEX, ADMIE

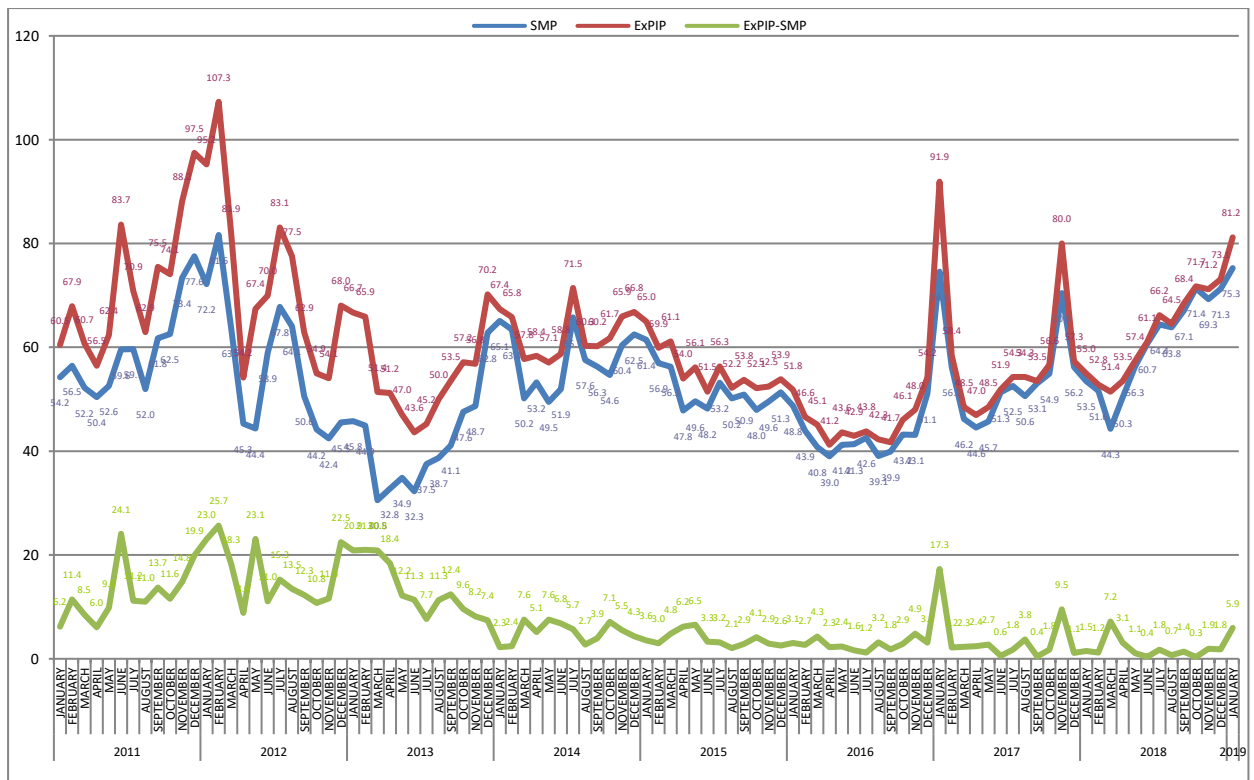


Figure 7: Evolution of average monthly SMP, ExPIP and their difference

Source: HENEX, ADMIE

		Average Monthly SMP		Average Monthly ExPIP		Difference SMP-ExPIP
		€/MWh	% deviation*	€/MWh	% deviation*	€/MWh
2018	January	53,50	-28,28	54,99	-40,17	1,49
	February	51,63	-8,17	52,82	-9,61	1,19
	March	44,28	-4,19	51,44	6,07	7,16
	April	50,35	12,97	53,47	13,81	3,12
	May	56,32	23,15	57,37	18,36	1,05
	June	60,69	18,26	61,07	17,68	0,38
	July	64,42	22,62	66,20	21,87	1,77
	August	63,83	26,23	64,52	18,79	0,69
	September	67,06	26,38	68,43	27,88	1,37
	October	71,40	30,11	71,74	26,68	0,34
	November	69,30	-1,63	71,22	-10,95	1,93
	December	71,25	26,81	73,08	27,48	1,83
2019	January	75,28	40,73	81,21	47,68	5,93

Source: HENEX, ADMIE

Table 2: Evolution of average monthly SMP, ExPIP and their difference, as well as and the % deviation of average monthly SMP & ExPIP in relation to the same month of the previous year

\*The calculation of SMP & ExPIP commenced in the Fifth Reference Day on 30/09/2010

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Reserve	Minimum Price (€/MW)	Maximum Price (€/MW)	Date of Maximum Price	Average Price (€/MW)
Primary	0,001	9,000	(15/01/2019)	0,103
Secondary Up	0,001	8,699	(17/01/2019)	2,799
Secondary Down	0,001	6,200	(17/01/2019) (18/01/2019) (19/01/2019) (22/01/2019) (23/01/2019) (25/01/2019) (29/01/2019)	2,506

Table 2a: Average, Minimum and Maximum Monthly Reserves Prices

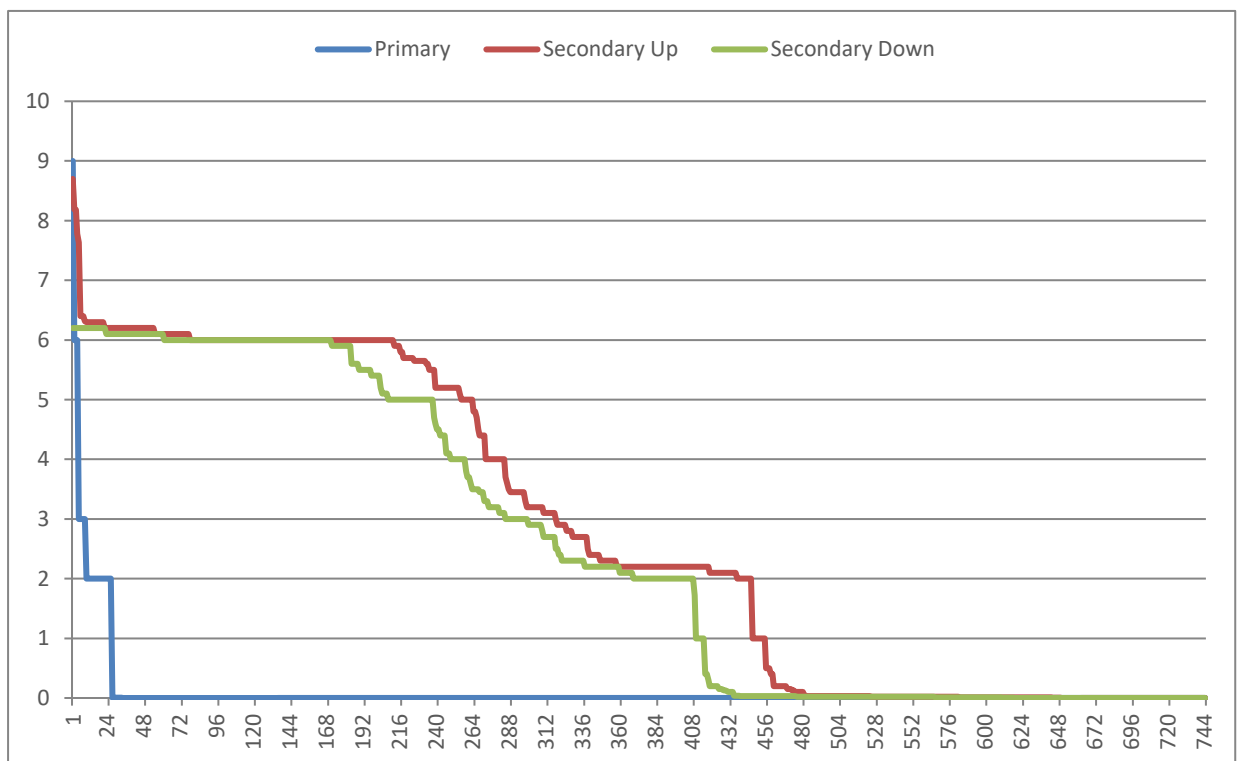


Figure 7a: Duration Curve of Primary, Secondary Up and Secondary Down Reserve Prices (€/MW)

	Lignite	Natural Gas	Hydro	Imports	Exports
Hours/Month	197	344	147	38	18

Table 3: Number of hours for each type of fuel, imports and exports that have defined the SMP

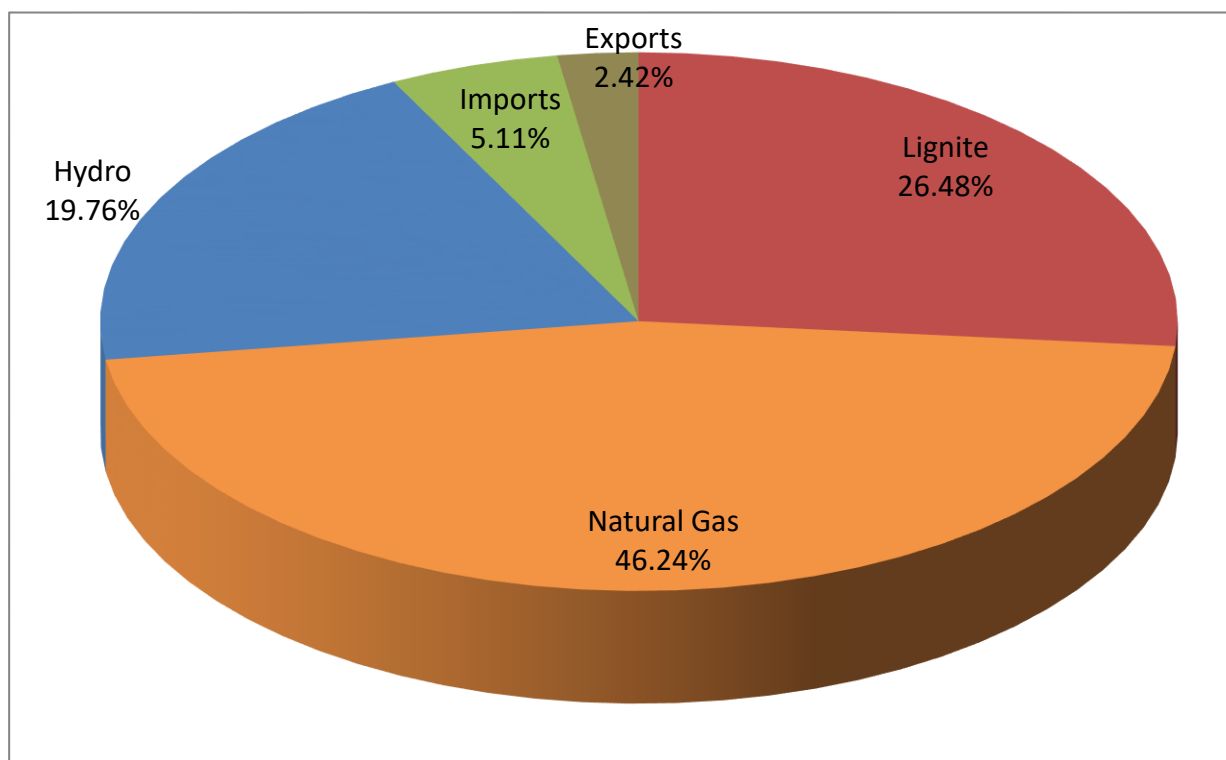


Figure 8: Percentage (%) of total hours per fuel type/imports/exports that have defined the SMP

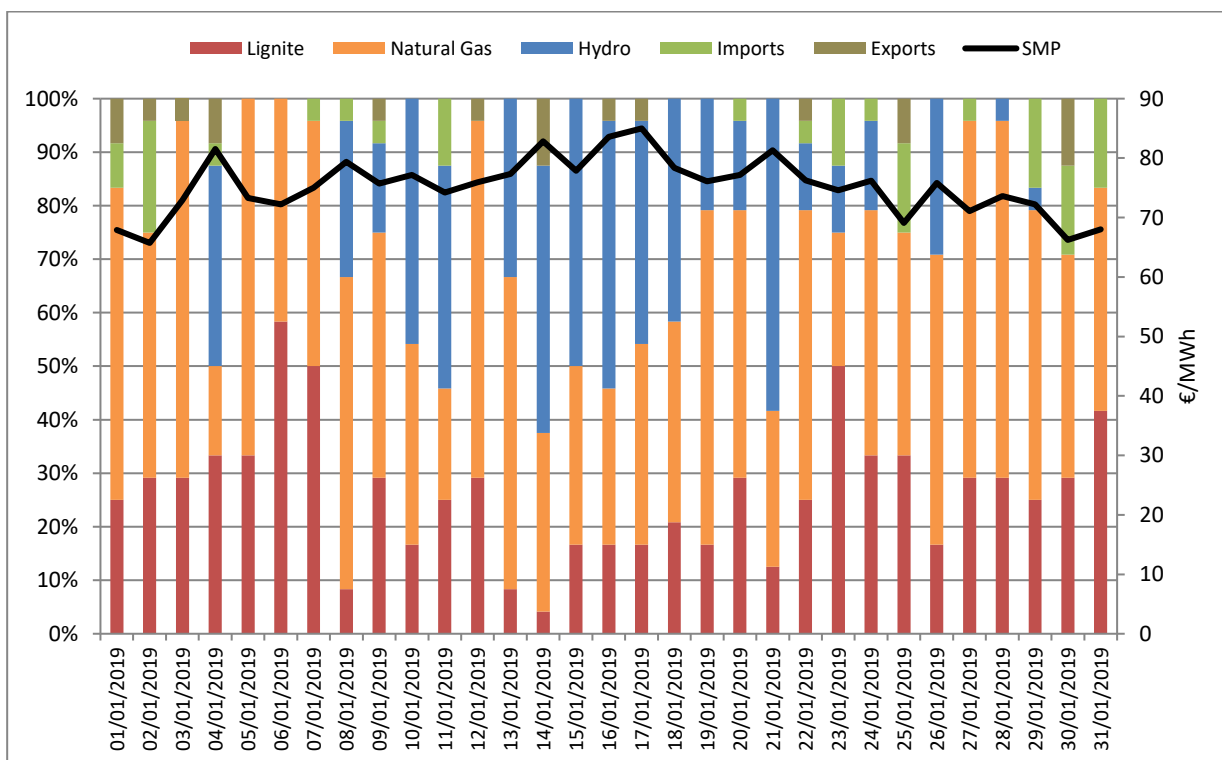


Figure 9: Daily percentage (%) distribution of fuel type/import/export that have defined SMP

### 3. DAS Energy Balance

	January 2019	% deviation (from 01/2018)	January 2019	% deviation (from 01/2018)
<b>PRODUCTION AND IMPORTS - EXPORTS BALANCE (MWh)</b>				
<b>TOTAL PRODUCTION &amp; IMPORTS - EXPORTS BALANCE</b>	<b>5,026,021</b>	<b>7.38</b>	<b>5,026,021</b>	<b>7.38</b>
<b>NET PRODUCTION ANALYSIS</b>				
LIGNITE	1,441,398	-9.37	1,441,398	-9.37
OIL	0	0.00	0	0.00
NATURAL GAS	2,198,707	57.97	2,198,707	57.97
HYDRO	248,956	59.87	248,956	59.87
RES	856,287	12.43	856,287	12.43
<b>TOTAL NET PRODUCTION</b>	<b>4,745,348</b>	<b>21.69</b>	<b>4,745,348</b>	<b>21.69</b>
<b>IMPORTS</b>				
ALBANIA	103,916		103,916	
BULGARIA	183,756		183,756	
ITALY	419,005		419,005	
F.Y.R.O.M.	199,870		199,870	
TURKEY	35,118		35,118	
<b>EXPORTS</b>	<b>660,992</b>	<b>190.60</b>	<b>660,992</b>	<b>190.60</b>
ALBANIA	145,992		145,992	
BULGARIA	105,110		105,110	
ITALY	161,886		161,886	
F.Y.R.O.M.	248,003		248,003	
TURKEY	1		1	
<b>IMPORTS - EXPORTS BALANCE</b>	<b>280,674</b>	<b>-64.08</b>	<b>280,674</b>	<b>-64.08</b>
<b>DEMAND (MWh)</b>				
<b>TOTAL DEMAND</b>	<b>5,026,021</b>	<b>7.38</b>	<b>5,026,021</b>	<b>7.38</b>
<b>NET DEMAND</b>	<b>5,012,107</b>	<b>7.35</b>	<b>5,012,107</b>	<b>7.35</b>
<b>PUMPING</b>	<b>13,914</b>	<b>18.88</b>	<b>13,914</b>	<b>18.88</b>
<b>TOTAL DEMAND ANALYSIS</b>				
LOW VOLTAGE CUSTOMERS	3,313,724	10.02	3,313,724	10.02
MEDIUM VOLTAGE CUSTOMERS	1,217,210	6.53	1,217,210	6.53
HIGH VOLTAGE CUSTOMERS	481,173	-6.48	481,173	-6.48
<b>SYSTEM PEAK POWER (MW)</b>				
<b>MAXIMUM HOURLY SYSTEM POWER</b>	<b>8,975</b>	<b>7.22</b>	<b>8,975</b>	<b>7.22</b>
Date	07/01/2019		07/01/2019	
Hour of maximum	19:00		19:00	

The DAS Energy Balance refers to the Market Points, where the solution of DAS also refers to, in which system losses have already been allocated. According to Chapter 10 of the Power Exchange Code for Electricity, to each Generation Unit Metering point and to each Interconnection Metering point for Import, as well as to each Meter point of the Distribution Network, losses factors are applied, in order to allocate both injected and absorbed power to the Market Points.



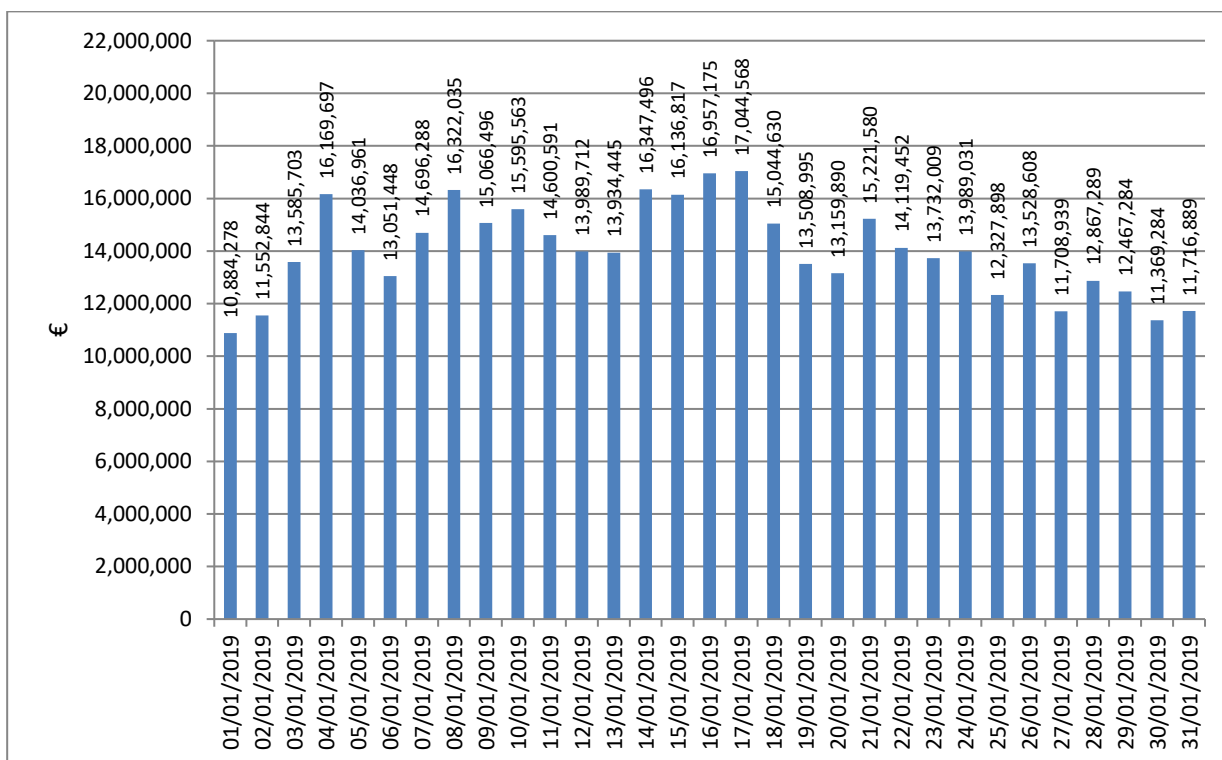


Figure 10: Daily value of DAS

The total value of DAS for January 2019 reached 434,7 M€.

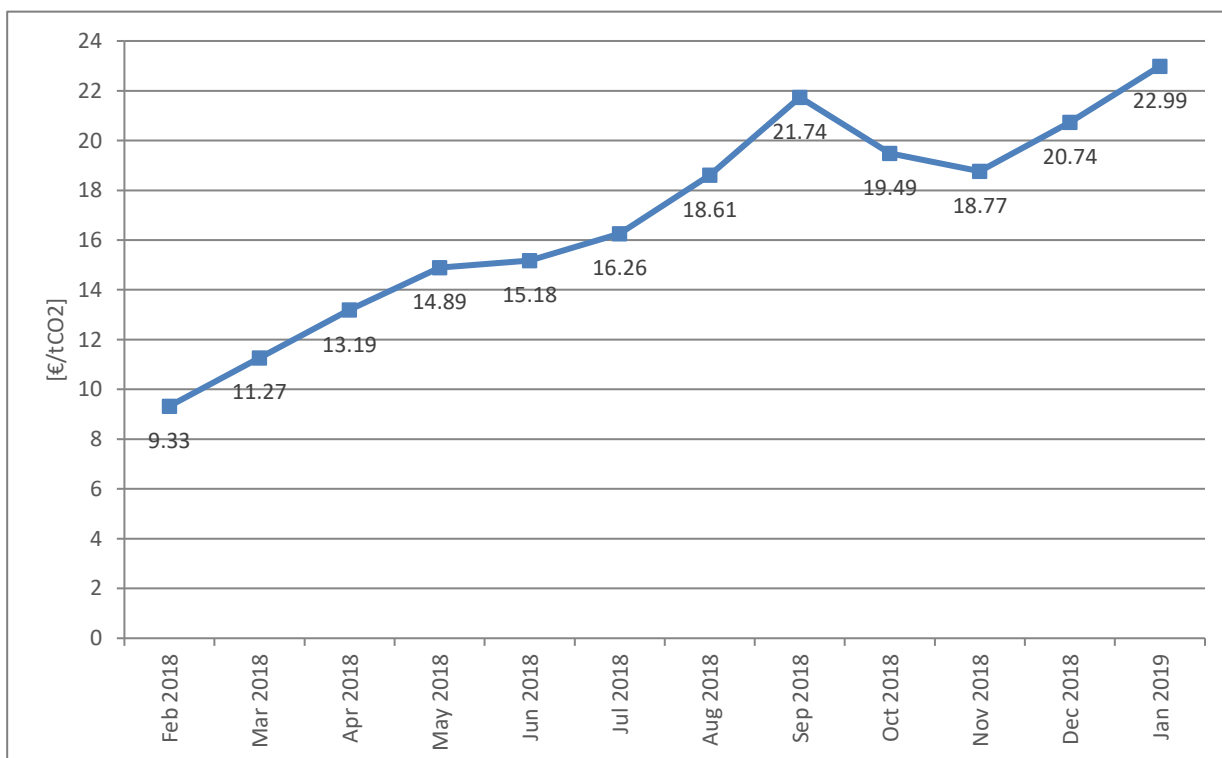


Figure 11: Weighted Average Monthly Prices of CO2 emissions rights (auction T3PA)

Source: DAPEEP

## 4. Domestic Power Generation

### 4.1 Production and Credit per fuel type

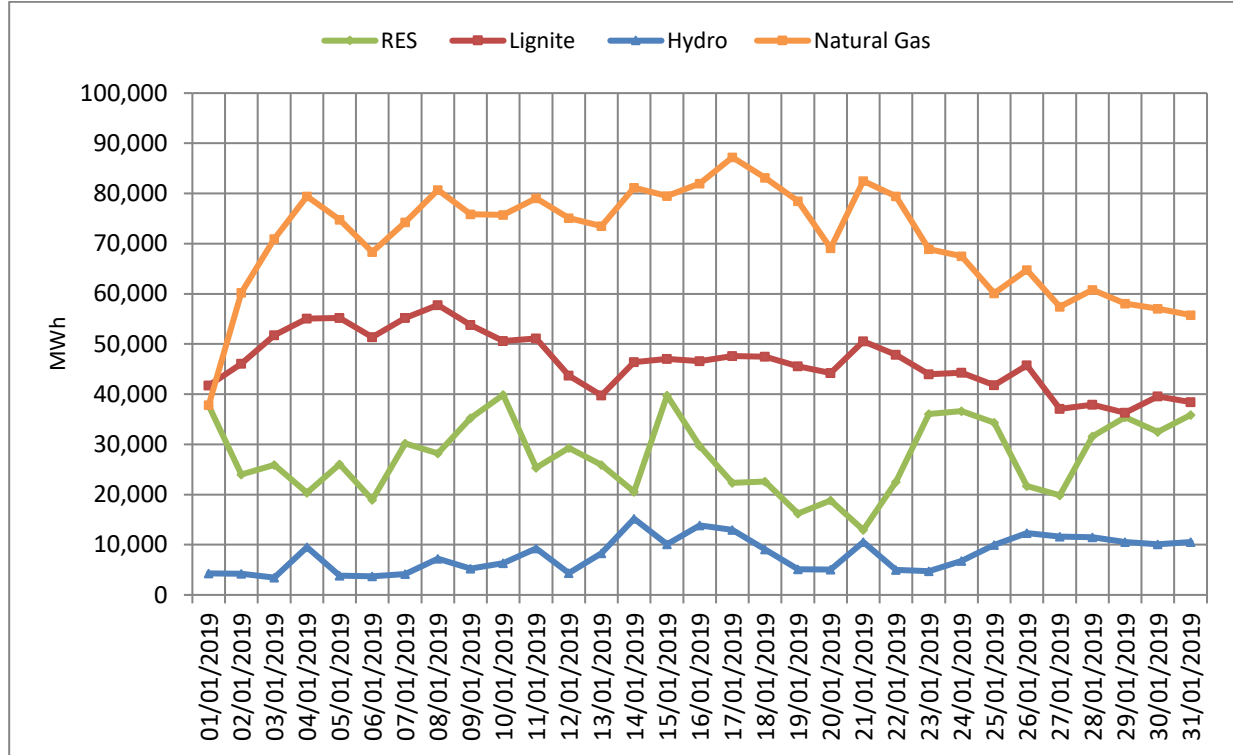


Figure 12: Daily production per fuel type

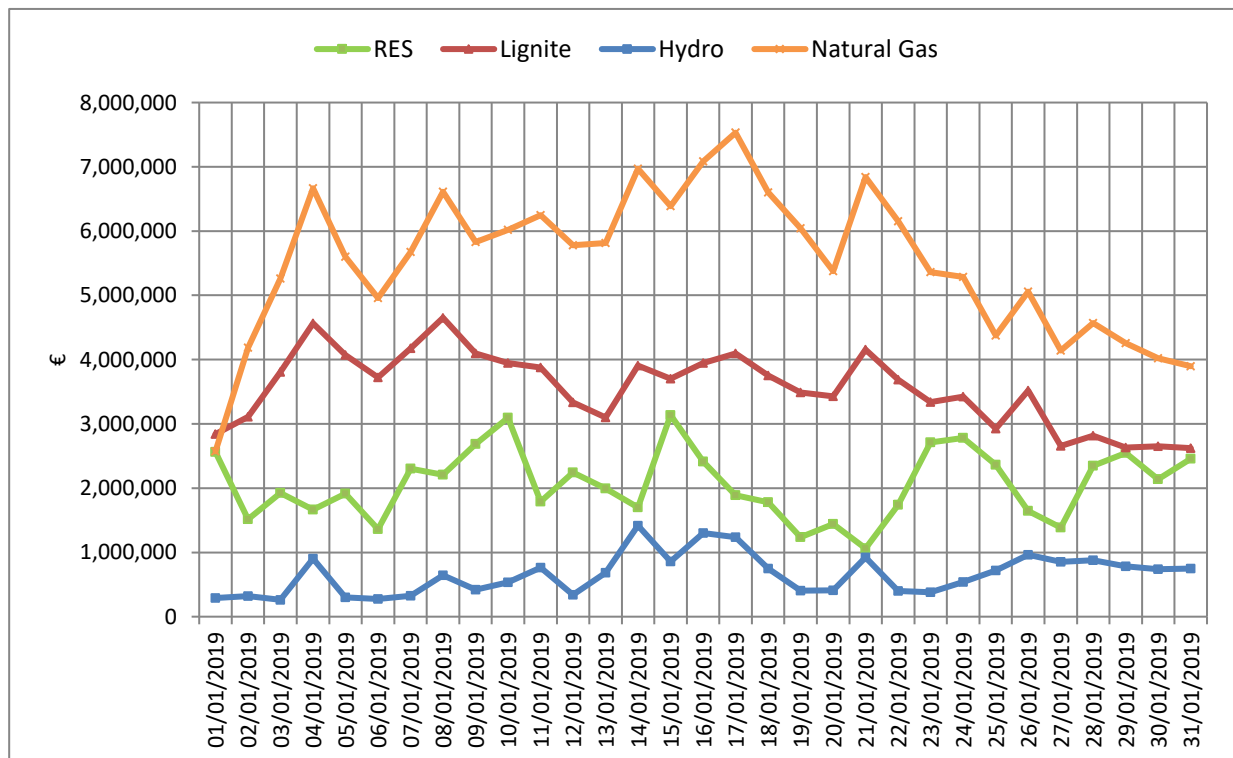


Figure 13: Daily production credit per fuel type

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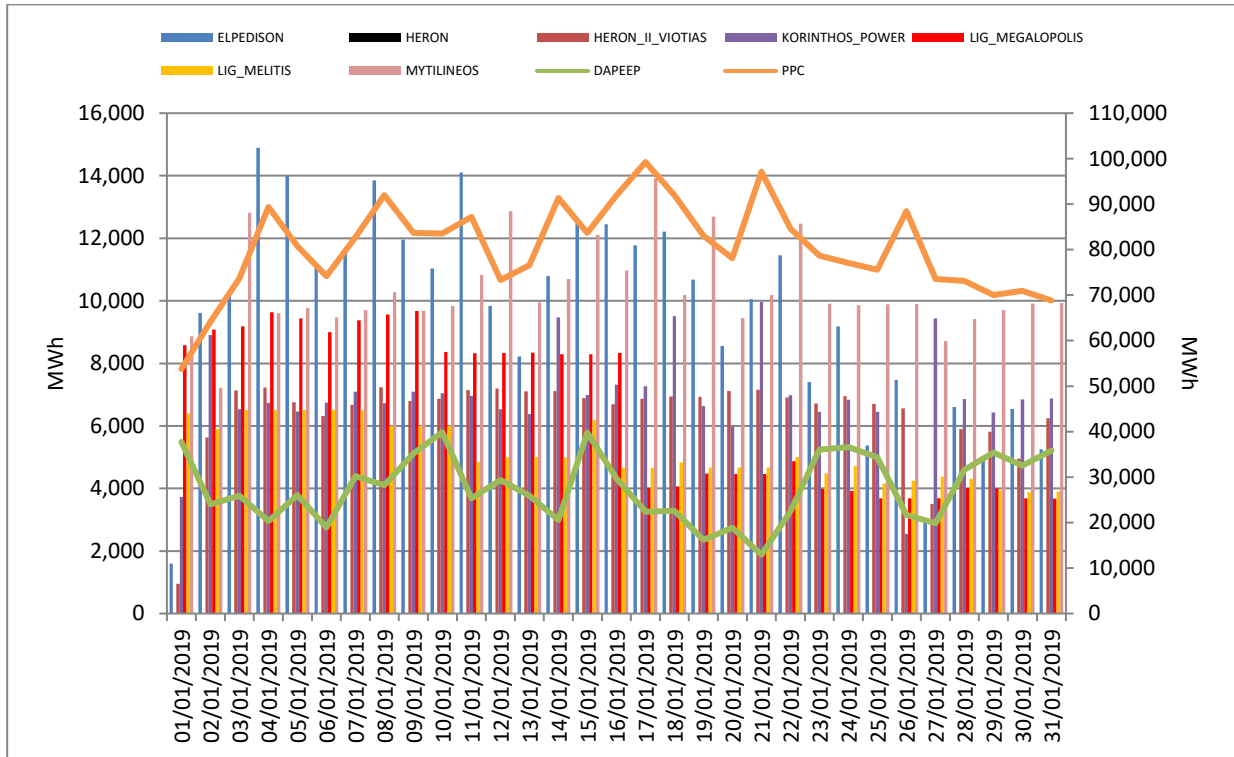


Figure 14: Daily production per Participant (the right axis represents the production of PPC and DAPEEP)

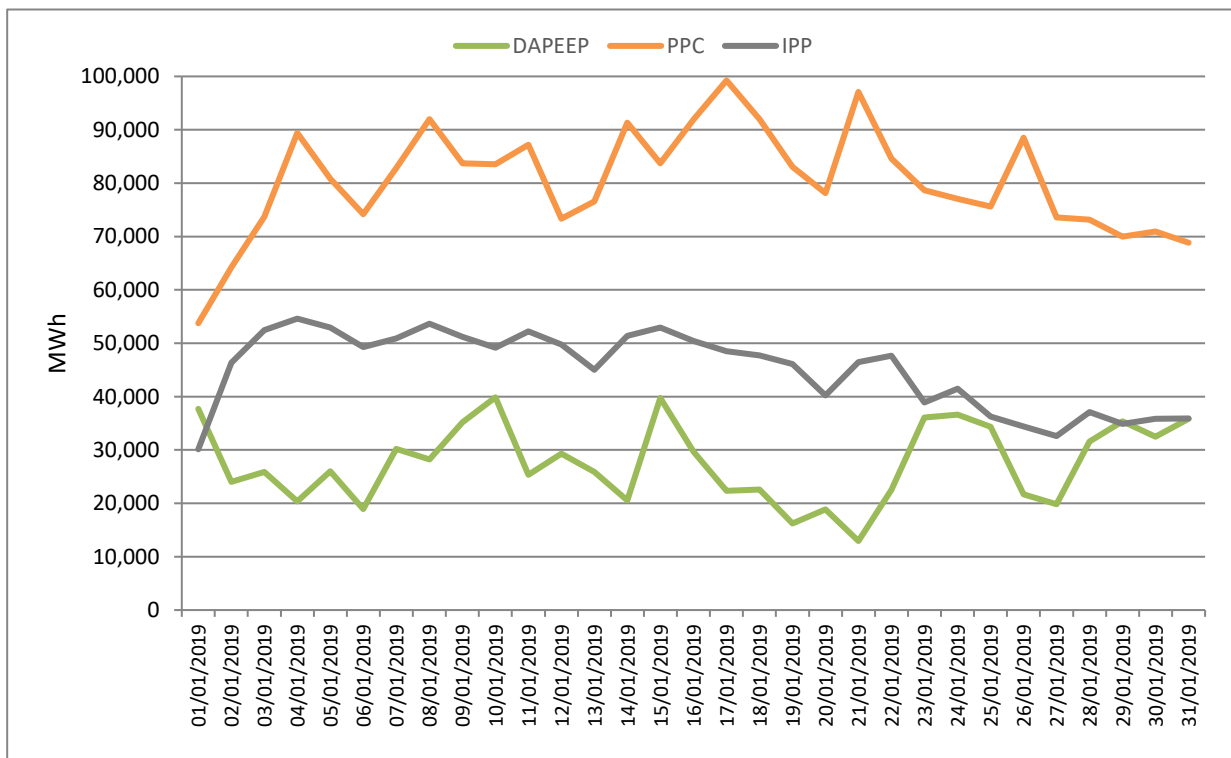


Figure14a: Daily production for PPC, DAPEEP and Independent Power Producers

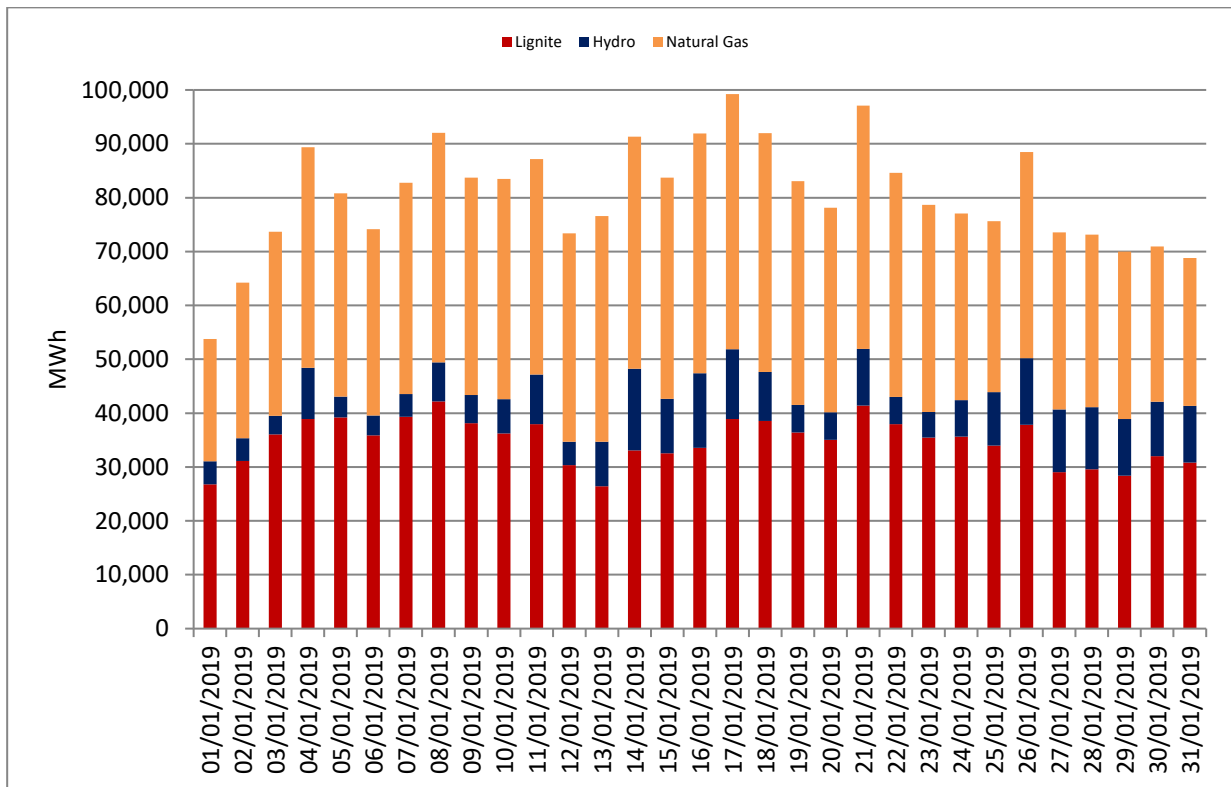


Figure 15: Daily production of PPC units per fuel type

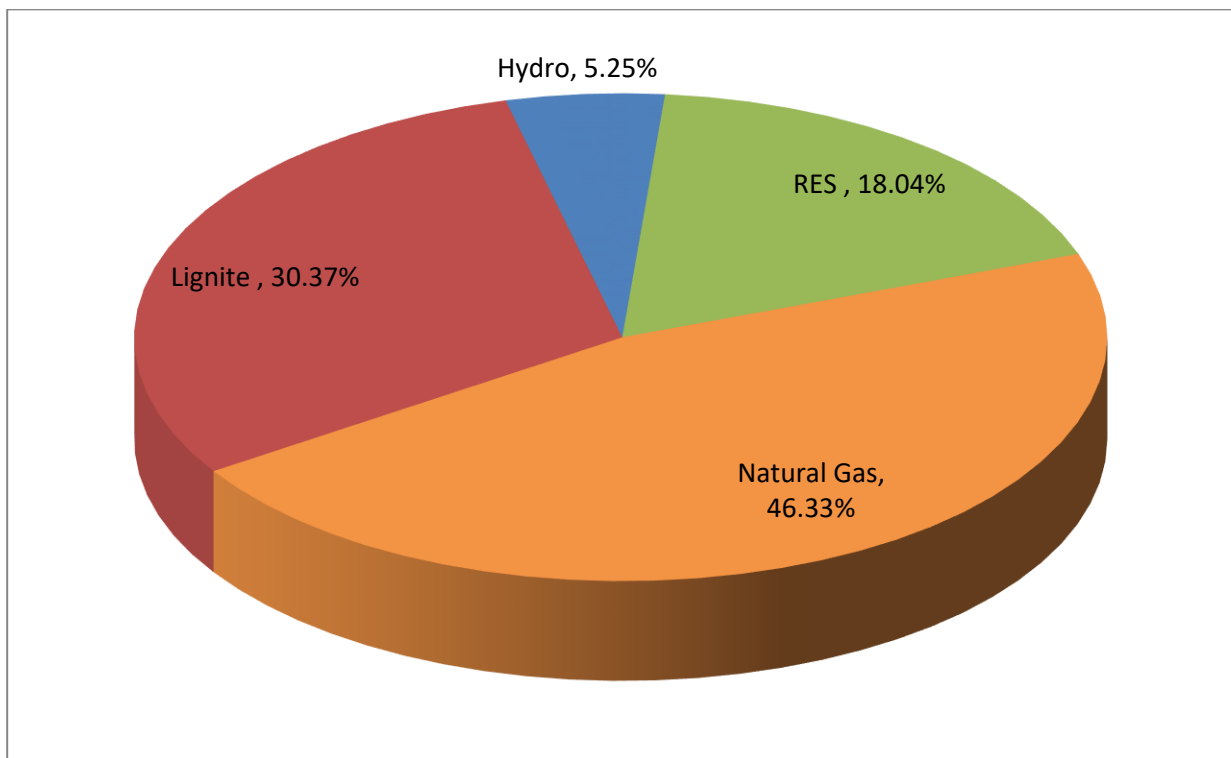


Figure 16: Percentage (%) of total Monthly Production per fuel type

## 4.2 Production and Credits per Participant

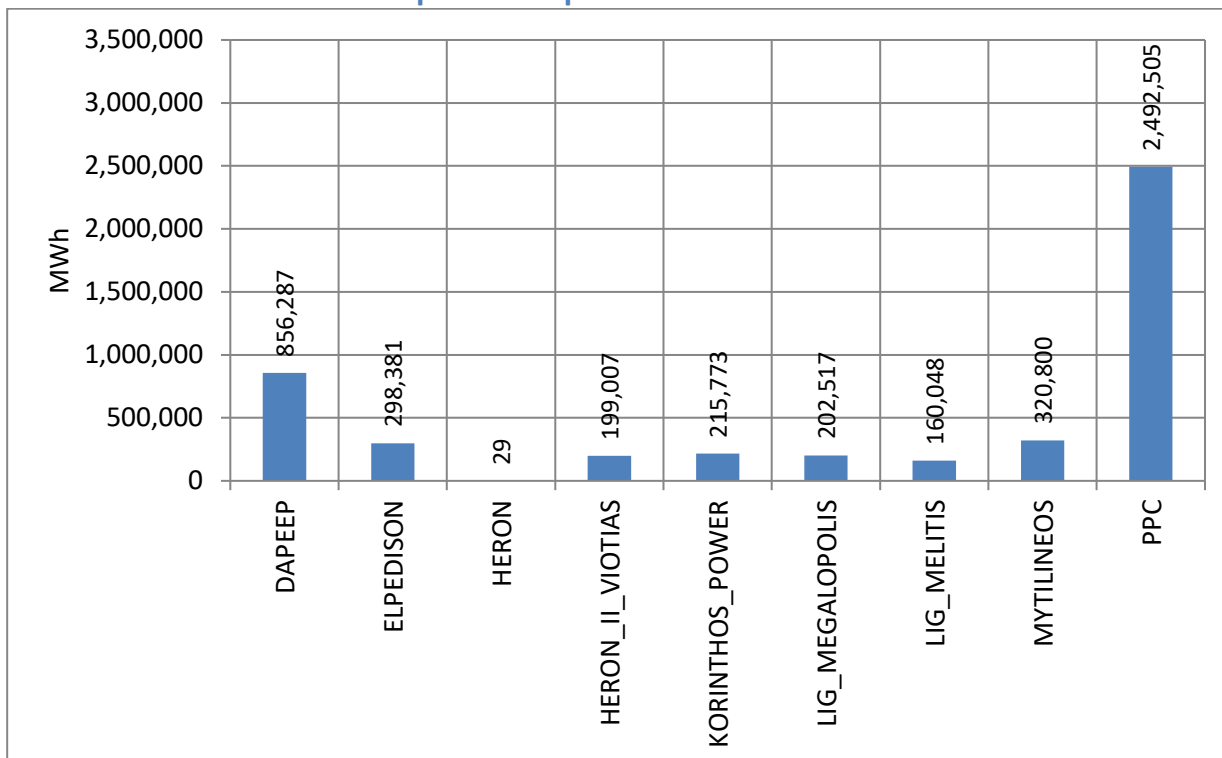


Figure 17: Monthly Production per Participant

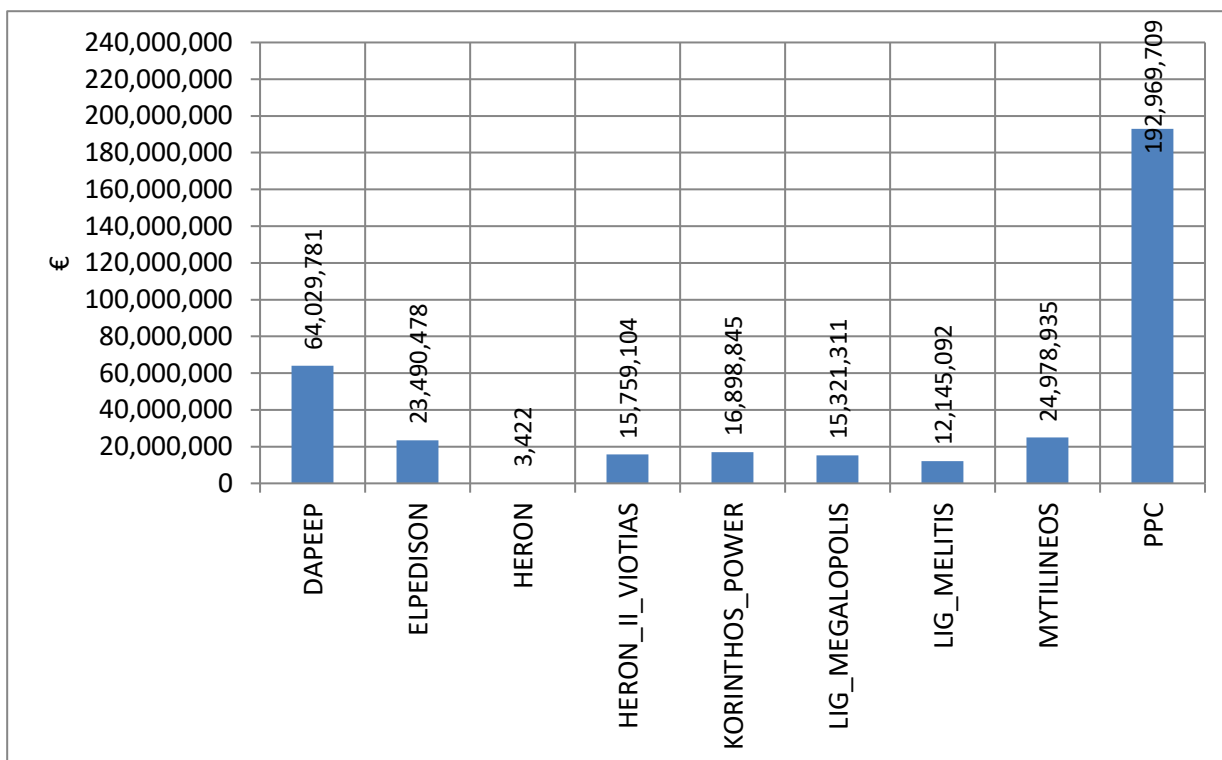


Figure 18: Monthly Production Credits per Participant

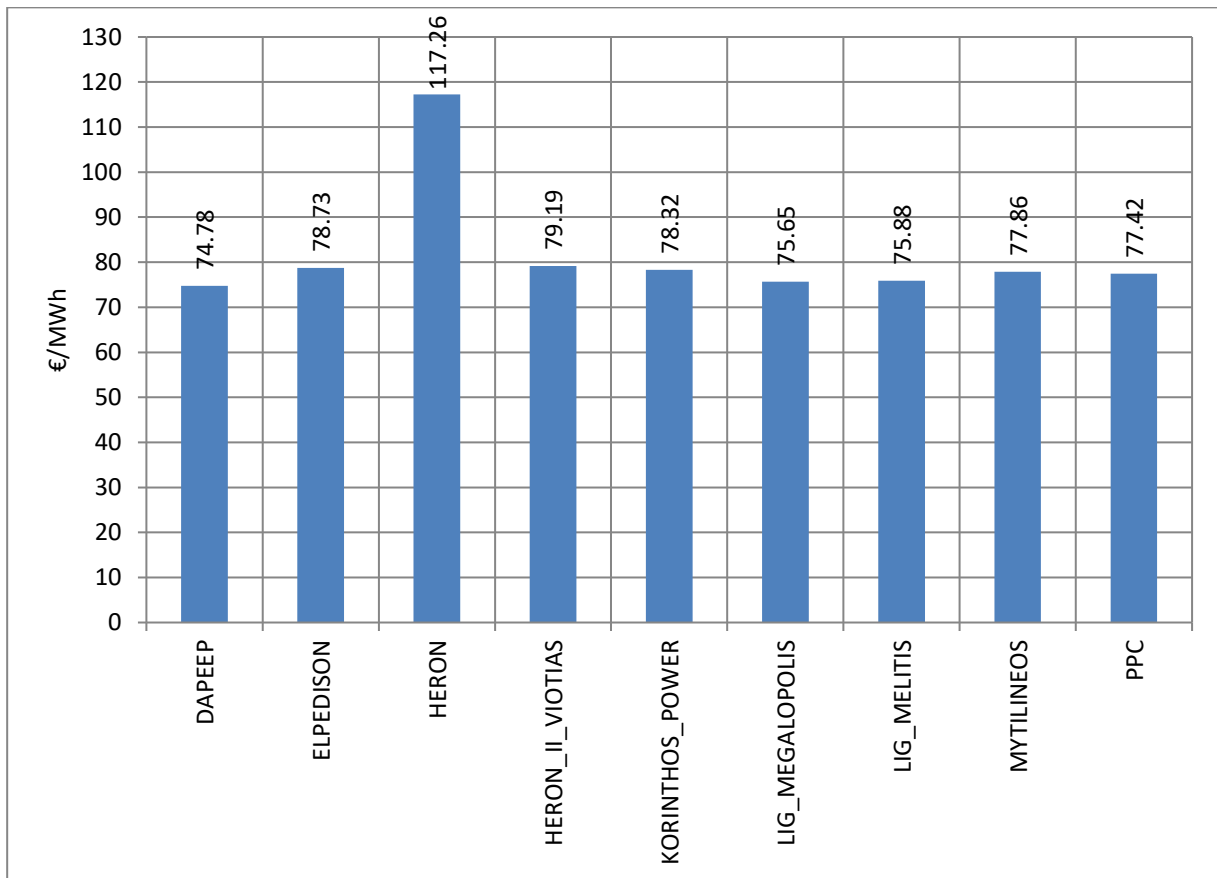


Figure 19: Monthly Credits / Monthly Production in €/MWh per Participant

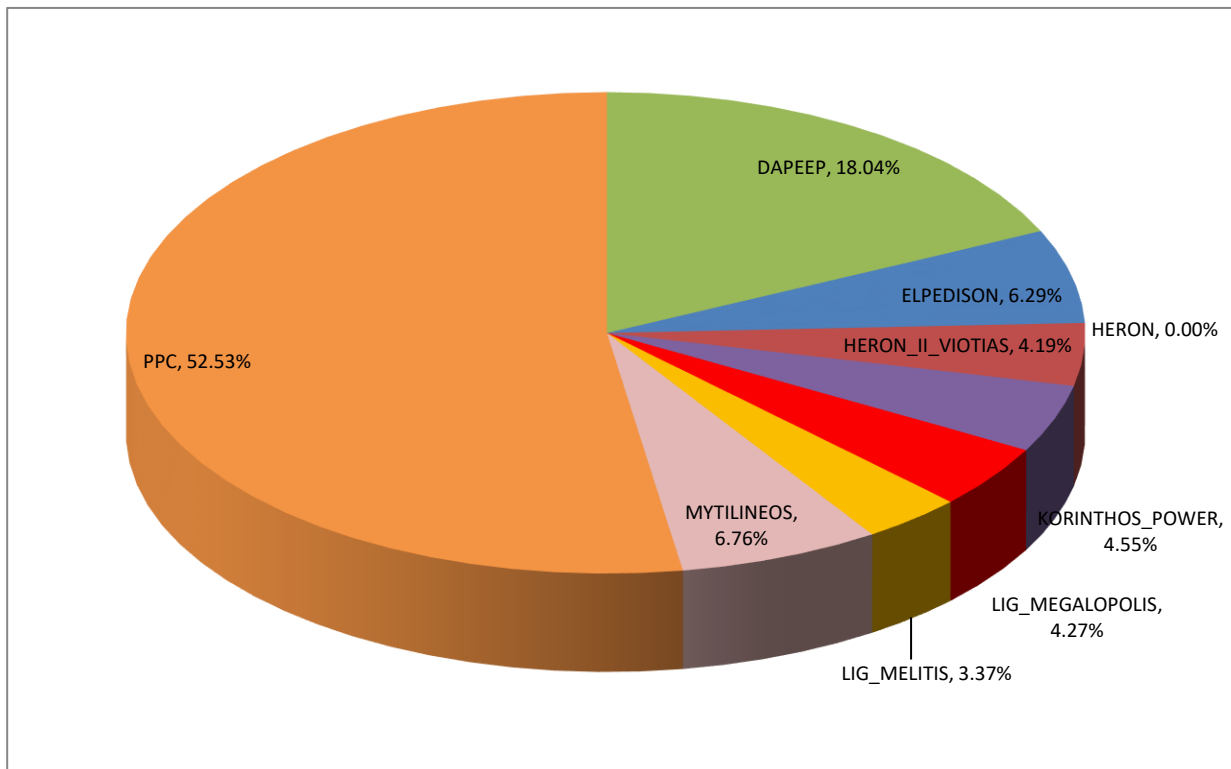


Figure 20: Percentage (%) of Total Monthly Production per Participant

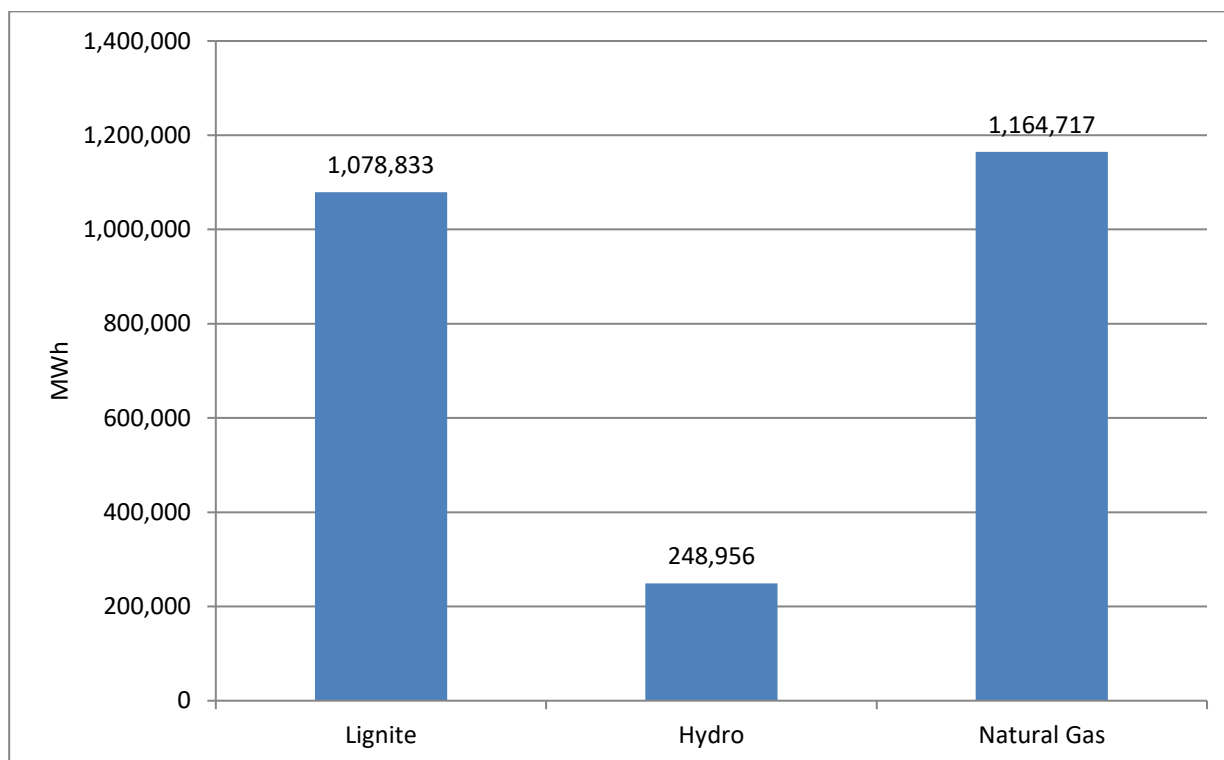


Figure 21: Monthly Production of PPC per fuel type

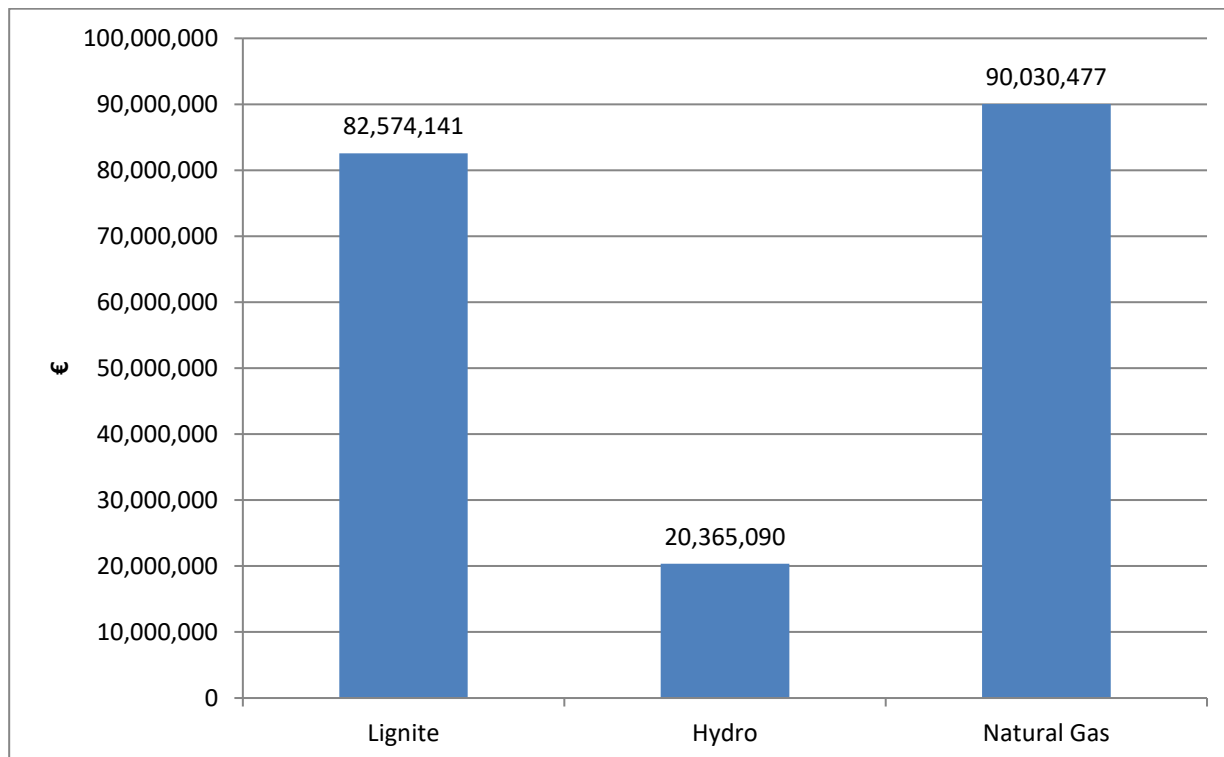


Figure 22: Monthly Credits of PPC per fuel type

### 4.3 Production per Participant, fuel type and operation status

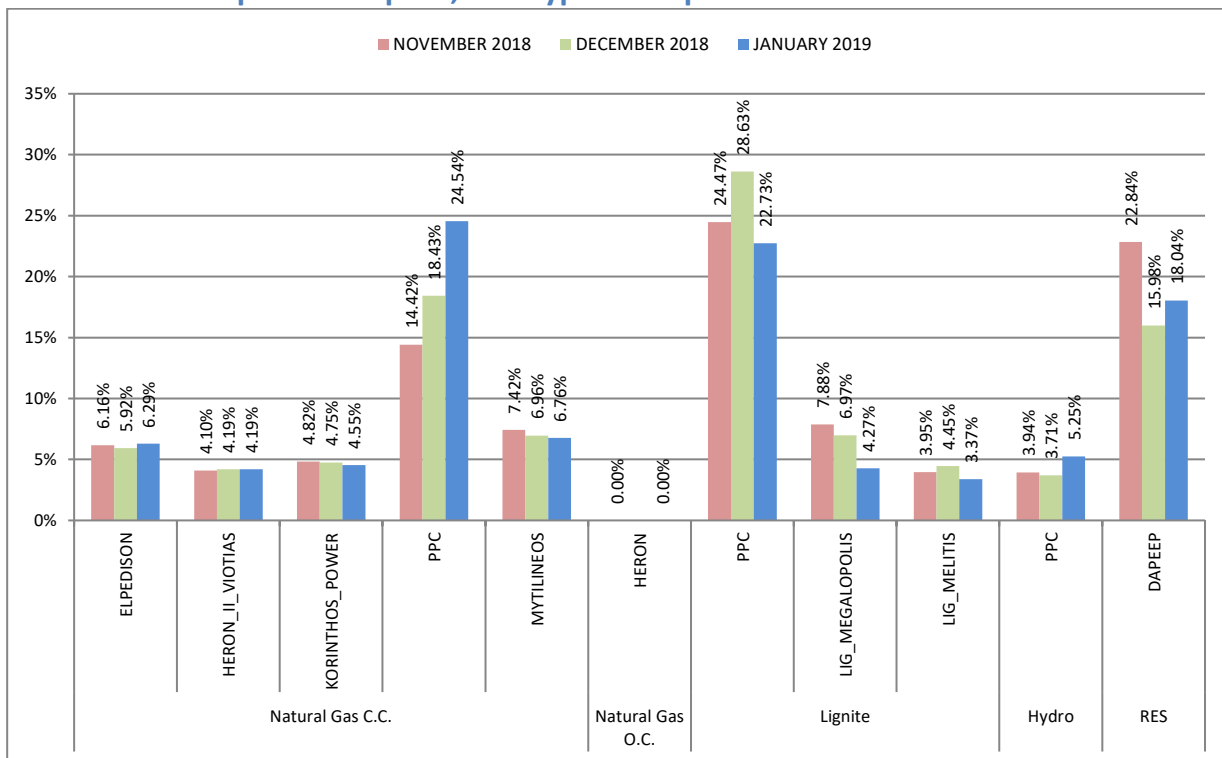


Figure 23: Percentage (%) of total Monthly Production per Participant and fuel type, in comparison to the previous months.

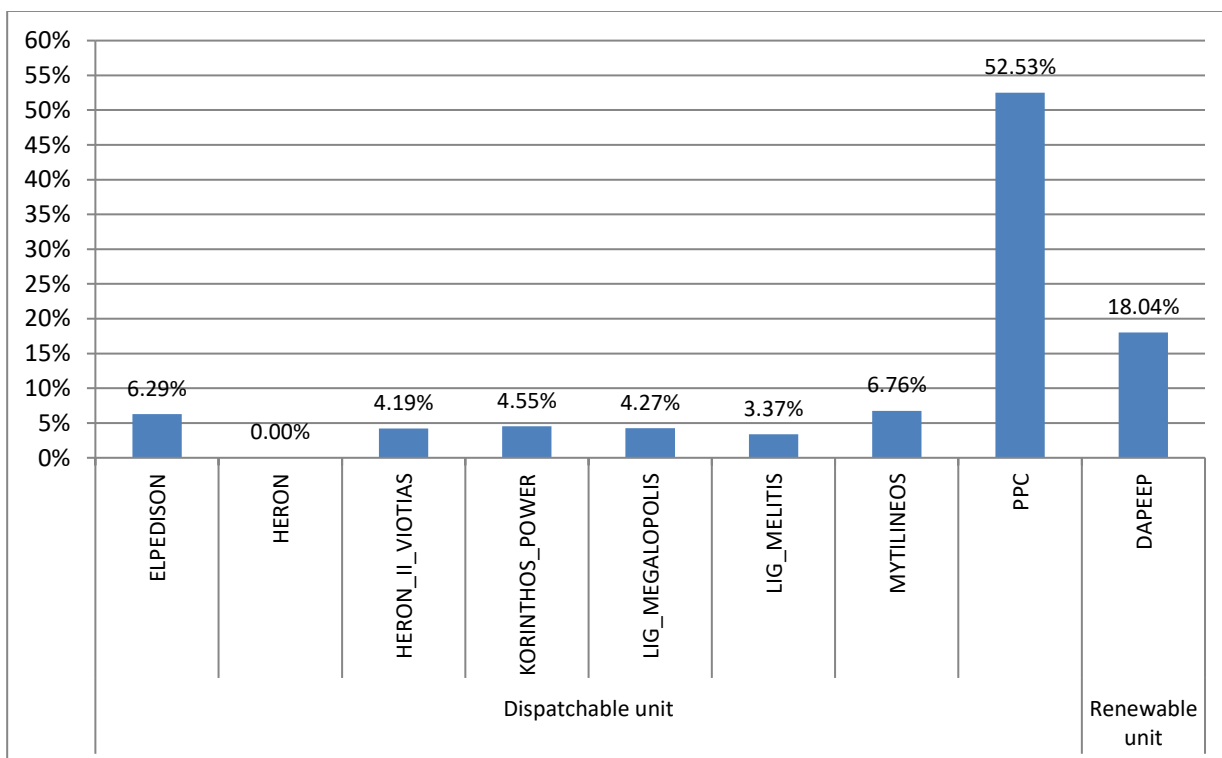


Figure 24: Percentage (%) of Total Production per Participant and operation status (testing operation, dispatchable unit, RES)



#### 4.4 Production and Credits per Unit

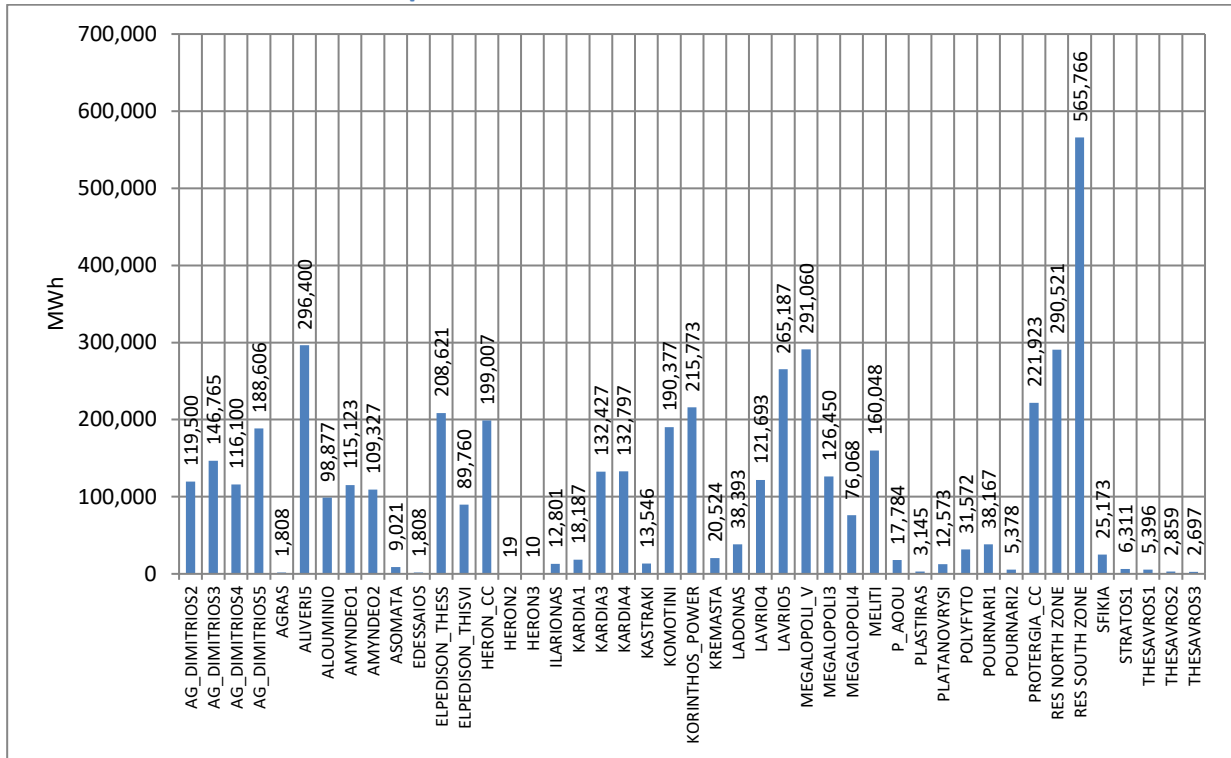


Figure 25: Monthly Energy per Unit

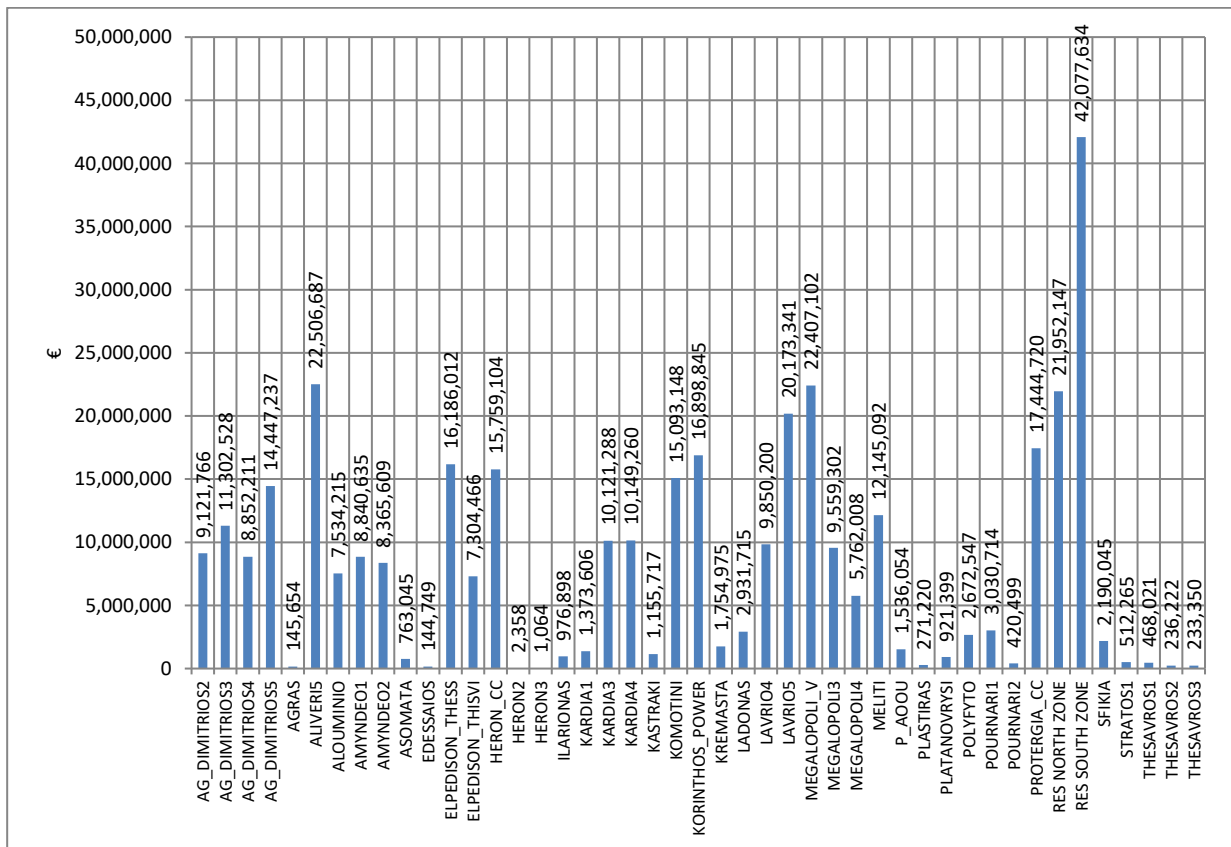


Figure 26: Monthly Credits per Unit

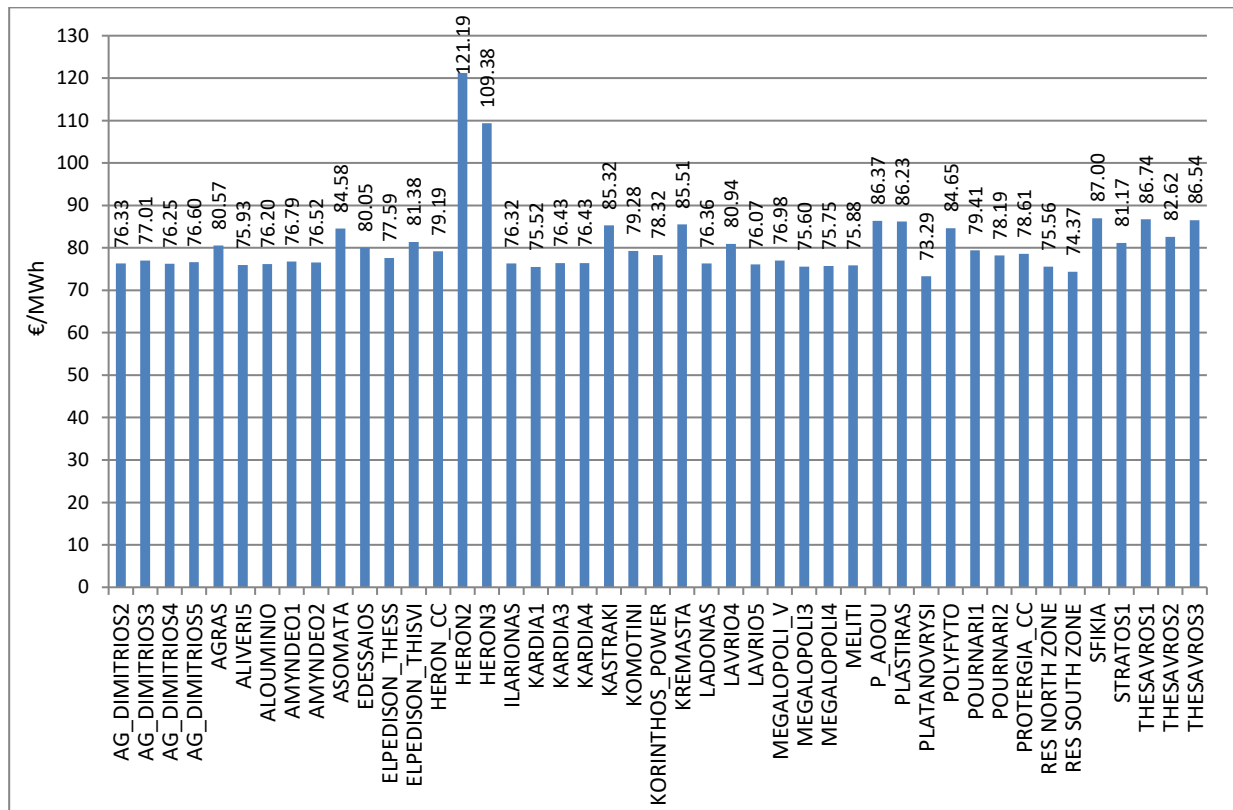


Figure 27: Monthly Credits/Monthly Production in €/MWh per Unit

## 5. Supply of Electricity

### 5.1 Load Declarations and Debits

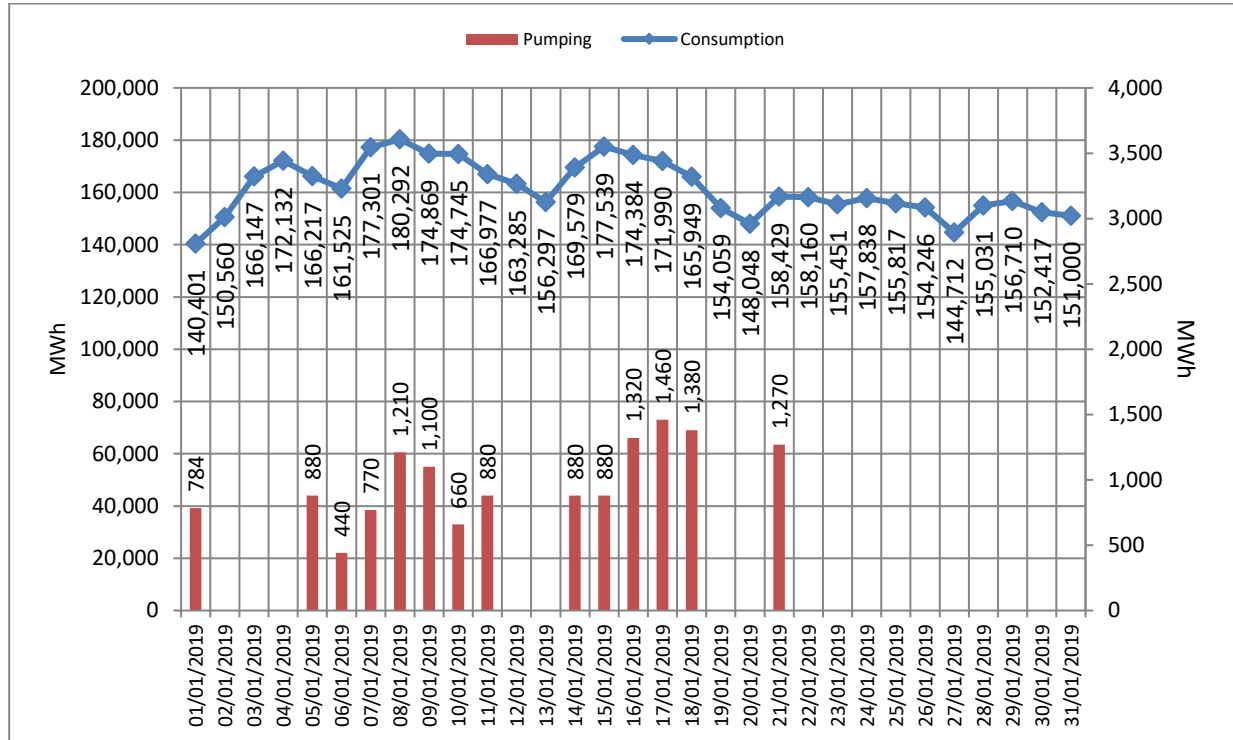


Figure 28: Daily Load Declarations and Pumping (MWh) (right axis represents pumping operation)

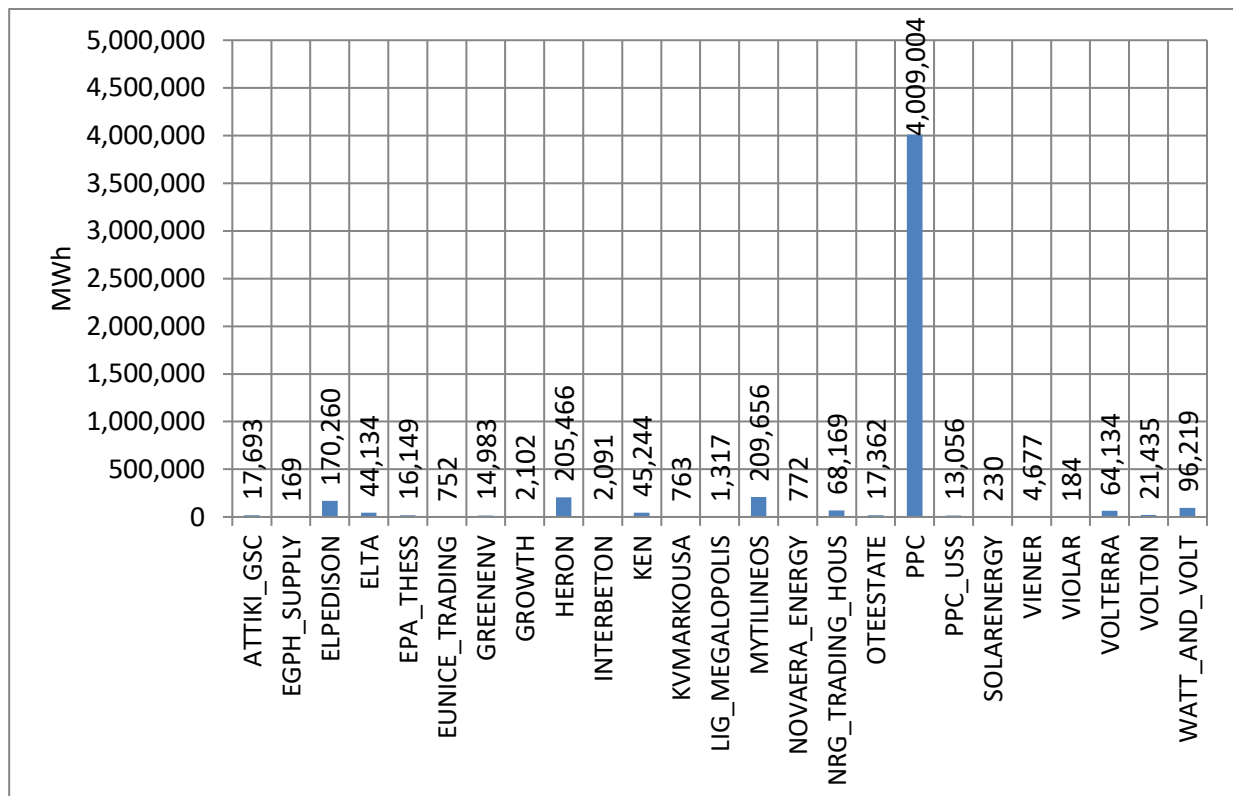


Figure 29: Monthly Supply per Participant

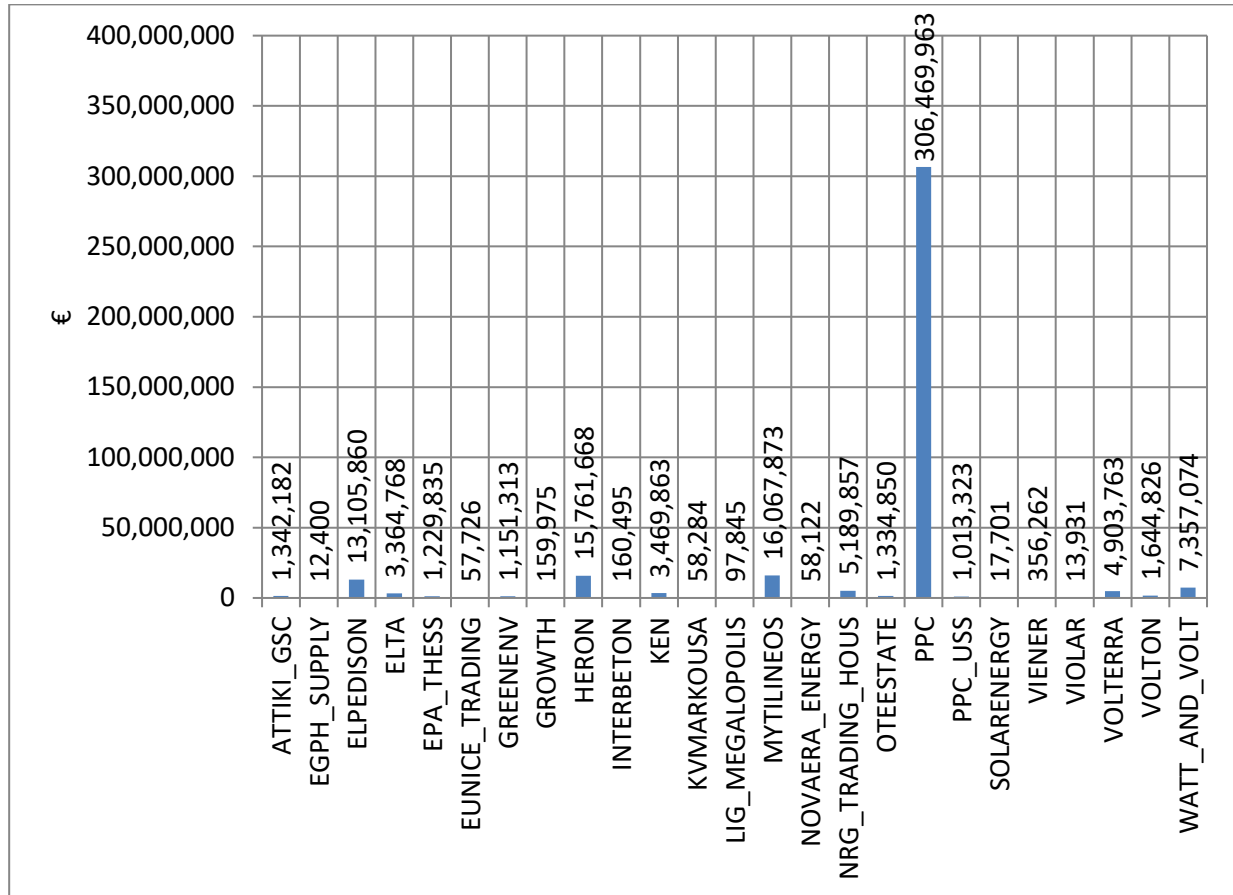


Figure 30: Monthly Supply Debits per Participant

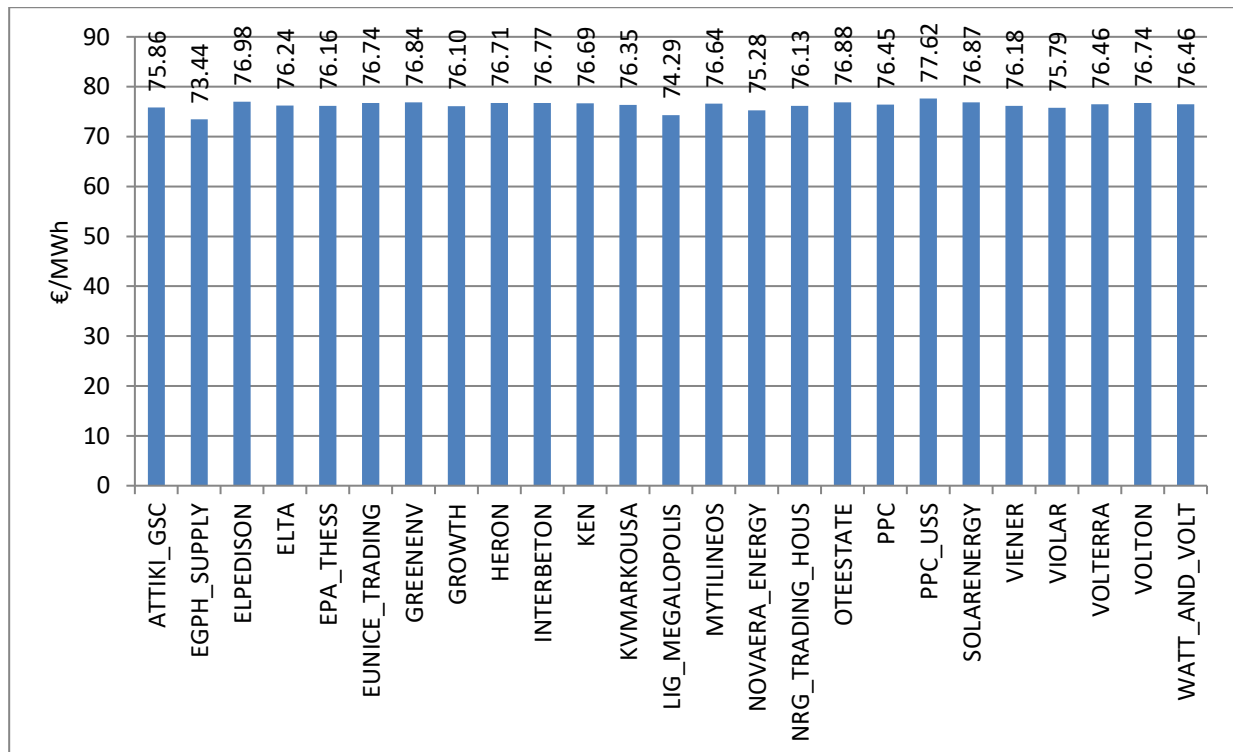


Figure 31: Monthly Debits / Monthly Supply in €/MWh per Participant

## 5.2 Analysis on Supply per Participant, Load Zone and Voltage Level

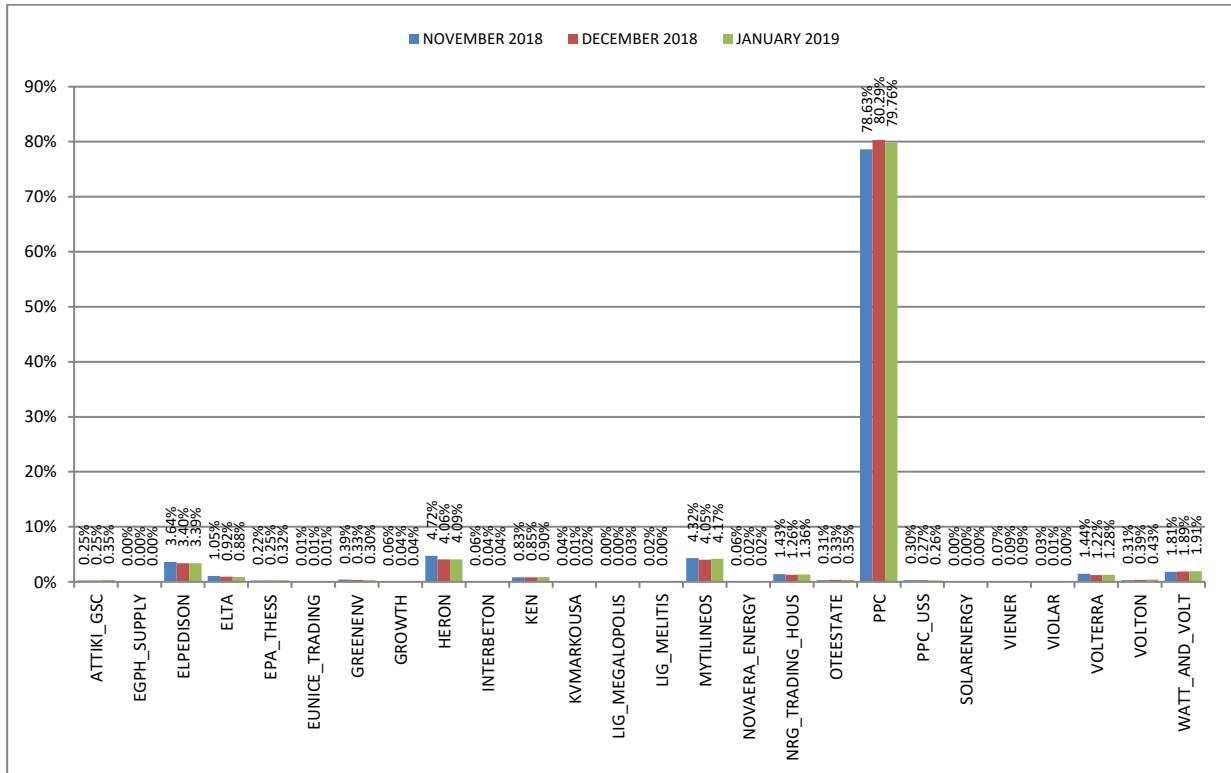


Figure 32: Percentage (%) of Total Monthly Supply per Participant in comparison with the two last months

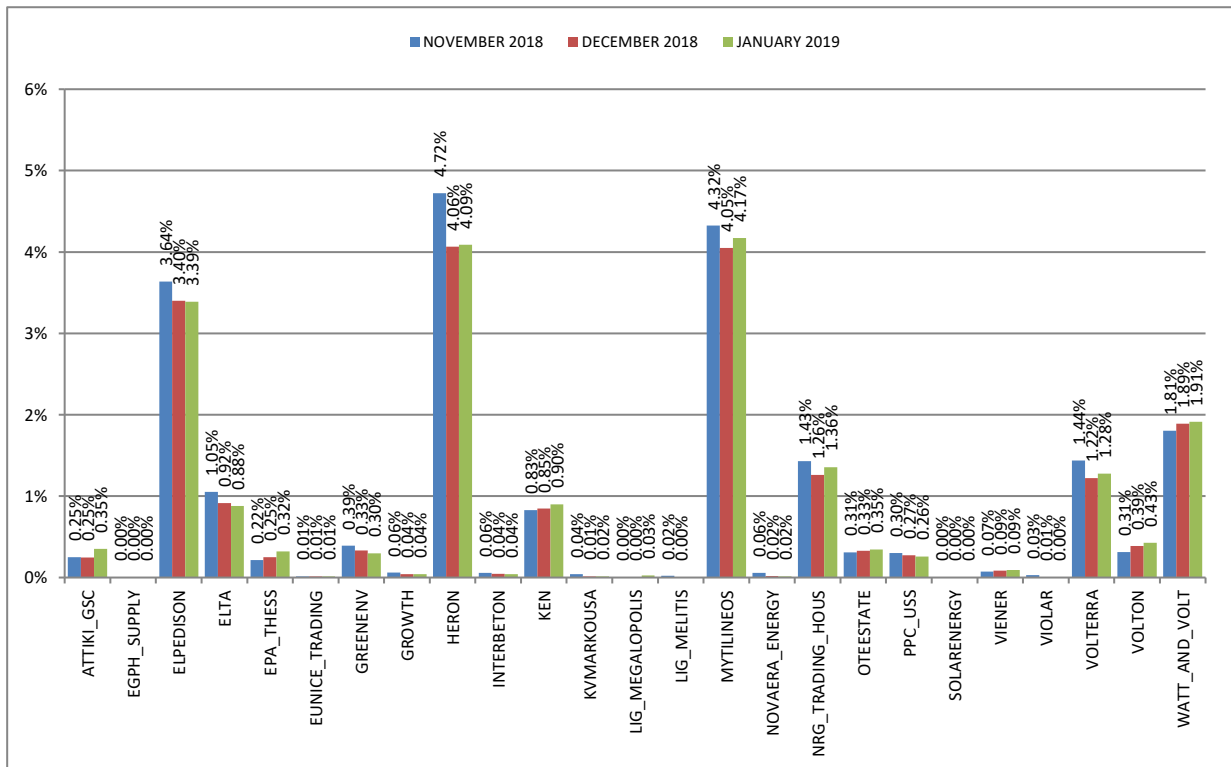


Figure 32a: Percentage (%) of Total Monthly Supply per Participant (without PPC) in comparison with the two last months.

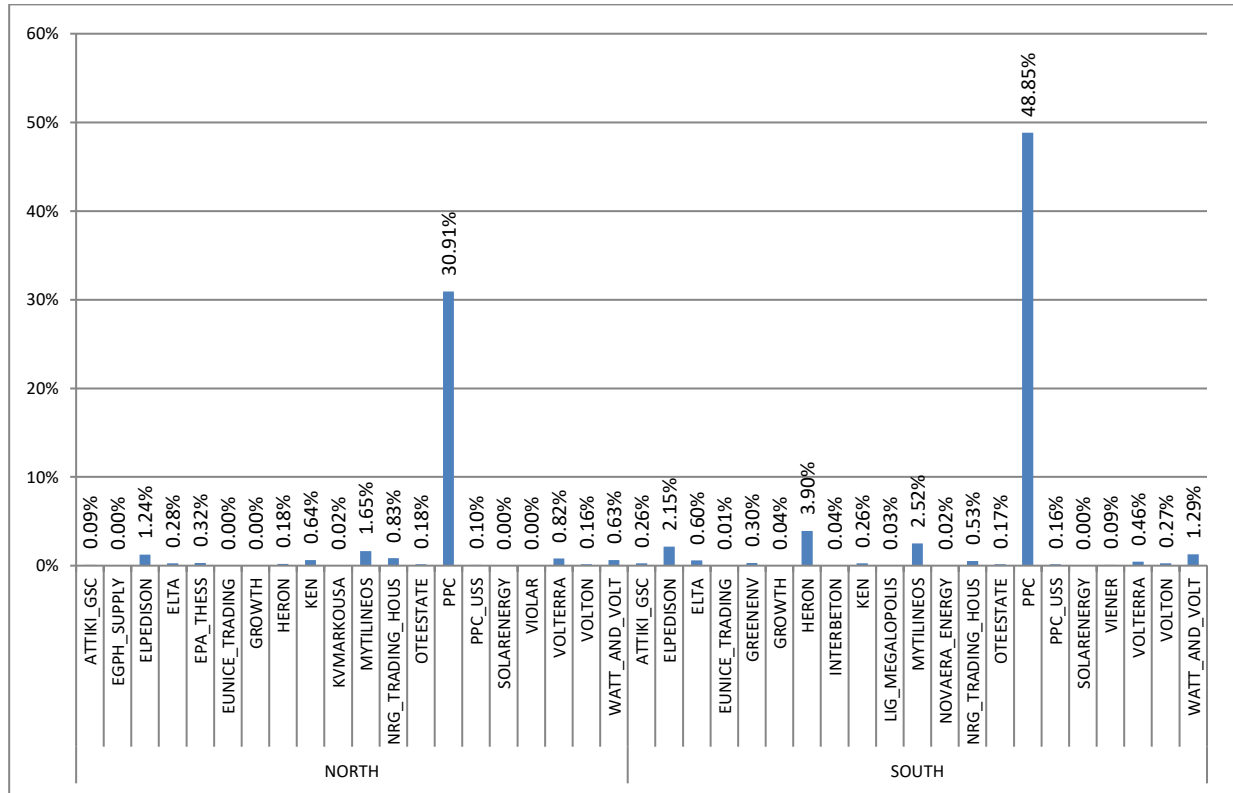


Figure 33: Percentage (%) of Total Monthly Supply per Participant and Zone

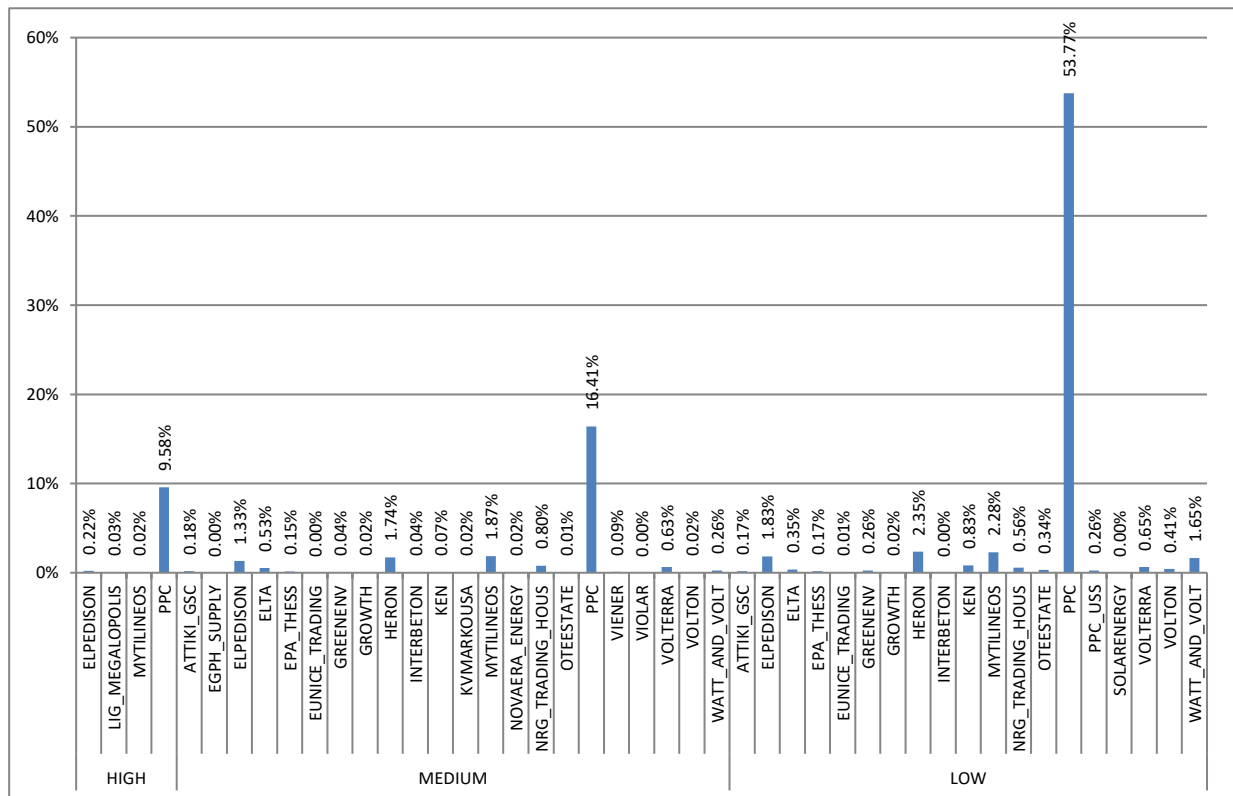


Figure 34: Percentage (%) of Total Monthly Supply per Participant and Voltage Level

## 6. Electricity Trading

### 6.1 Imports

	Total	Albania	Bulgaria	Italy	F.Y.R.O.M.	Turkey
<b>Daily Average Imports</b>	30,376	3,352	5,928	13,516	6,447	1,133
<b>Total Monthly Imports</b>	941,665	103,916	183,756	419,005	199,870	35,118

Table 4: Daily Average and Total Monthly Imports per Interconnection (MWh)

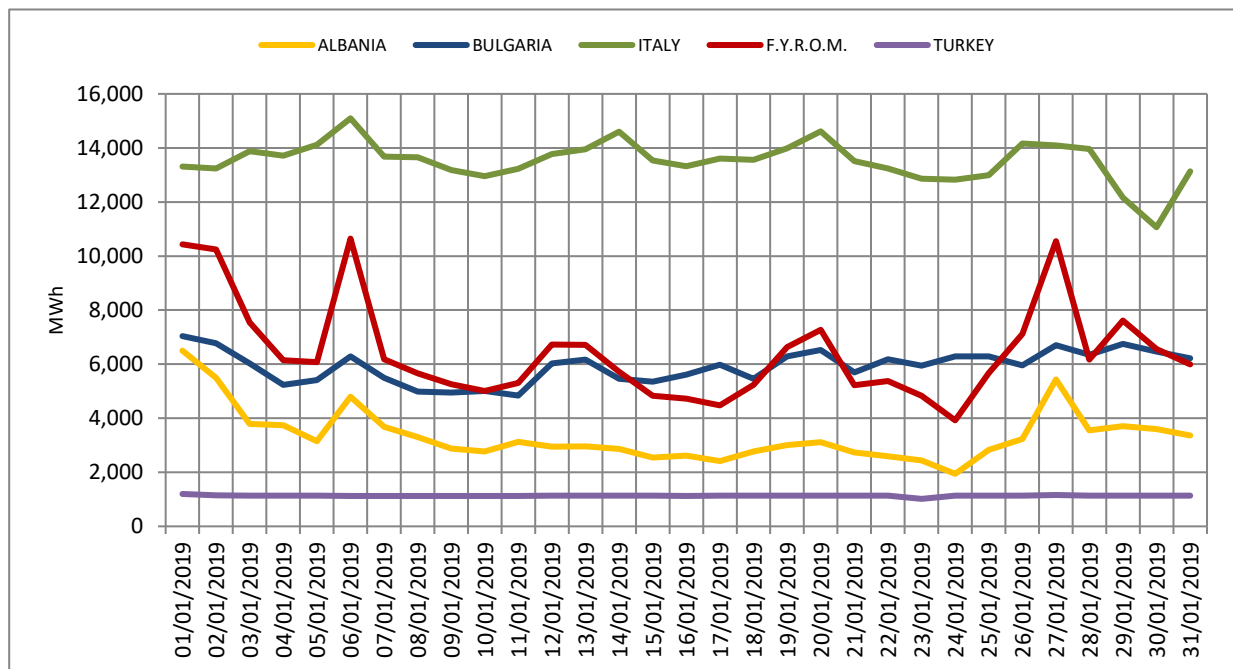


Figure 35: Daily Imports per Interconnection

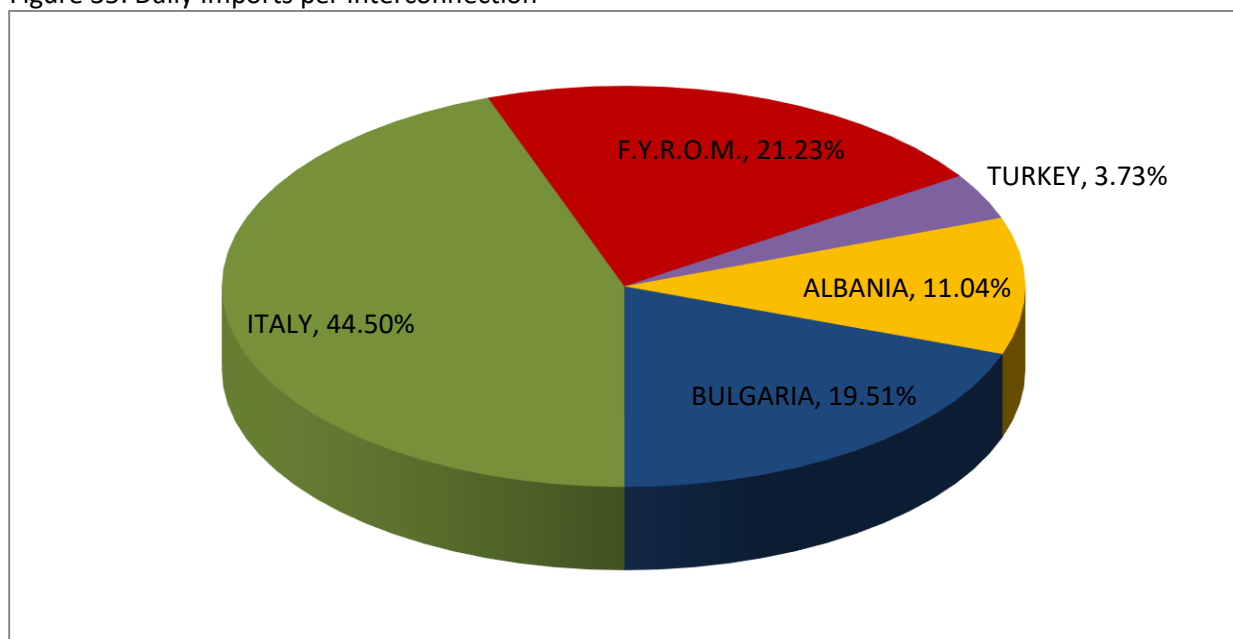


Figure 36: Percentage (%) of Monthly Imports per Interconnection

## 6.2 Exports

	Total	Albania	Bulgaria	Italy	F.Y.R.O.M.	Turkey
<b>Daily Average Exports</b>	21,322	4,709	3,391	5,222	8,000	0.03
<b>Total Monthly Exports</b>	660,992	145,992	105,110	161,886	248,003	1

Table 5: Daily Average and Total Monthly Exports per Interconnection (MWh)

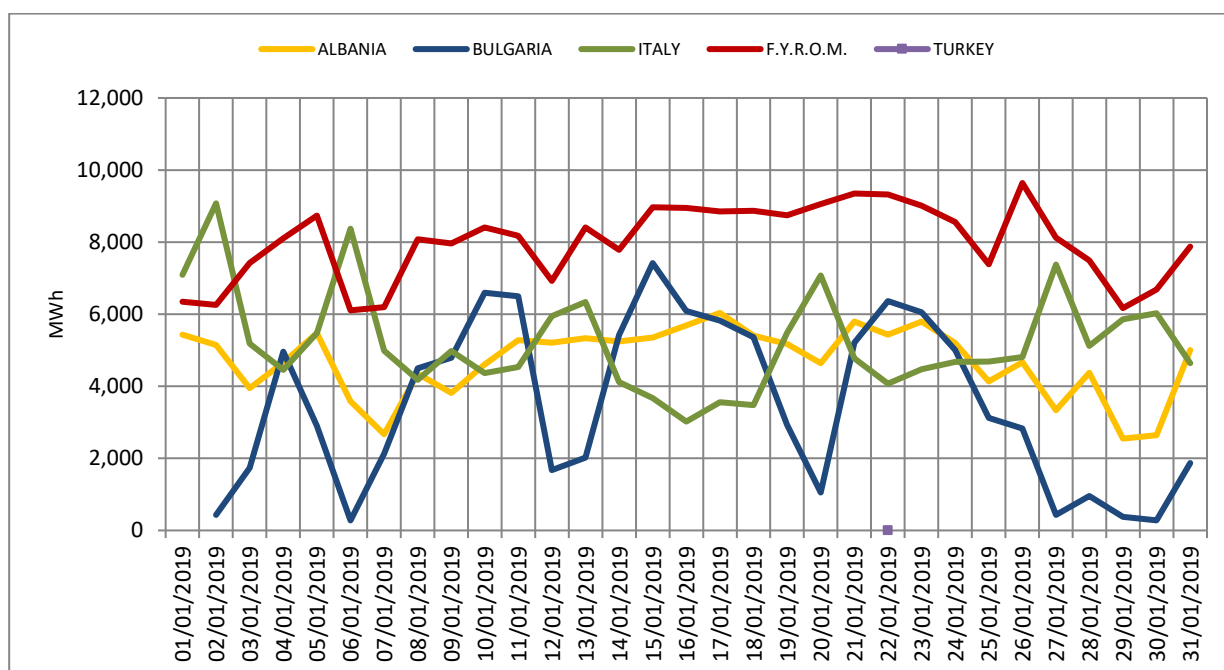


Figure 37: Daily Exports per Interconnection (MWh)

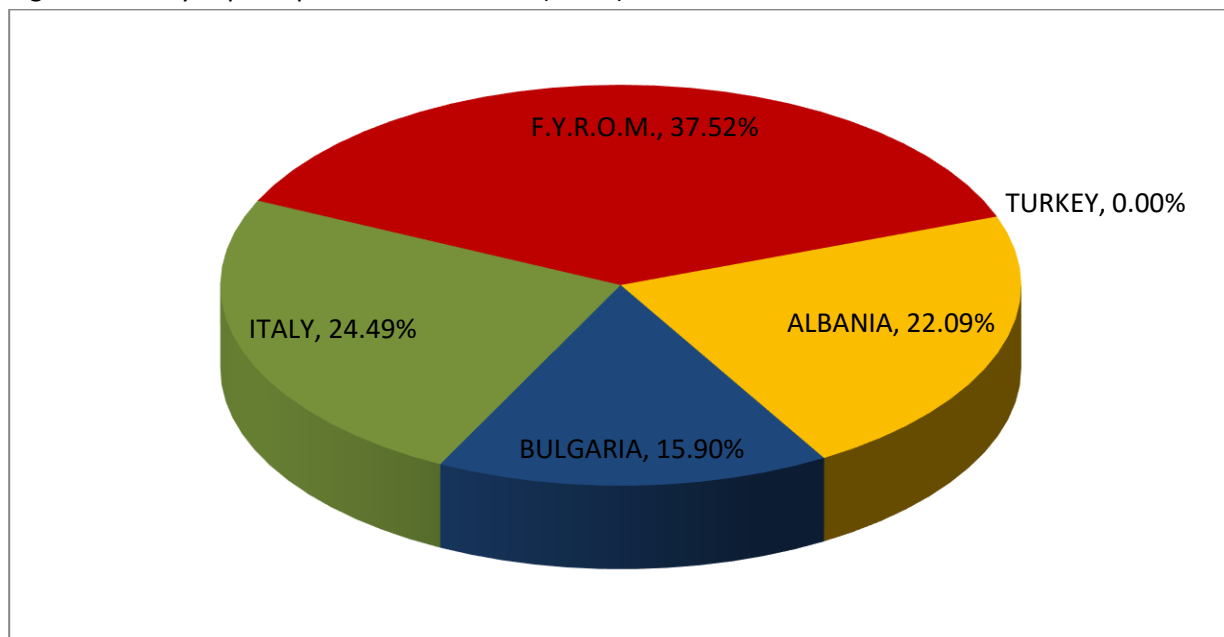


Figure 38: Percentage (%) of Monthly Electricity Exports per Interconnection



### 6.3 Electricity Transit

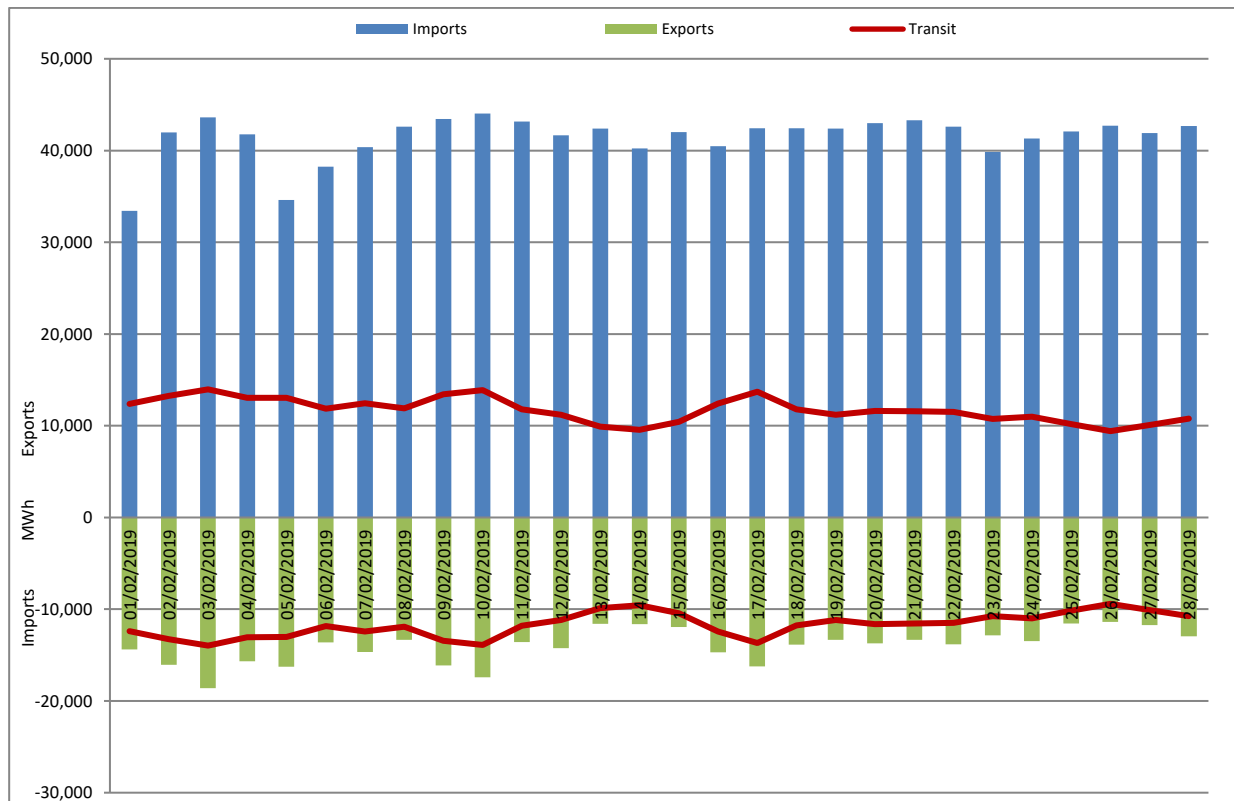


Figure 39: Daily Transit\*

\* Energy Transit shall mean the concurrent, namely during the same Dispatch Period, Import and Export of energy by the same participant, regardless of the capacity in which such Participant carries out such concurrent Import and Export. The energy quantity transited by a Participant during a Dispatch Period shall be calculated as the minimum between the absolute value of all Imports and the absolute value of all Exports performed by such Participant in the same Dispatch Period.

Source: Power Exchange Code for Electricity, Article 81

#### 6.4 Net Position of Interconnections Balance

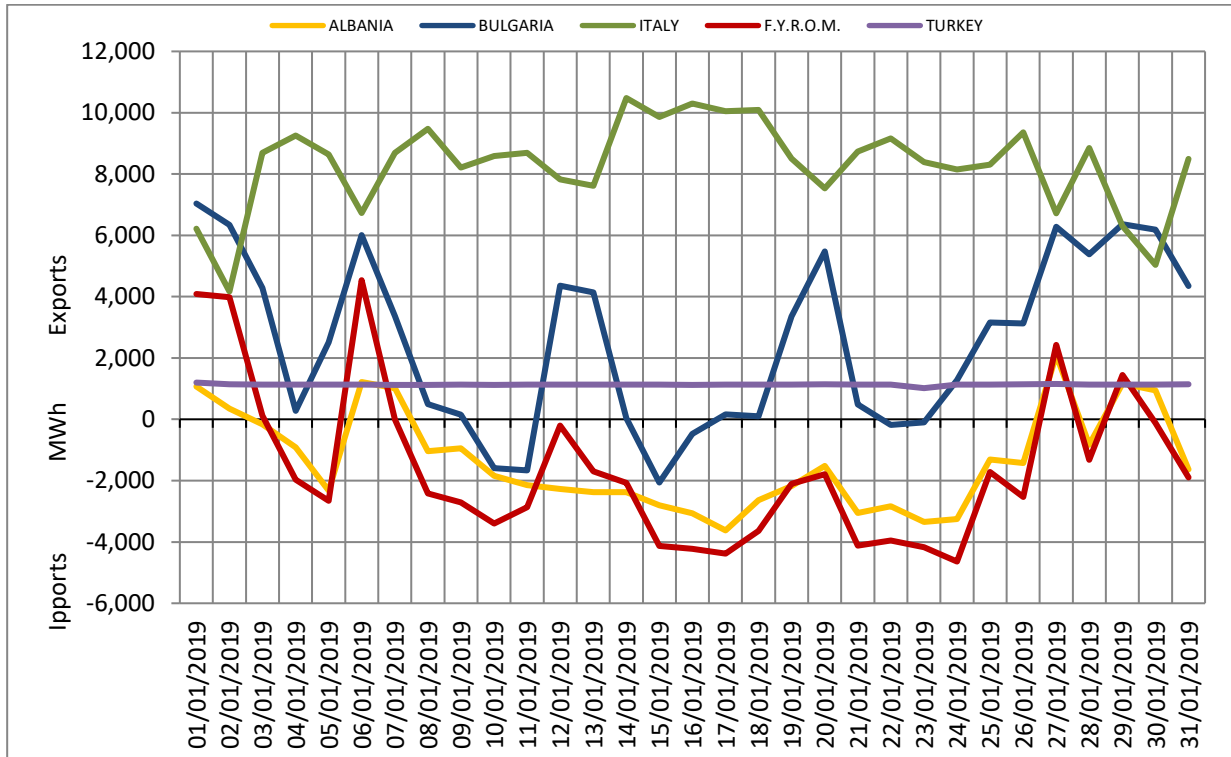


Figure 40: Daily Net Position of Interconnections (Imports-Exports), (positive values: more Imports, negative values: more Exports)

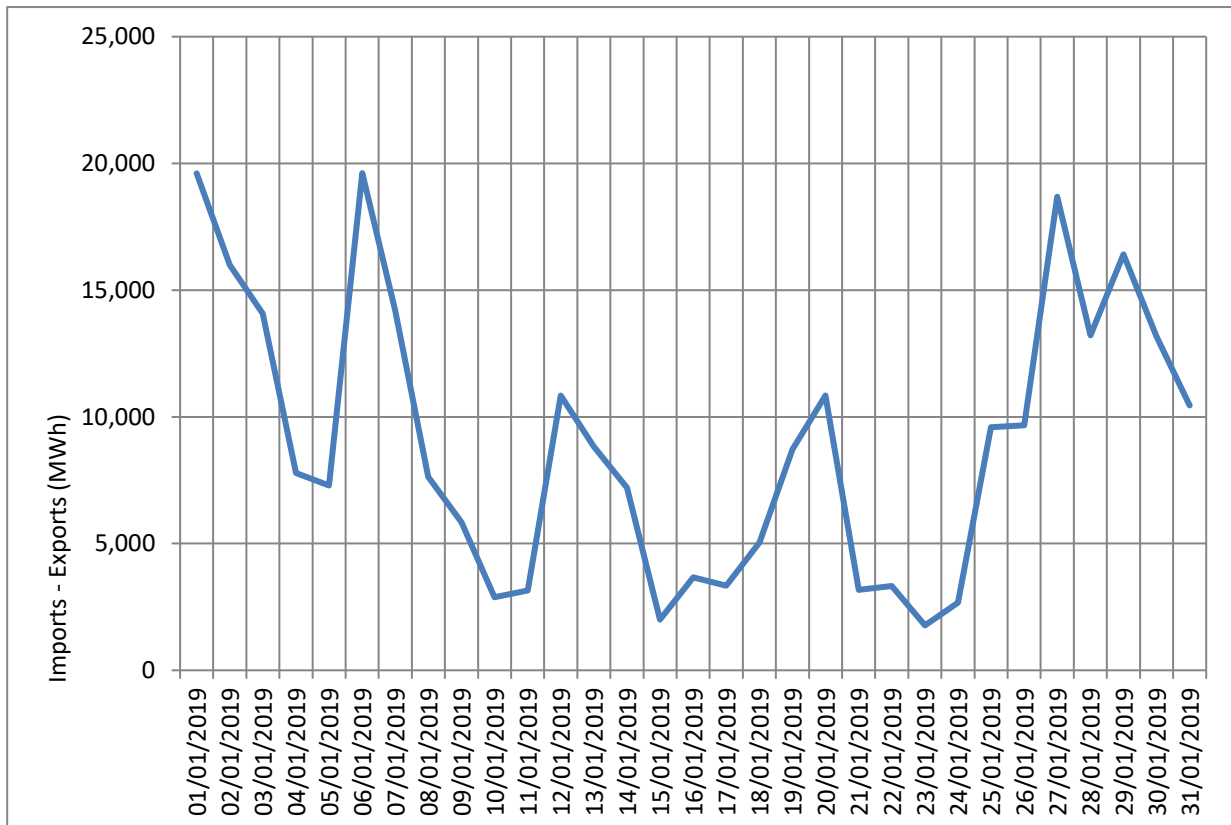


Figure 41: Daily Net Position of all Interconnections (Imports - Exports)

## 6.5 Analysis on Trading per Participant and Interconnection

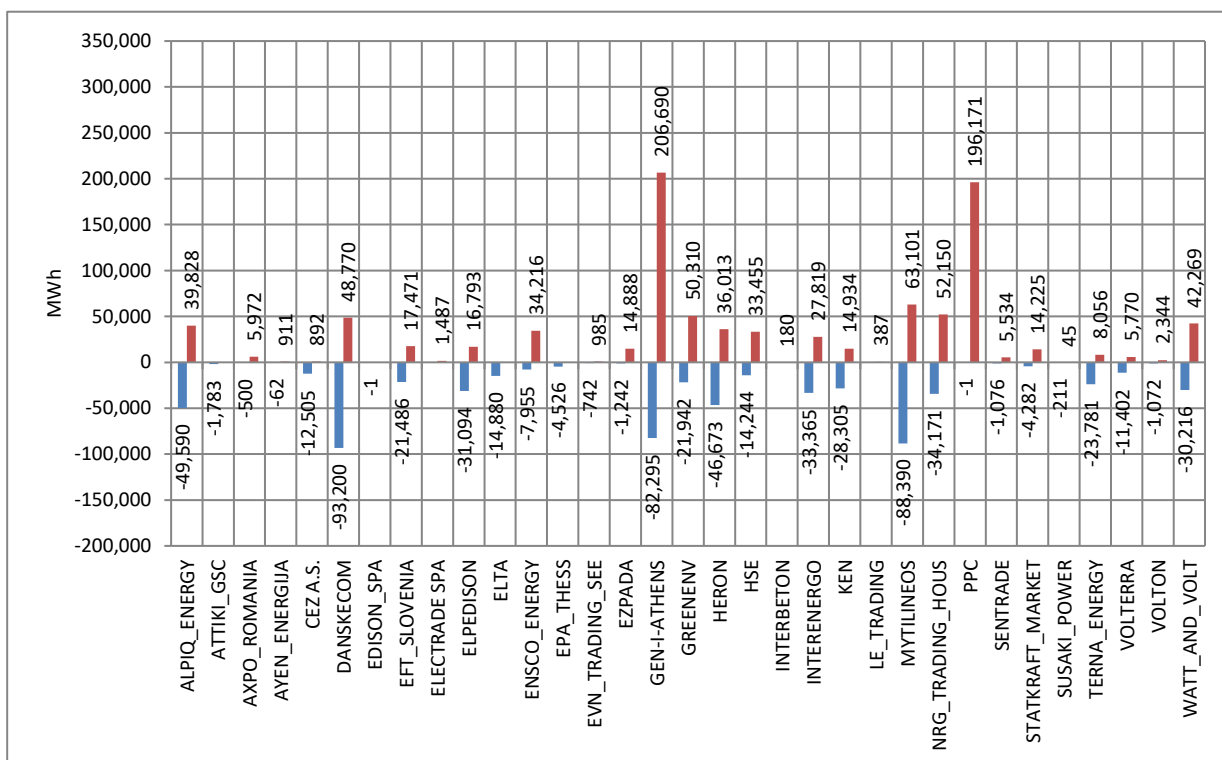


Figure 42: Monthly Trading per Participant and activity (positive values: Imports, negative values: Exports)

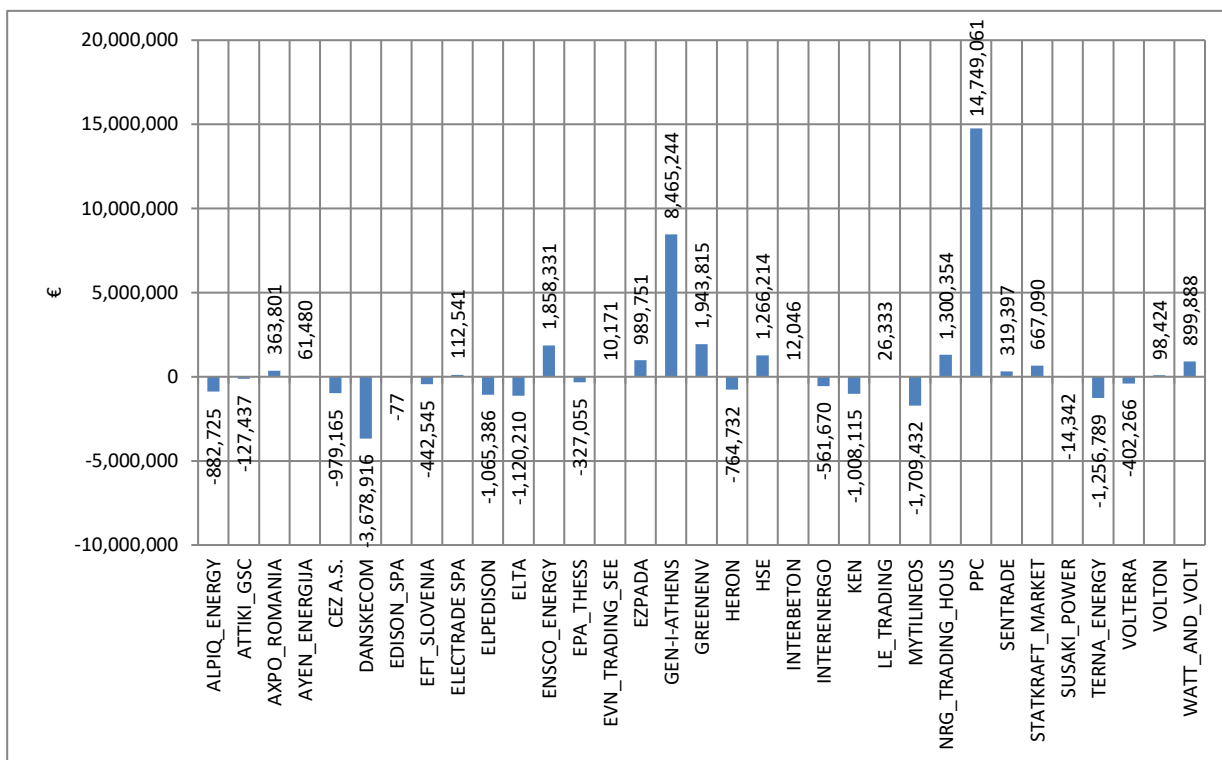


Figure 43: Trading Credits/Debits per Participant (positive values: Credits, negative values: Debits)

## 6.6 Wrong Direction Energy Flows

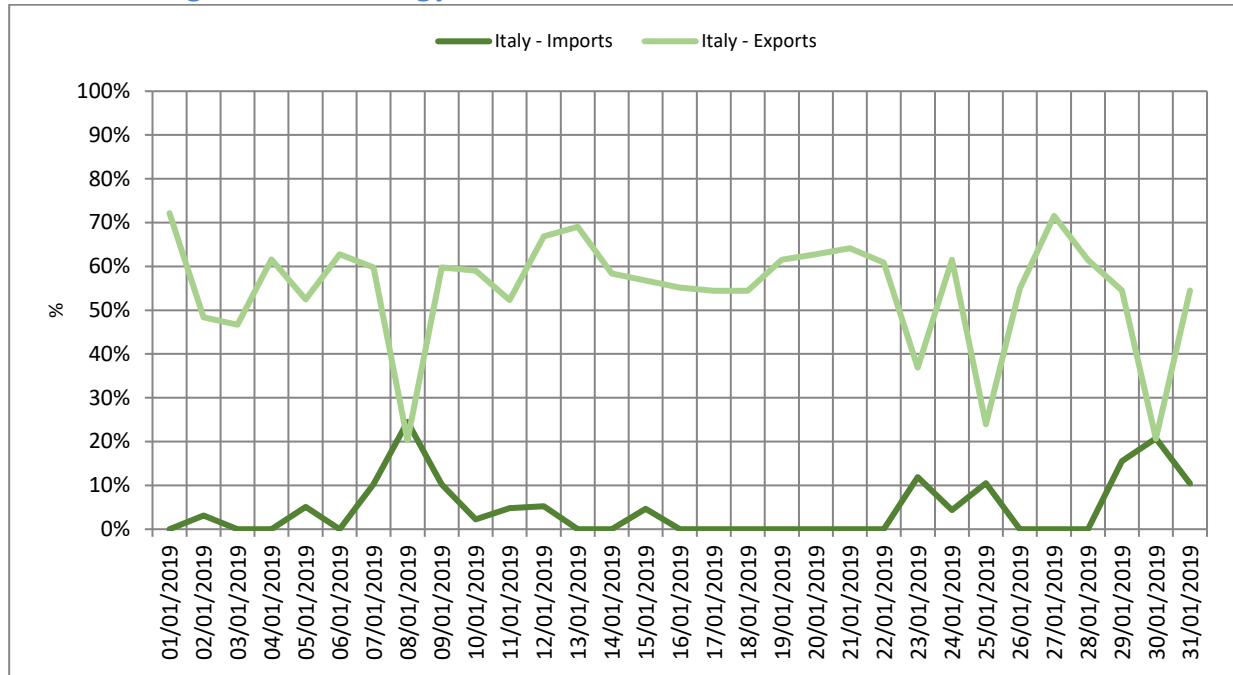


Figure 44: Daily percentage (%) of indicative wrong direction energy flows\* as part of the realized imports/exports for the interconnection of Greece-Italy, which would not get implemented under market coupling

\*As indicative wrong energy flows is defined the energy flow from a bidding zone with higher price to a bidding zone with lower price. The above values of energy trading are calculated based on the Short-Term Capacity Rights.

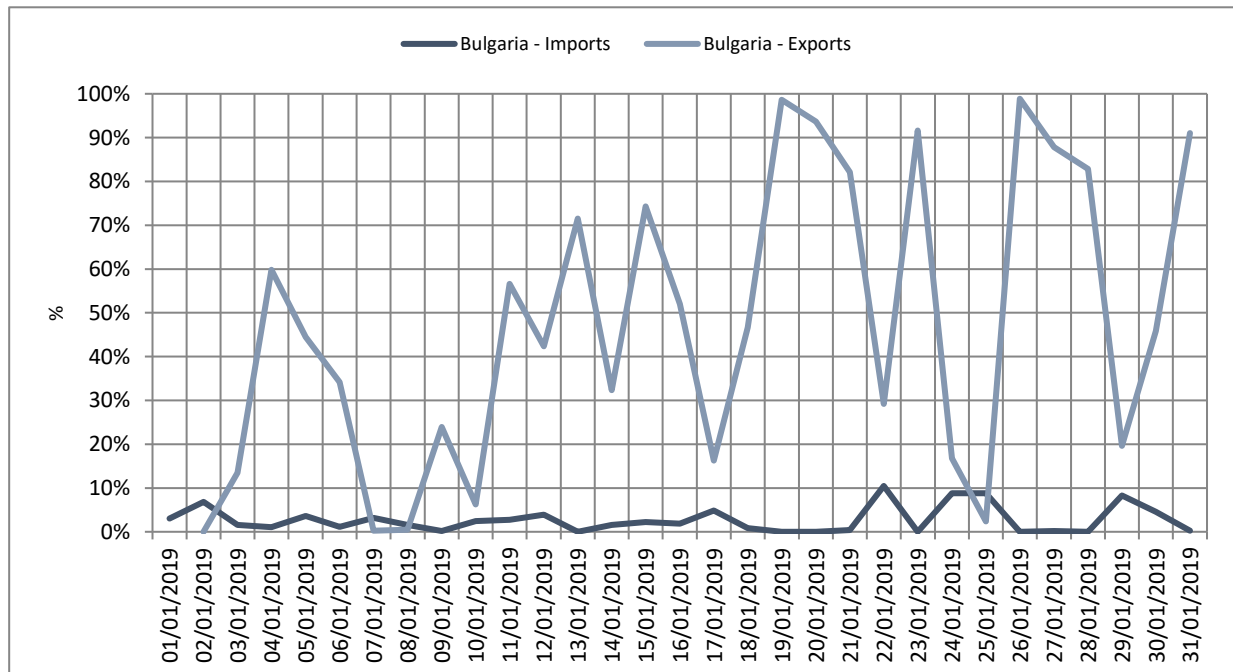


Figure 45: Daily percentage (%) of indicative wrong direction energy flows\* as part of the realized imports/exports for the interconnection of Greece-Bulgaria, which would not get implemented under market coupling

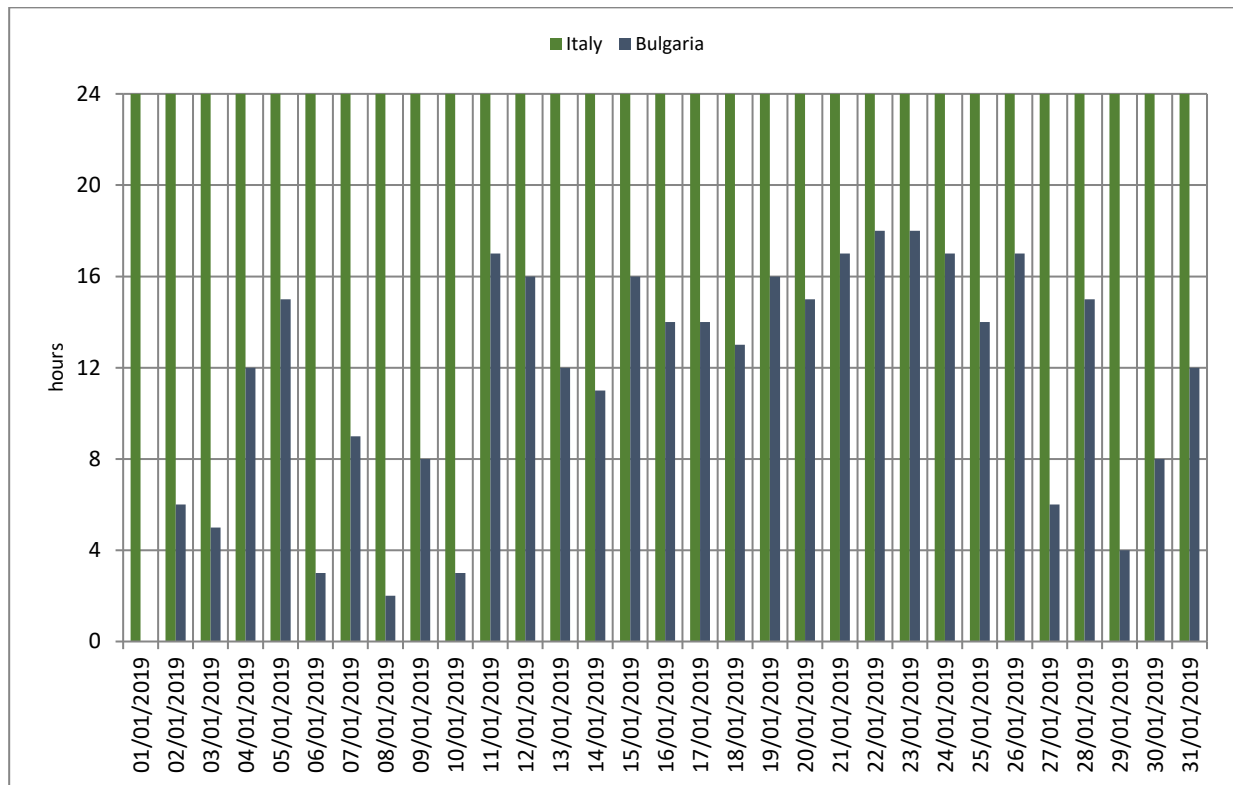


Figure 46: Hours per day with wrong direction energy flows