

The results of the recent auctions for PV and Wind installations and next steps on RES Auctions

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Athens, 12 September 2018

Agenda

- The auction procedure and the basic characteristics of each auction
- The results and statistics of the recent auction.
- New RES auctions – the design and timetable
- Thoughts for the parameters of the new auctions.
- Public consultation / Questions

1

New operating aid
scheme for the
production of
electricity from RES
and HECHP
approved by EU

Legislation Framework (1)

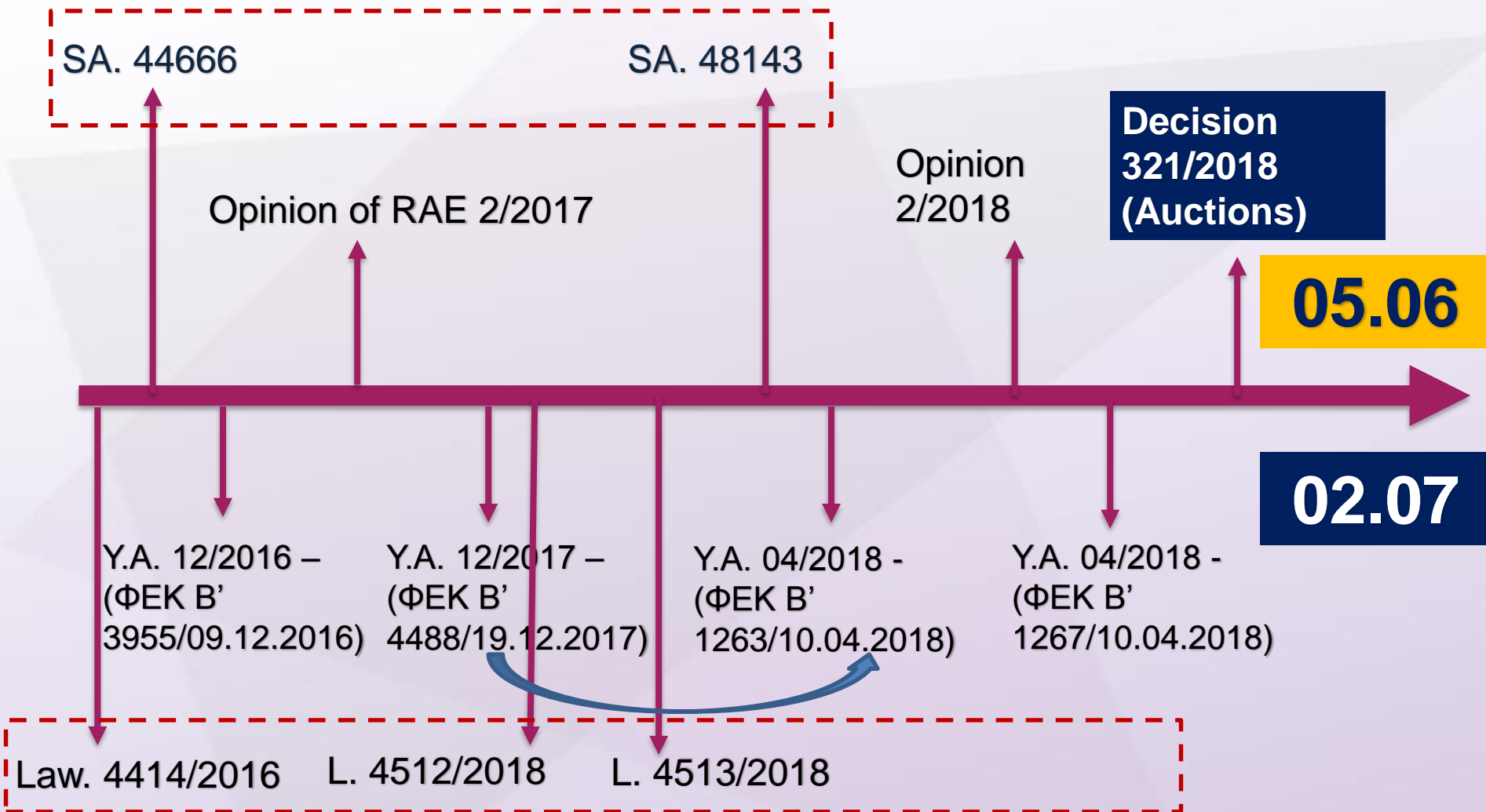
- Until 2016, all RES units have been paid for all the amount of electricity they have produced so far (Feed-In-Tariff).
- Law4414/2016 provides the conduct of permanent competitive auctions for RES projects.
- The RES support mechanism (sliding Feed In Premium) was approved and published on 25.02.2017 in the EU State Aid [C(2016) 7272 final]
[http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=3 SA 44666](http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=3_SA_44666)
- According to par. 2 of Article 7, RAE gave its opinion to the Minister of Environment and Energy about the permanent competitive procedures.

Legislation Framework (2)

- In January 2018, DG Comp approved the National scheme for the permanent auction procedures (SA. 48143)

(Link: http://europa.eu/rapid/press-release_IP-18-5461_en.htm)

New legislation framework for RES



Public Consultation

On **24st** of January **2018** RAE organized a **daily workshop** to discuss with the market participants



RAE decided the procedure and the rules of the competitive auctions taking into account all the comments of the public consultation

The design of auctions for 2018-19-20

	Technology	Auctioned Capacity (max) - (MW)
2018	PV	300 MW
	Wind	300 MW
	Pilot common competitive auctions (neutral)	400 MW
2019	PV	Remaining capacity of PV technology of 2018 plus 300MW
	Wind	Remaining capacity of Wind technology of 2018 plus 300 MW
	Pilot common competitive auctions (neutral)	Remaining capacity of the common pilot of 2018 plus 400 MW
2020	PV	Remaining capacity of PV technology of 2019 plus 300 MW
	Wind	Remaining capacity of Wind technology of 2019 plus 300 MW
	Auctioned Capacity	2.600 MW

Description of the competitive auctions procedure

Description of the Process (1)

- **Step 1:** RAE issued by decision of the Board (321/2018 – Official Gazette B' 1466/27.04.2018) the terms and conditions for participation and described the process (RAE's call for tender).

The timetable of the first auctions

AUCTIONS PER TECHNOLOGY - PV - Wind	MAY 2018	JUNE 2018	JULY 2018
Public Consultation / Daily conferences			
1st RAEs Decision / Government Gazette			
Submission of Applications (Final date: 30/06/2018 time 11:30 a.m.)			
Submission of Hard Copies			
Evaluation of Applications - Phase A'			
2nd RAEs Decision - Temporary catalogue (19.06.2018)			
Submission of Objections - Phase A' (Final date: 21.06.2018 time 11:00 a.m.)			
Evaluation of Objections - Phase A'			
3rd RAEs Decision - Final catalogue of participants to the auctions (25.06.2018)			
Registration to the electronic platform - Phase B'(25-27.06.2018)			
Virtual auctions(27-29.06.2018)			
Conduct of Auction- Category I - (02.07.2018 - 10:00 a.m.)			
Conduct of Auction - Category II - (02.07.2018 14- 12:00 p.m.)			
Conduct of Auction - Category III - (02.07.2018 - 14:00)			
Submission of Objections - Phase B' - 30 min after the close of auction per category			
Evaluation of objections - Phase B'			
4th RAEs Decision - Final Catalogue of successful participants per Category			

Three Workshops: Thessaloniki 8th of May 2018



President of RAE
Dr. Nicolaos Boulaxis



Minister of Environment and Energy
George Stathakis

Thessaloniki 8th of May 2018



Thessaloniki 8th of May 2018



From left: President of RAE, Dr. Nicolaos Boulaxis, CEO of cosmoONE, Mr. Athanasios Petmezas, Coordinator of RES Auction procedure Team (RAE), Dr. Dionysios Papachristou, Minister of Energy and Environment, George Stathakis

Athens 10th of May 2018



Athens 10th of May 2018



President of RAE
Dr. Nicolaos Boulaxis



President of ELETAEN
Panagiotis Ladakakos

Athens 10th of May 2018



150 experts took part in the specific training (electronic auction platform). The whole procedure: Registration, Submission of application and electronic auctions was presented to the participants.

Ioannina 15th of May 2018



Description of the Process (2)

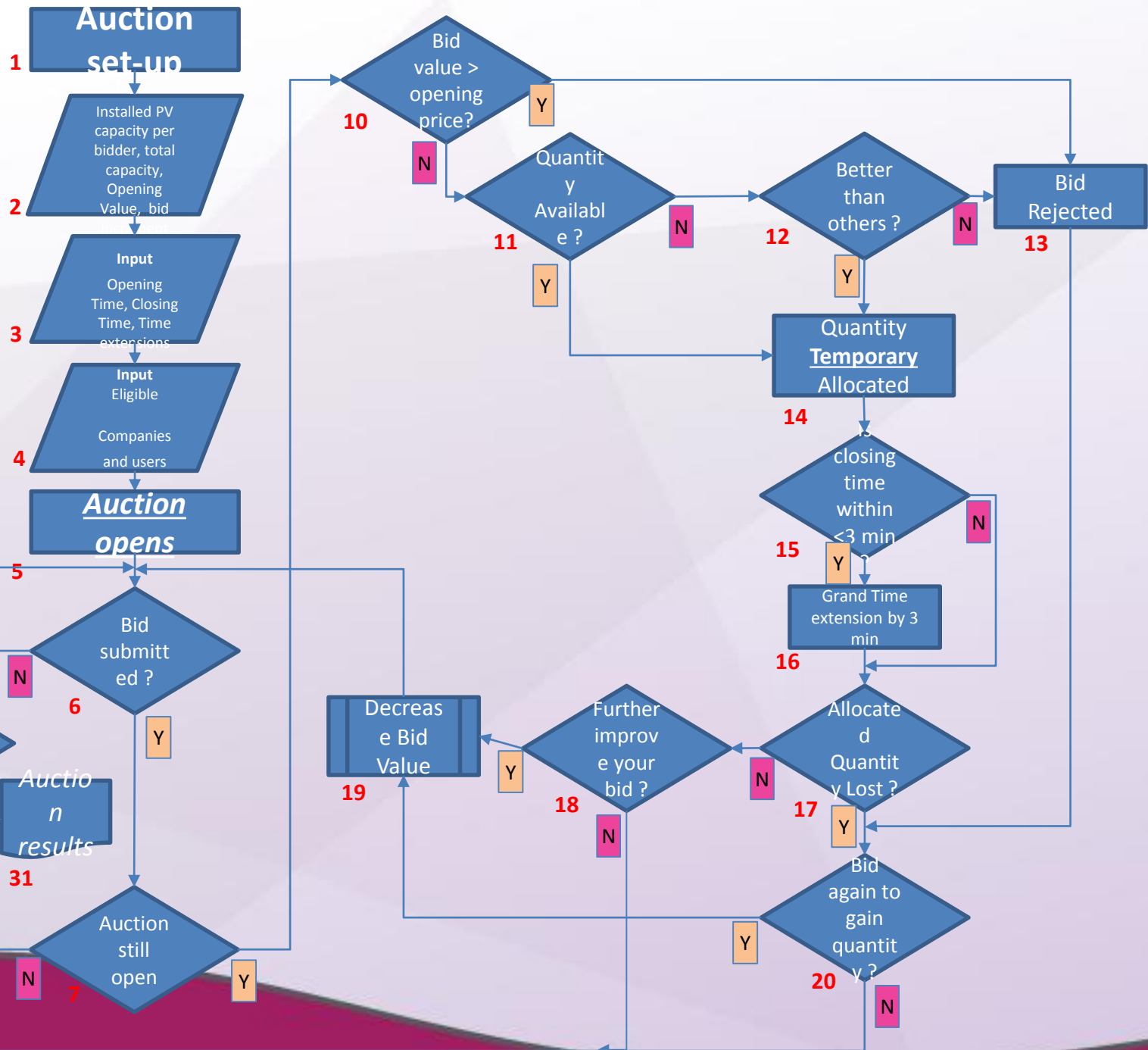
Online Platform

Participant &
user / users
Registration

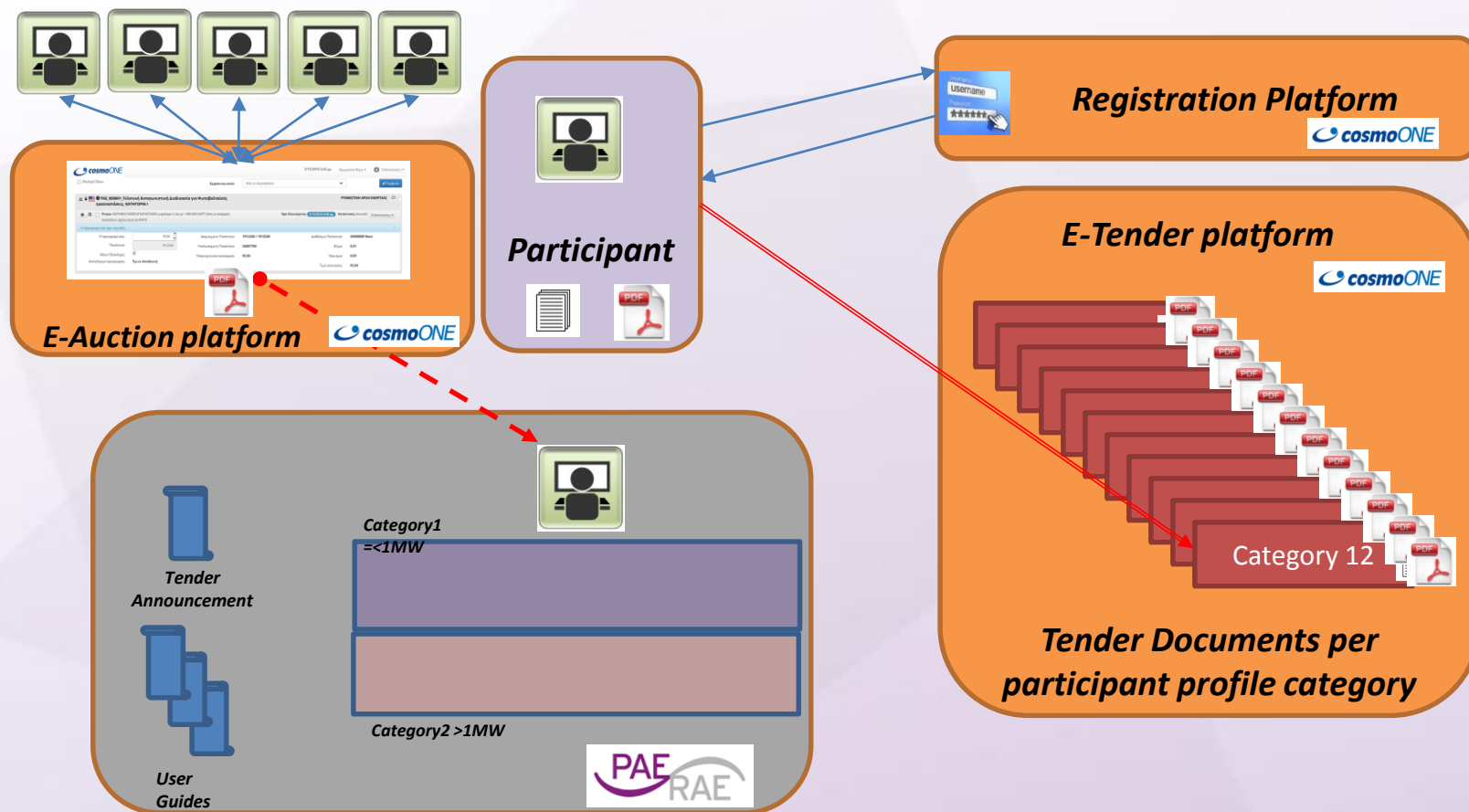
Submitting
Applications
and
Supporting
Documents

Online
Auction

The rules were decided by RAE and an algorithm was developed for the auction



Description of the Process



Three auctions

Category I:	PV stations	$P_{PV} \leq 1\text{MW}$	→	70 MW
Category II:	PV stations	$1\text{MW} < P_{PV} \leq 20\text{ MW}$	→	230 MW
Category III:	Wind Stations	$3\text{MW} < P_{\text{Wind}} < 50\text{ MW}$	→	300 MW

All of the competitive procedure will take place on the same date 02.07.2017

at **10:00 a.m. (Category I),**

at **12:00 a.m. (Category II)** and

at **14:00 (Category III),** lasting **thirty (30) minutes** each.

Steps of Competitive procedure

RAE's Decision – Competitive auctions

Registration of Participants

Application and Supporting Documents Submission **05.06.2018**

Evaluation / Examination of Applications

RAE's Decision - Table of Potential Participants

Submission of Objections

RAE's Decision - Final Table Phase A

Users' Training - Virtual Auction

Conducting of Online Auctions – **2nd of July 2018**

RAE's Decision - Table of Final Results

The Basic components of the three auctions for each Category

	$P_{PV} \leq 1 \text{ MW}$	$1 \text{ MW} < P_{PV} \leq 20 \text{ MW}$	$3 \text{ MW} < P_{Wind} \leq 50 \text{ MW}$
Auctioned Capacity (max) (MW)	70	230	300
Fee for participation (€)	500	1000	1000
Ceiling Price (€/MWh)	85	80	90
Level of competition	75%	75%	75%
Letter of Guarantee for participation in the auction procedure (typical installation: PV=10€/kW, Wind=12,5€/Kw)	1%	1%	1%
Letter of Guarantee for proper performance	4%	4%	4%
Timetable for Connection (months)	12	15m // $1 \text{ MW} < P_{PV} \leq 5 \text{ MW}$ 18m // $P_{PV} > 5 \text{ MW}$ 6m of the above limits if a Substation is needed	24m // $3 \text{ MW} < P_{WIND} \leq 10 \text{ MW}$ 36m // $P_{WIND} > 10 \text{ MW}$

Guidelines from RAE (Registration, Submission of Applications, participation on electronic auction) Virtual auctions

Results of the three auction procedures and Statistics

649/2018 Decision of the Board of RAE

A quick snapshot

- Three presentations (Thessaloniki, Athens, Ioannina)
- Training at OTE Academy (155 participants)
- Uploaded: 3.023 files (pdf format), total capacity of 6,3GB (for the three categories).
- 26 virtual electronic auctions per category

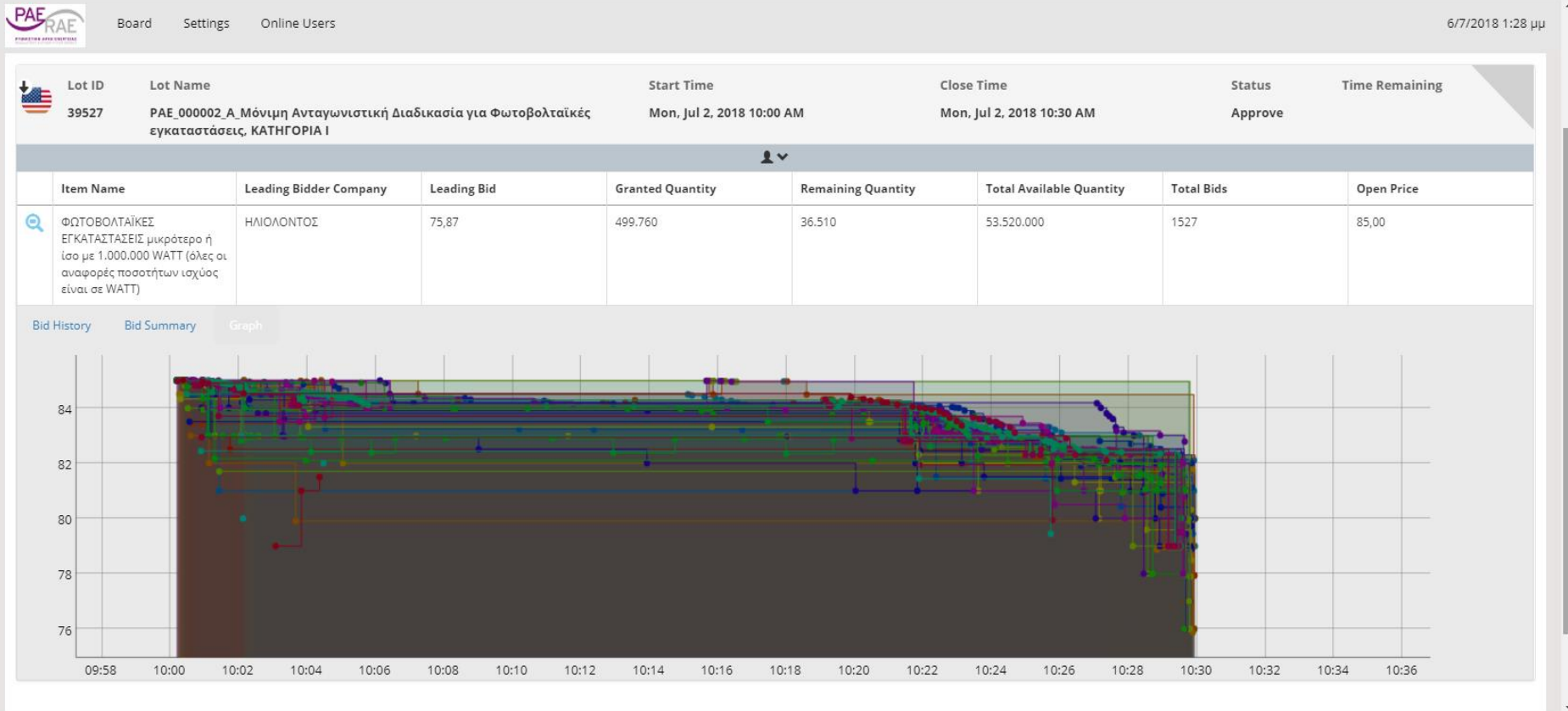
Category I (PV Installations $\leq 1\text{MW}$)

Tender statistics per participation type

Category I	# Projects Applied for participation	# Projects Approved to participate	# Projects Granded	MW Participated	MW Granded
Participation type :General Partnerships (EE, OE etc)	37	35	9	48.77	30.77
Participation type : Company Ltd	7	3	1	0.67	0.50
Participation type : Company Societe Anonyme (S.A.)	71	67	45	19.37	13.48
Participation type : Individual	21	19	8	16.26	4.32
Participation type :Private Capital Company (I.K.E.)	40	31	20	9.00	4.42
Participation type :Public Companies, Joint Ventures, Energy Communities	1	0	0	0.00	0.00
TOTAL	177	155	83	94.07	53.48
		88%	54%		57%

Category I (PV installations $\leq 1\text{MW}$)

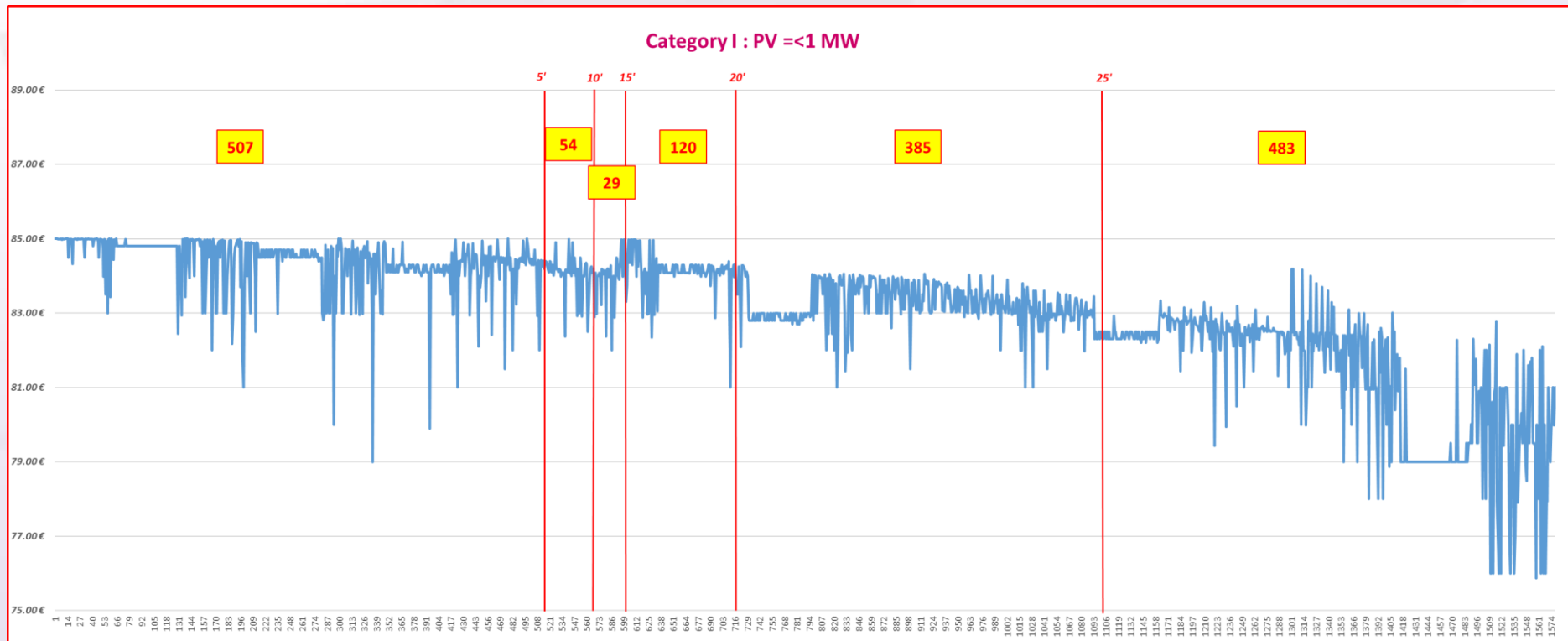
RAE Auction Console : Graph of bid values in time



Category I (PV installations $\leq 1\text{MW}$)

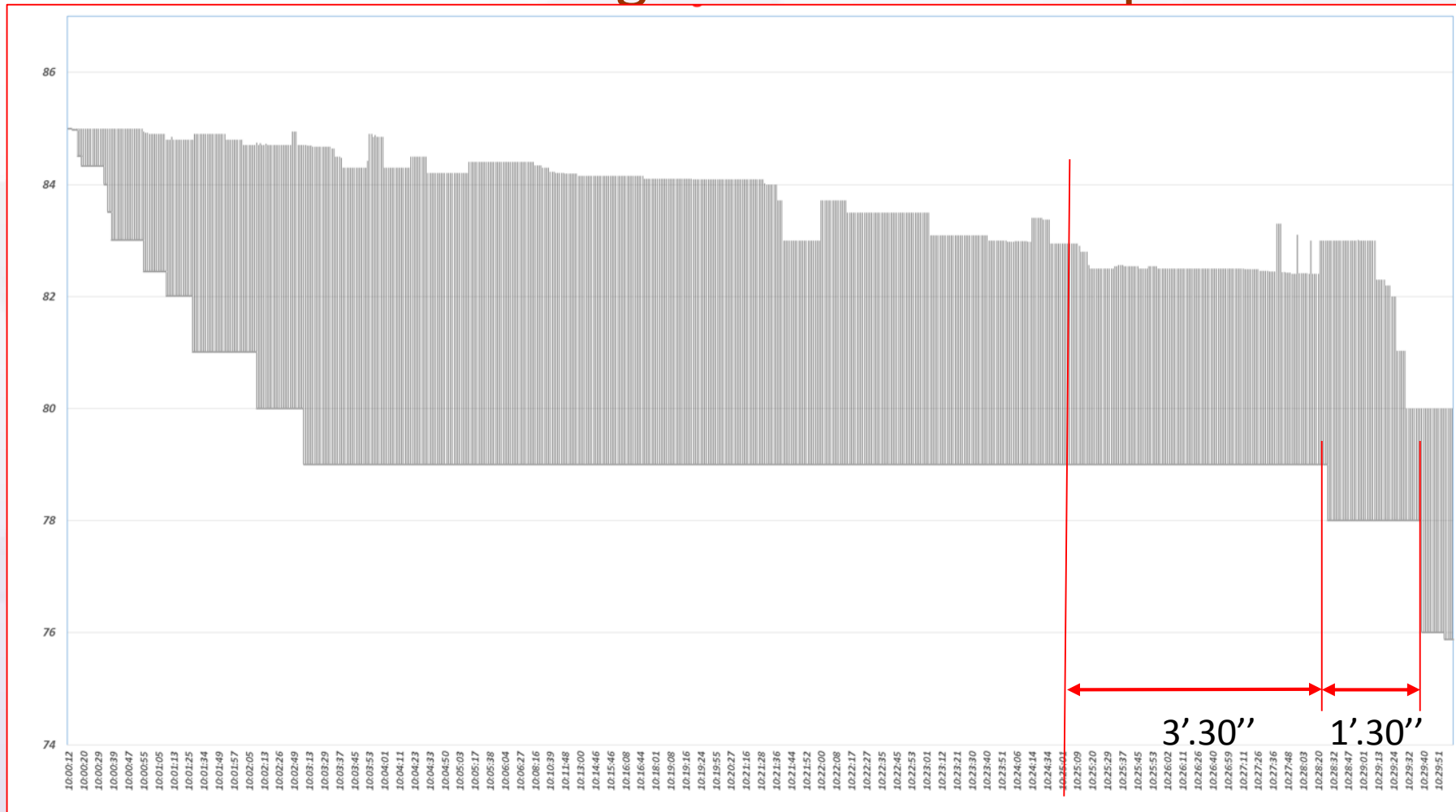
#Bids per 5min intervals

155 participants – 1.527 bids



Category I, $PV \leq 1MW$

Evolution of Highest and Lowest price

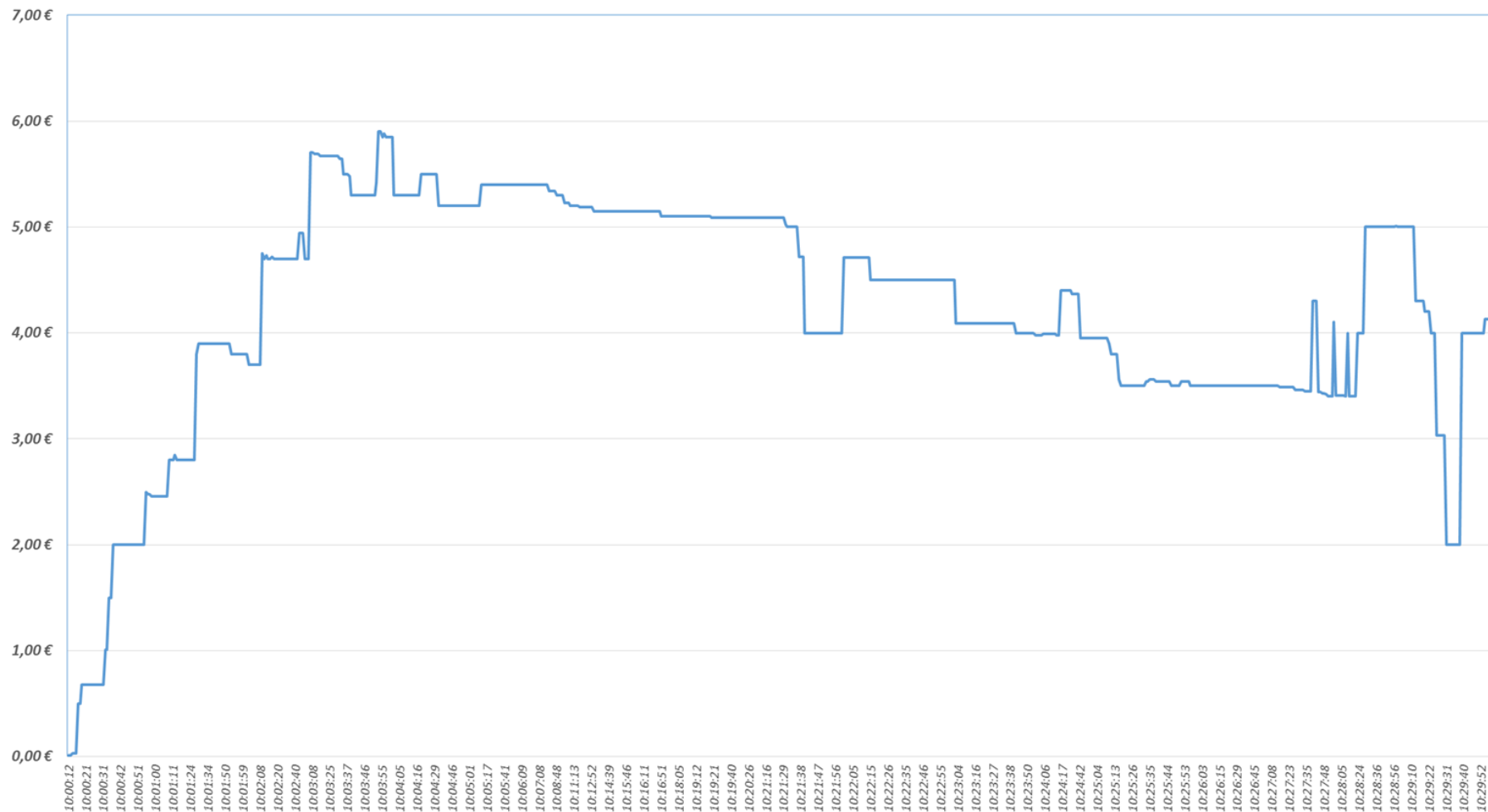


Remark: It took 1':30'' to drop the lowest price from 79 to 76 €/MWh (-3,8%)

Category I, PV ≤ 1 MW

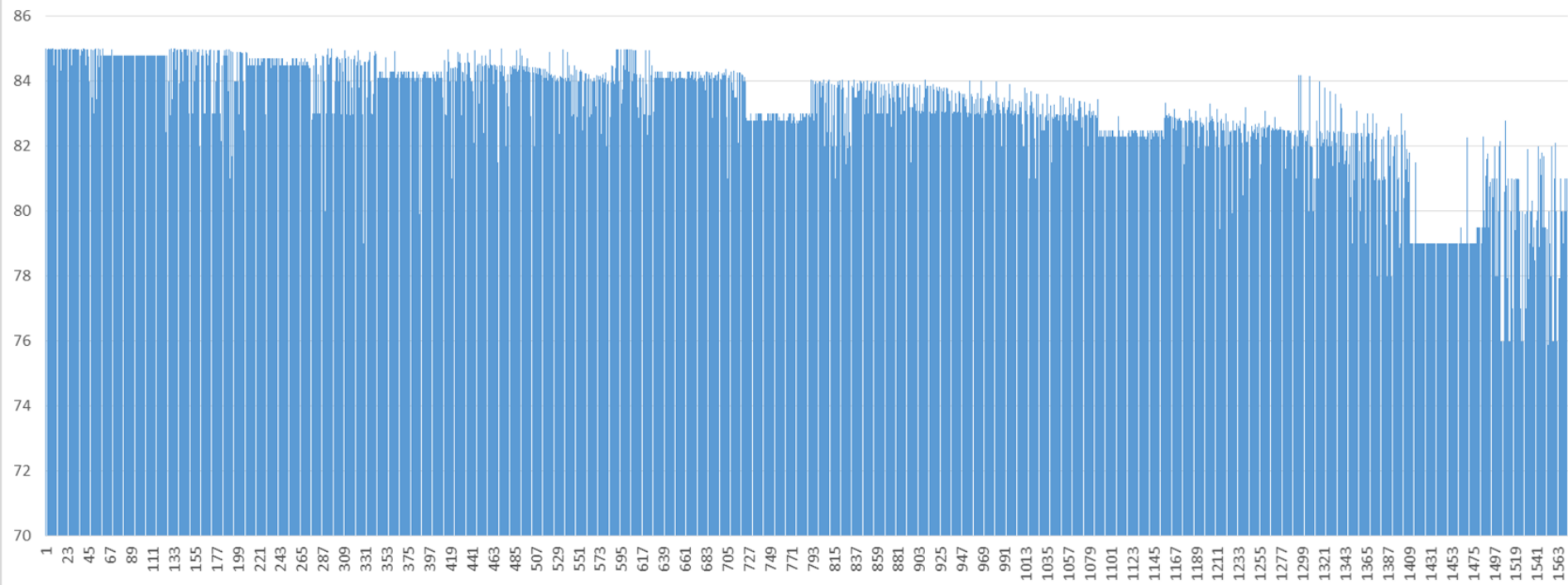
Evolution of Delta between Highest and Lowest price

RAE Auction
Category PV < 1 MW
Bid Price Delta between MAX-MIN Successful bid
during the 30' min auction



Statistics (1) – Category I

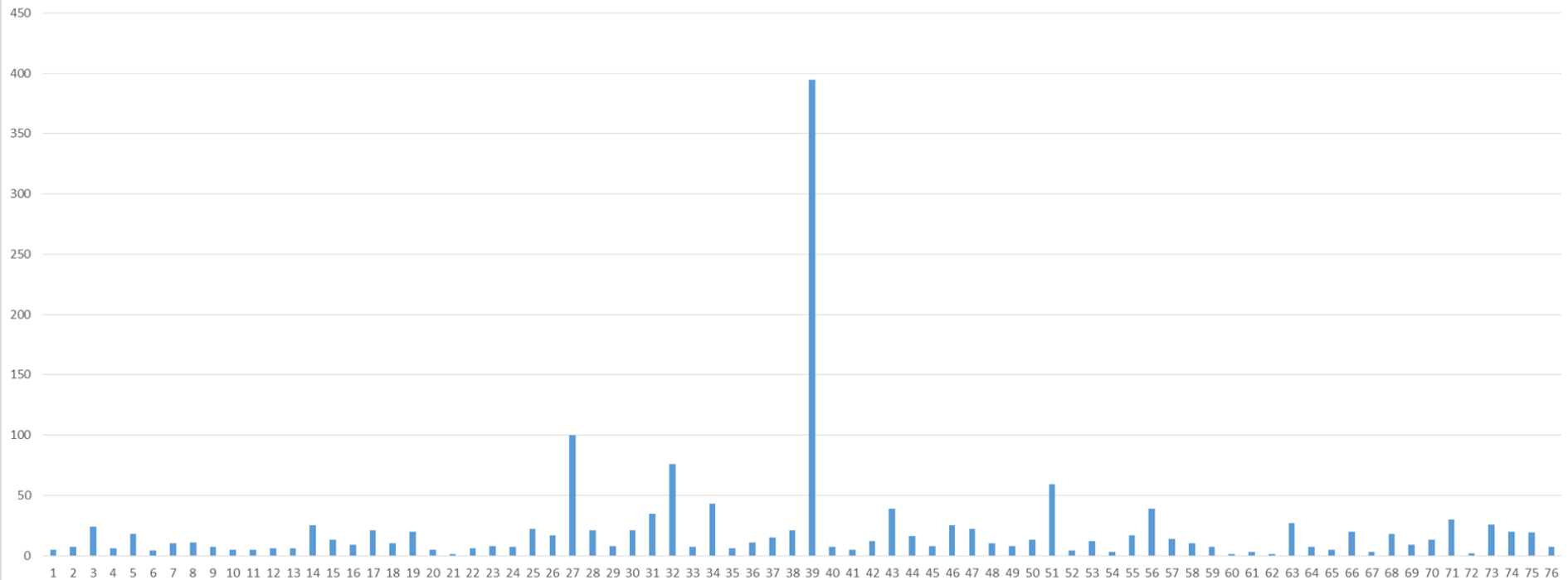
RAE auction
Category PV <1 MW
bids/company
(total bids=1578)
(total companies=76)



Remark : 1578 bids, within 30 minutes, correspond to 0,6 bids/sec

Statistics (2) – Category I

RAE auction
Category PV <1 MW
bids/company
(total bids=1578)
(total companies=76)



Remark : one specific company/group of companies submitted 25% of the total bids

Statistics (3) – Category I

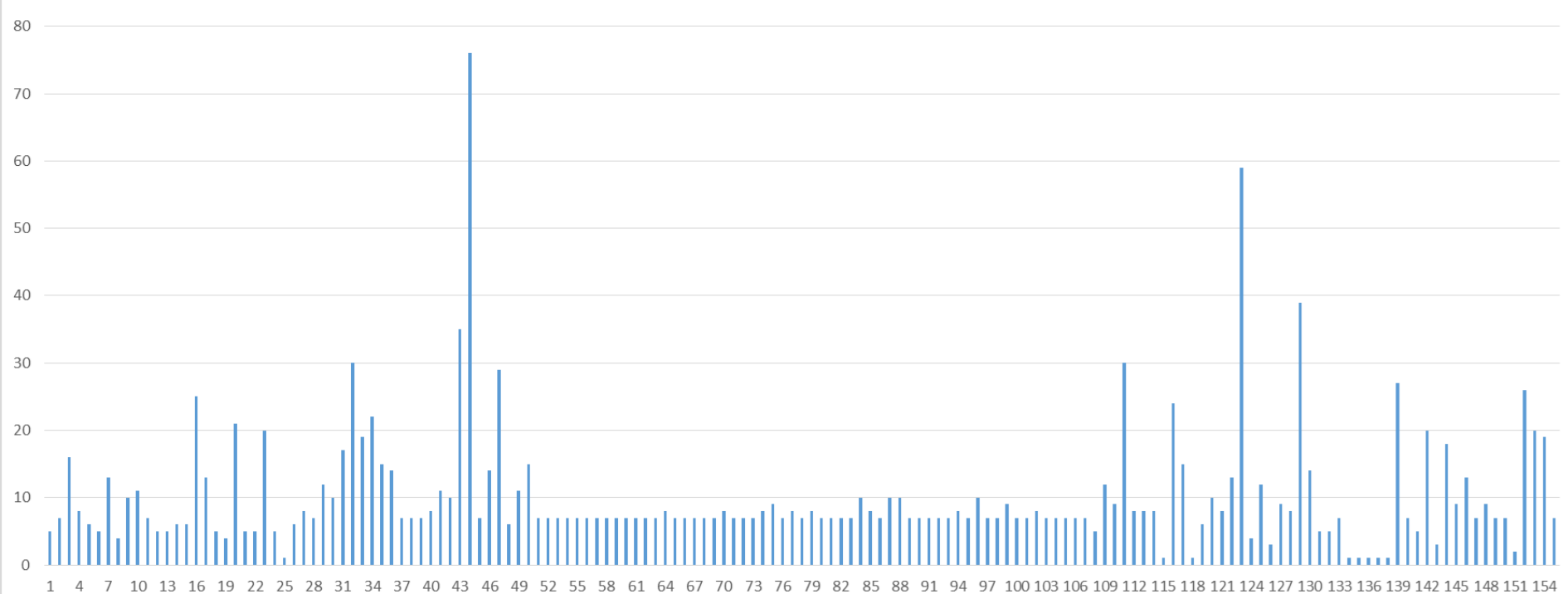
RAE auction
Category PV <500.000
last minute bids
number of bids = 166
number of bidding companies = 67



Remark : Almost 35% of the bids submitted during the last minute, came from a single company/group

Statistics (4) – Category I

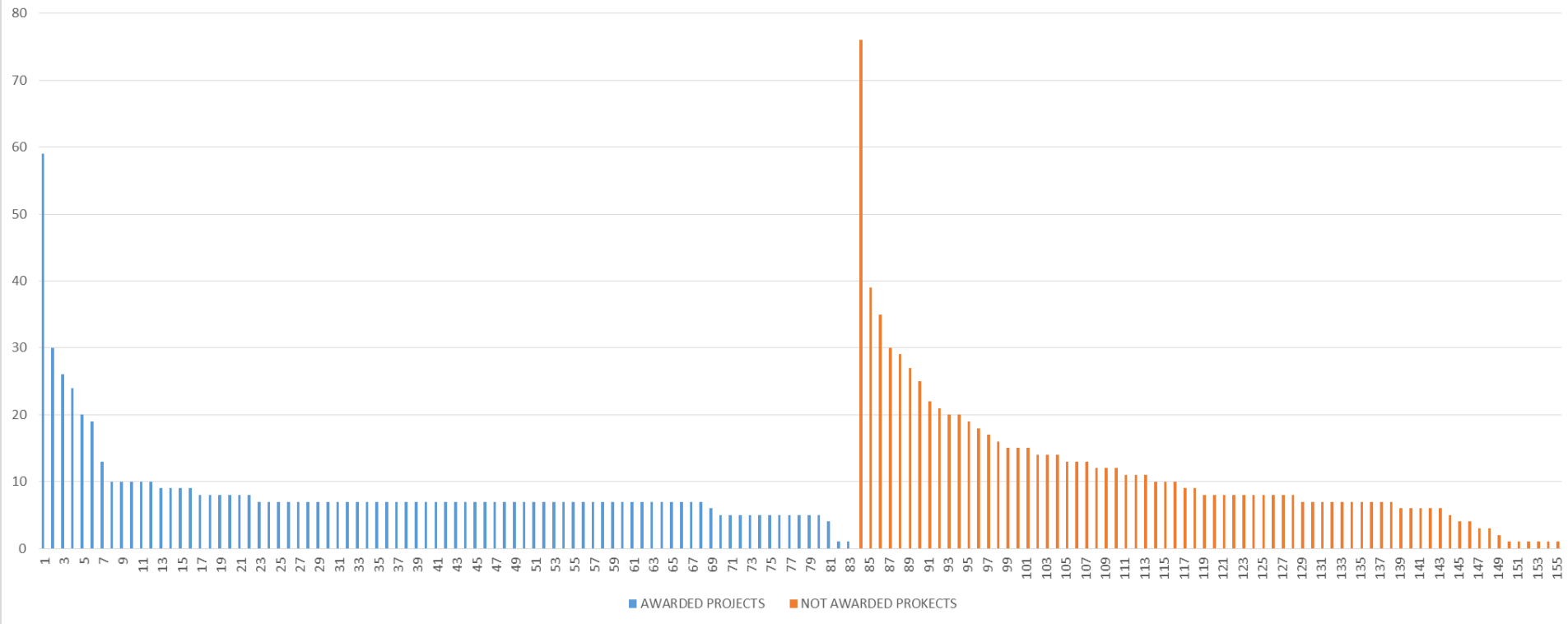
RAE auction
Category PV <1 MW
bids/project
(total bids=1578)
(total projects=155)



Remark : In most of the cases **approximately the same number of bids** (< 10) were submitted for each **project**

Statistics (5) – Category I

RAE auction
Category PV <500.000
bids/project
Total Projects = 155
Winning Projects = 83 (54%)



Remark : The projects that won, seem to have a better strategy, by submitting less and more “effective” bids

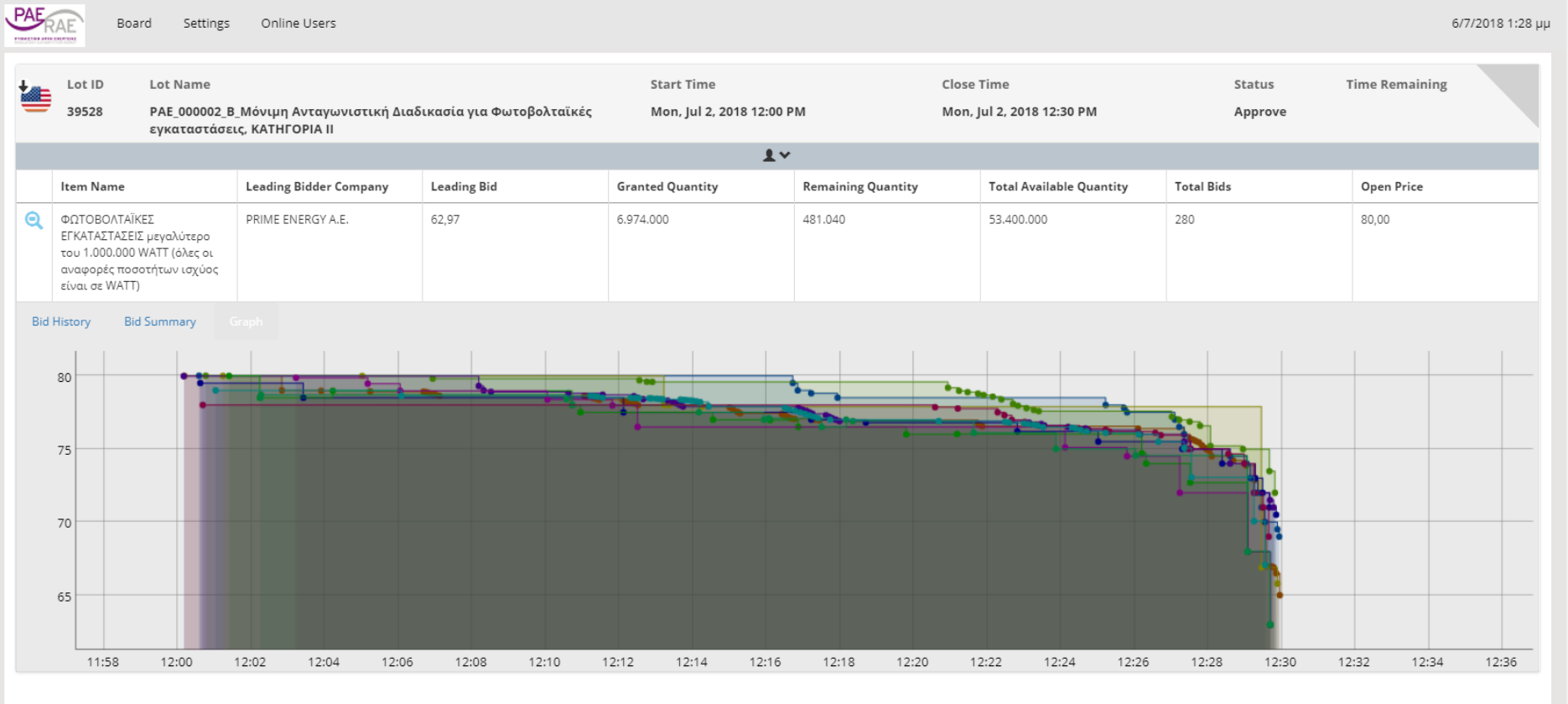
Category II, 1MW<PV<20MW

Tender statistics per participation type

Category II	# Projects Applied for participation	# Projects Approved to participate	# Projects Granded	MW Participate d	MW Granded
Participation type :General Partnerships (EE, OE etc)	1	1	0	2.55	0.00
Participation type : Company Ltd	0	0	0	0.00	0.00
Participation type : Company Societe Anonyme (S.A.)	32	11	8	88.40	52.92
Participation type : Individual	0	0	0	0.00	0.00
Participation type :Private Capital Company (I.K.E.)	1	1	0	2.50	0.00
Participation type :Public Companies, Joint Ventures, Energy Communities	0	0	0	0.00	0.00
TOTAL	34	13	8	93.44	52.92
		38%	62%		57%

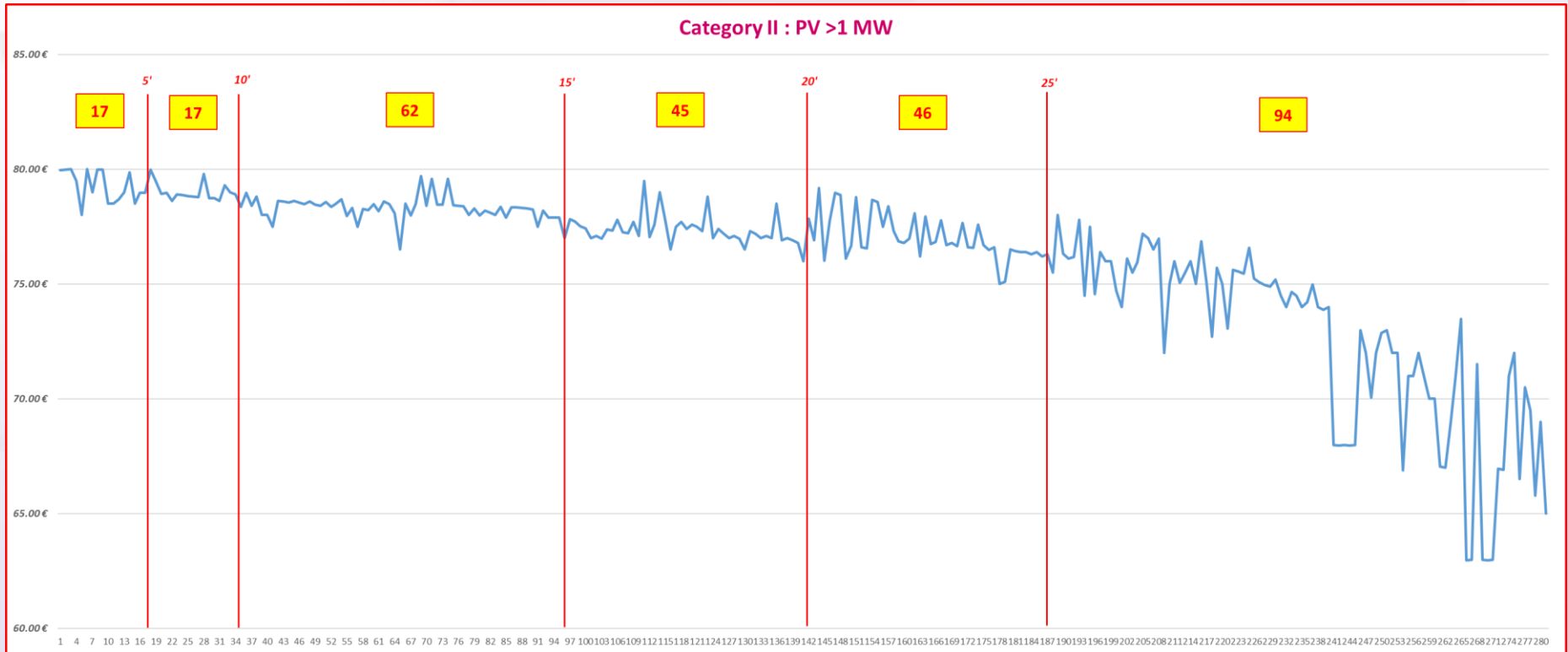
Category II, 1MW<PV<20MW

RAE Auction Console : Graph of bid values in time



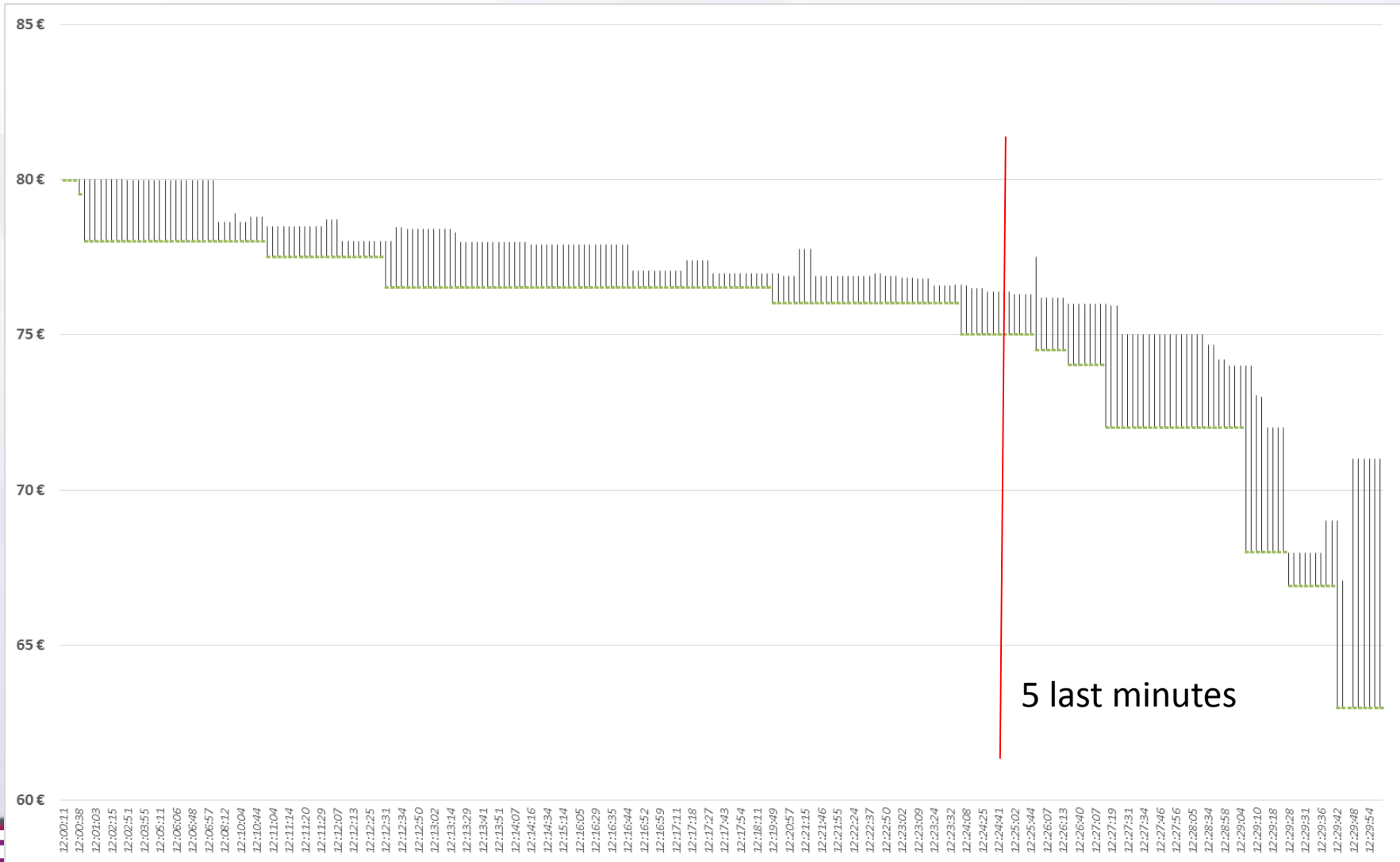
Category II, 1MW<PV<20MW

#Bids per 5min intervals



Category II, 1MW < PV < 20MW

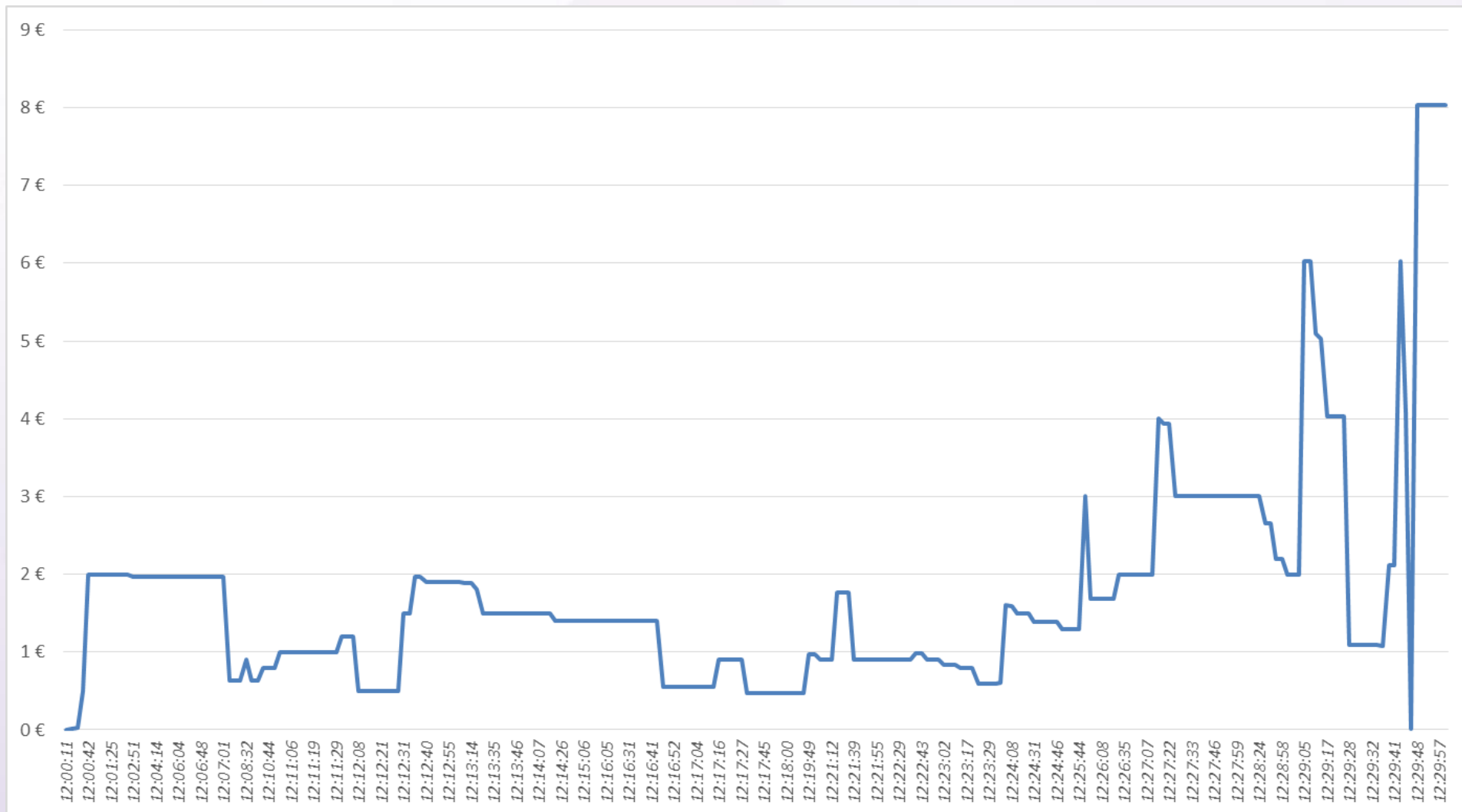
Evolution of Highest and Lowest price



5 last minutes

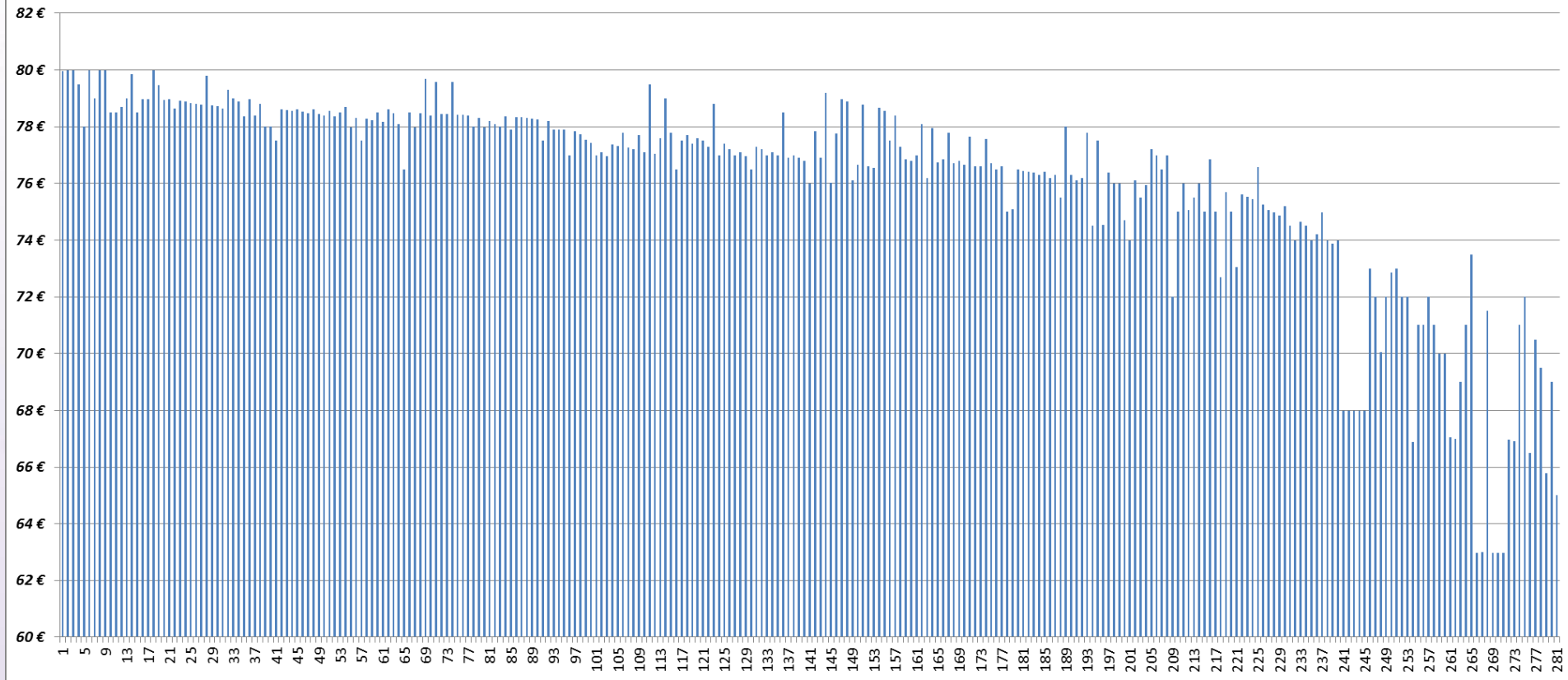
Category II, 1MW < PV < 20MW

Evolution of Delta between Highest and Lowest price



Statistics (2) – Category II

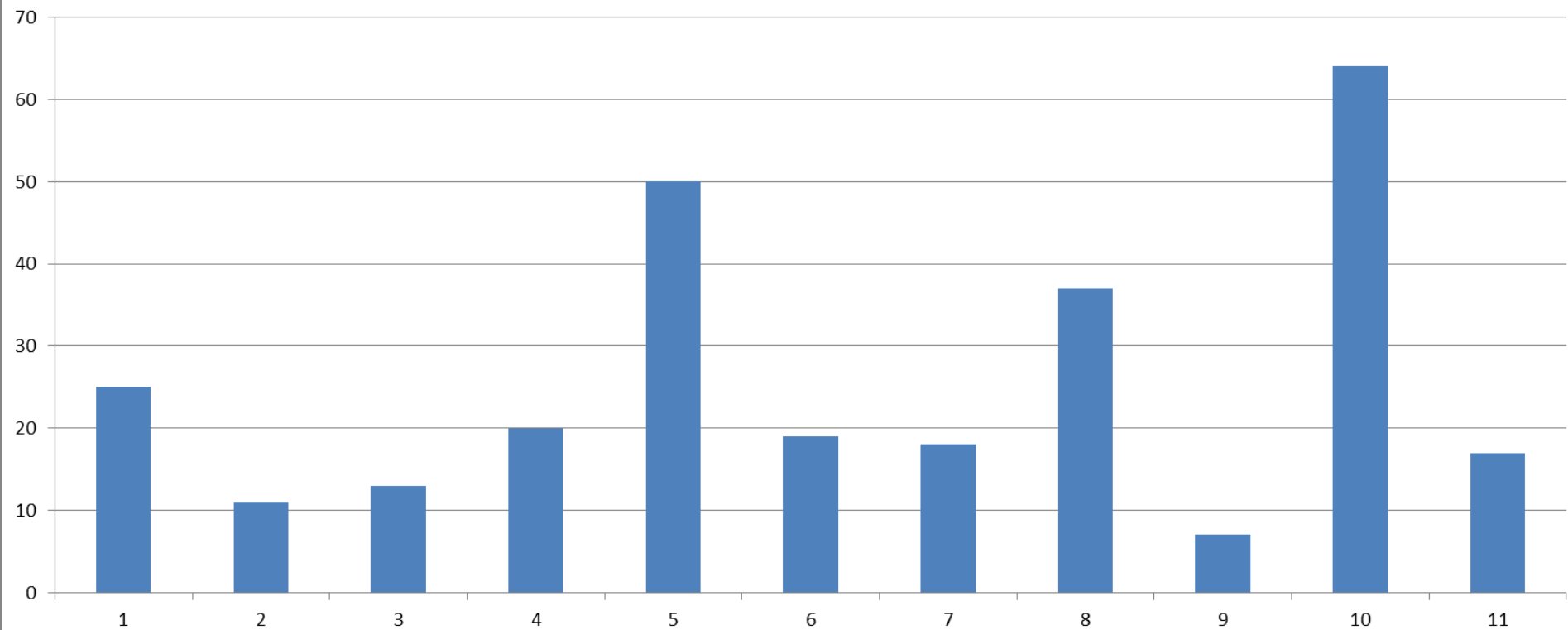
RAE Auction
Category PV > 1MW
bids/company
total bids=281
total companies=11



Remark : 281 bids, within 30 minutes, correspond to 0,16 bids/sec

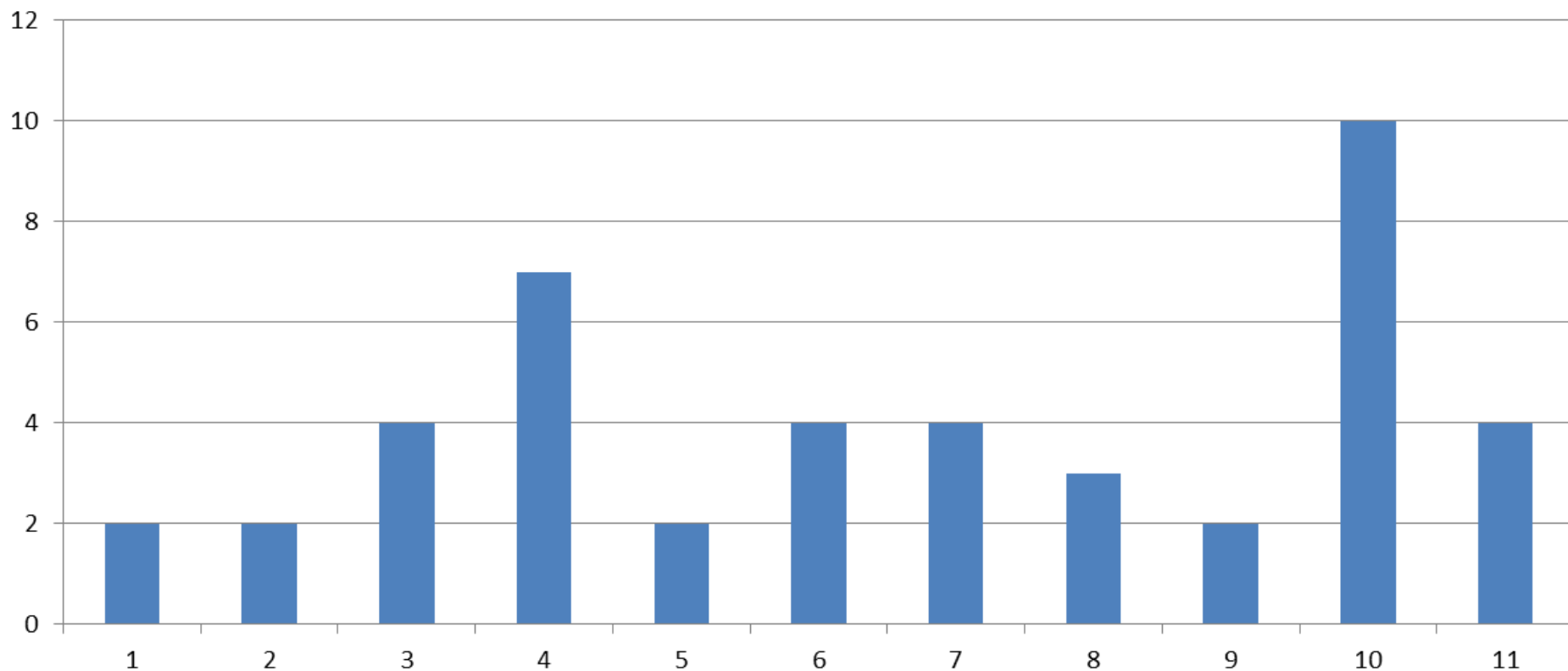
Statistics (2) – Category II

RAE Auction
Category PV > 1MW
bids/company
total bids=281
total companies=11



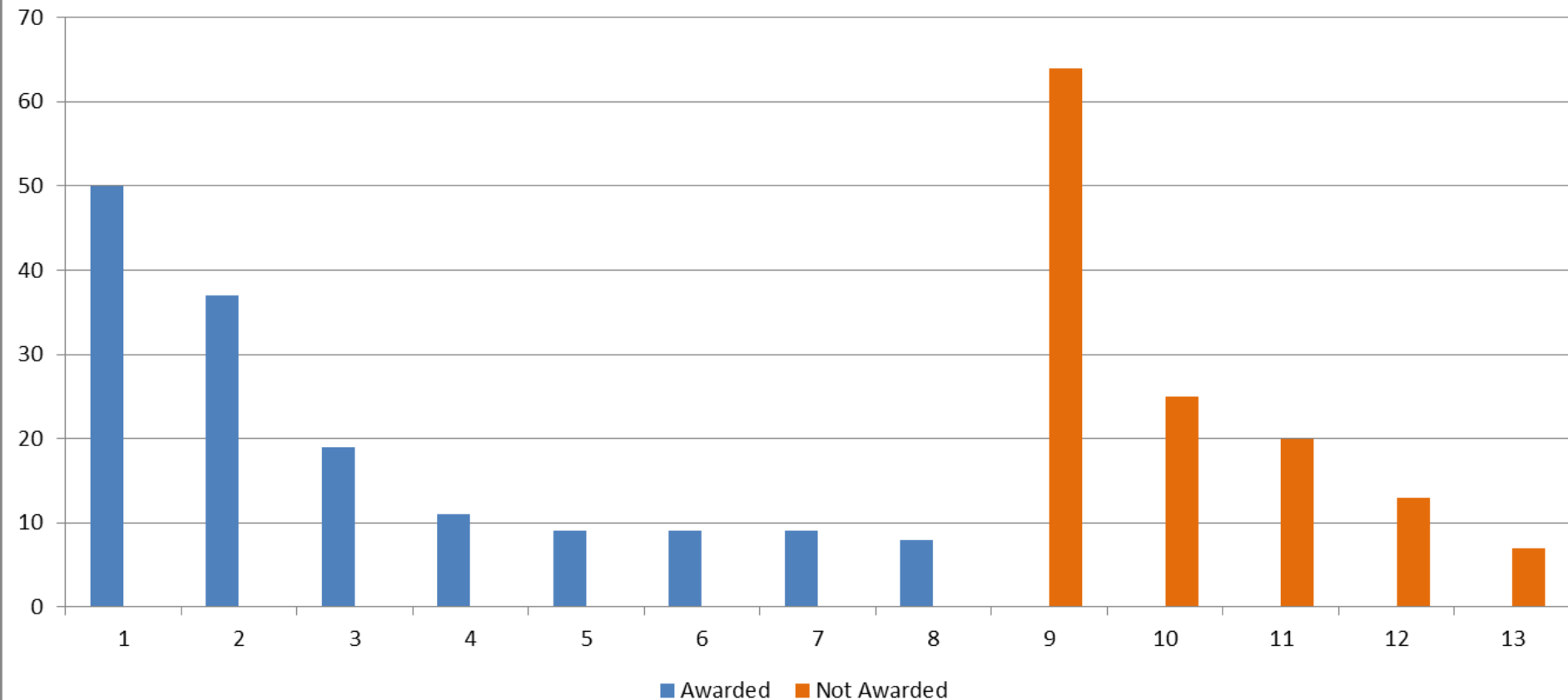
Statistics (3) – Category II

RAE auction
Category PV >1 MW
Last minute bids / company
bids= 44
companies =11



Statistics (4) – Category II

RAE auction
Category PV >1 MW
bids / project
total projects= 13
winning projects =8 (62%)



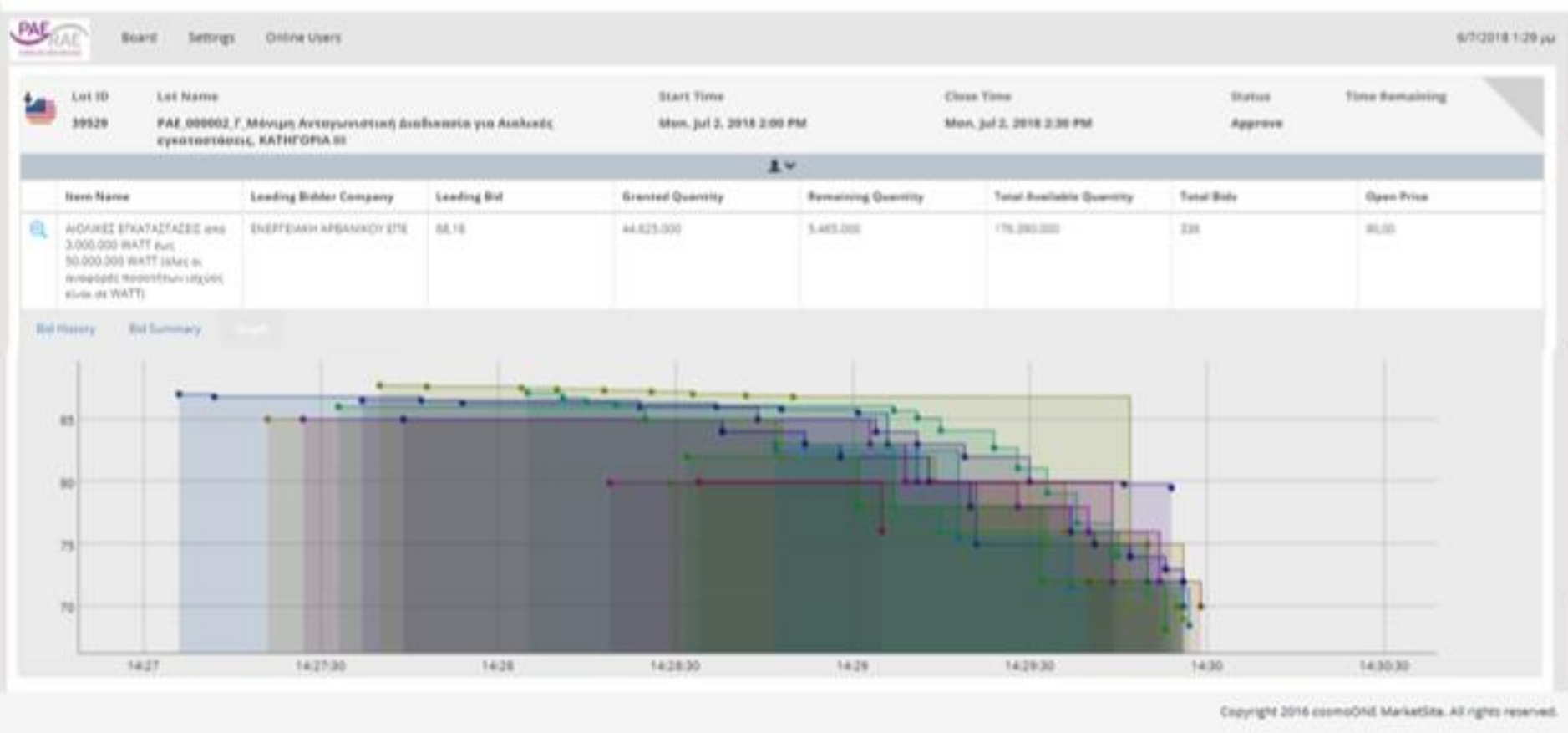
Category III ($3\text{MW} < P_{\text{Wind}} \leq 50\text{MW}$)

Tender statistics per participation type

Category III	# Projects Applied for participation	# Projects Approved to participate	# Projects Granded	MW Participated	MW Granded
Participation type :General Partnerships (EE, OE etc)	1	1	0	30.00	0.00
Participation type : Company Ltd	1	1	1	44.63	44.63
Participation type : Company Societe Anonyme (S.A.)	12	12	6	234.05	126.30
Participation type : Individual	0	0	0	0.00	0.00
Participation type :Private Capital Company (I.K.E.)	0	0	0	0.00	0.00
Participation type :Public Companies, Joint Ventures, Energy Communities	0	0	0	0.00	0.00
TOTAL	14	14	7	308.68	170.93
		100%	50%		55%

Category III ($3\text{MW} < P_{\text{Wind}} \leq 50\text{MW}$)

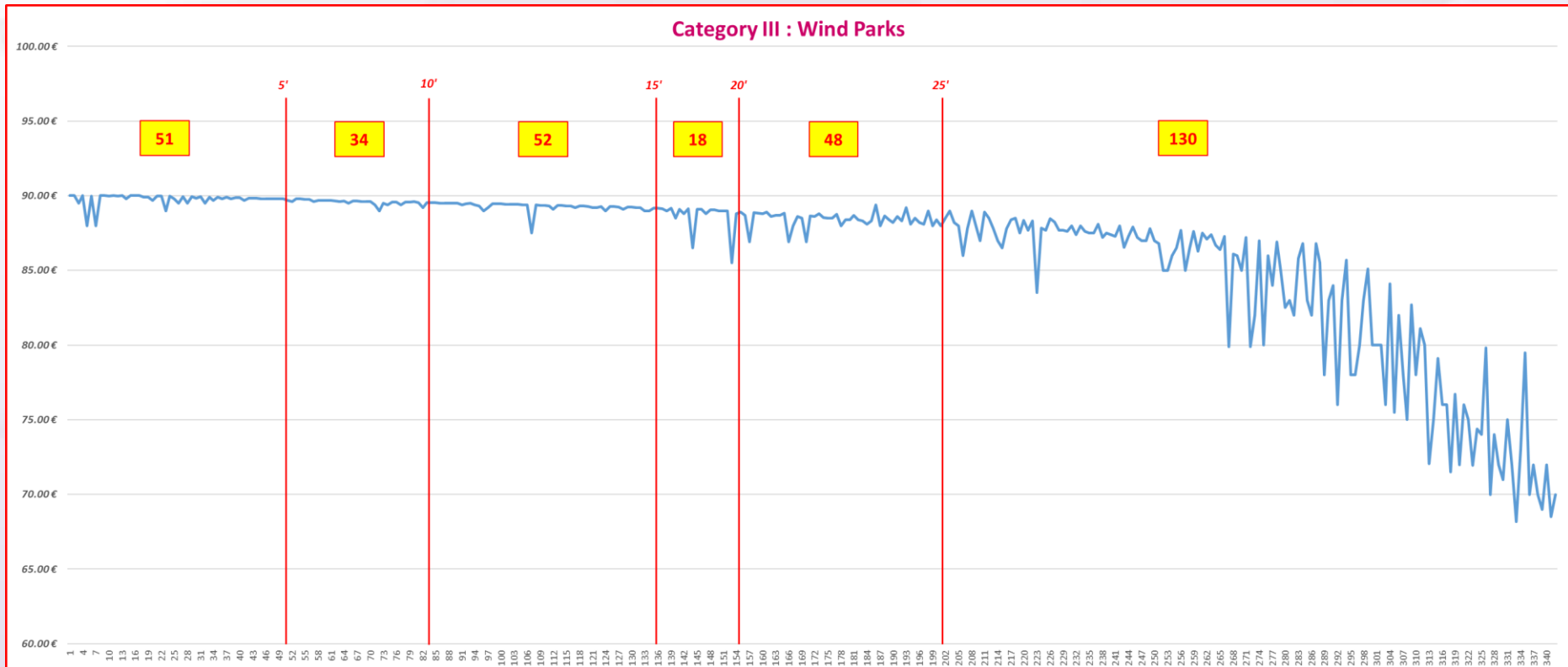
RAE Auction Console : Graph of bid values in time 14 participants



Category III ($3\text{MW} < P_{\text{Wind}} \leq 50\text{MW}$)

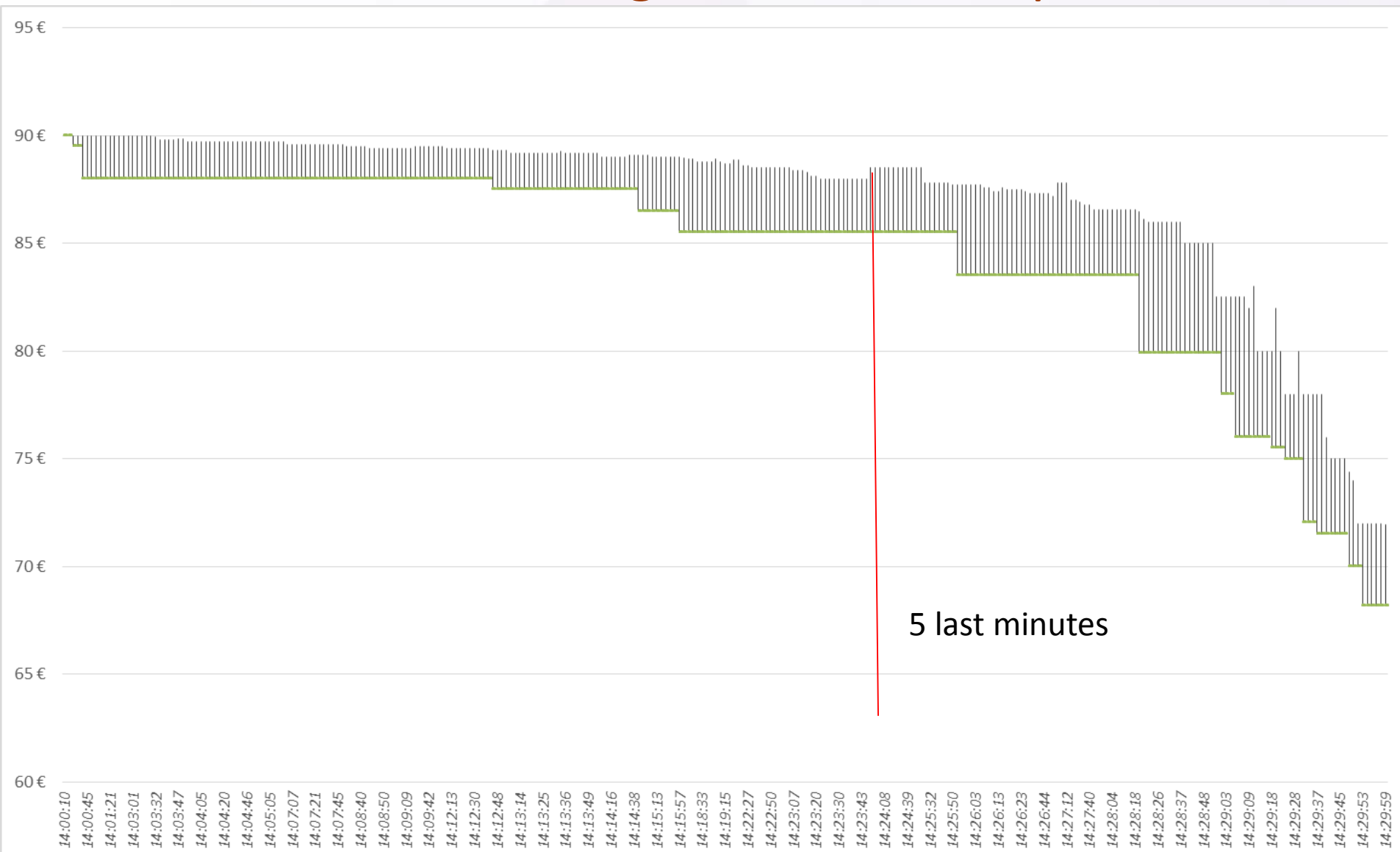
#Bids per 5min intervals

14 participants – 336 bids



Category III, Wind installations

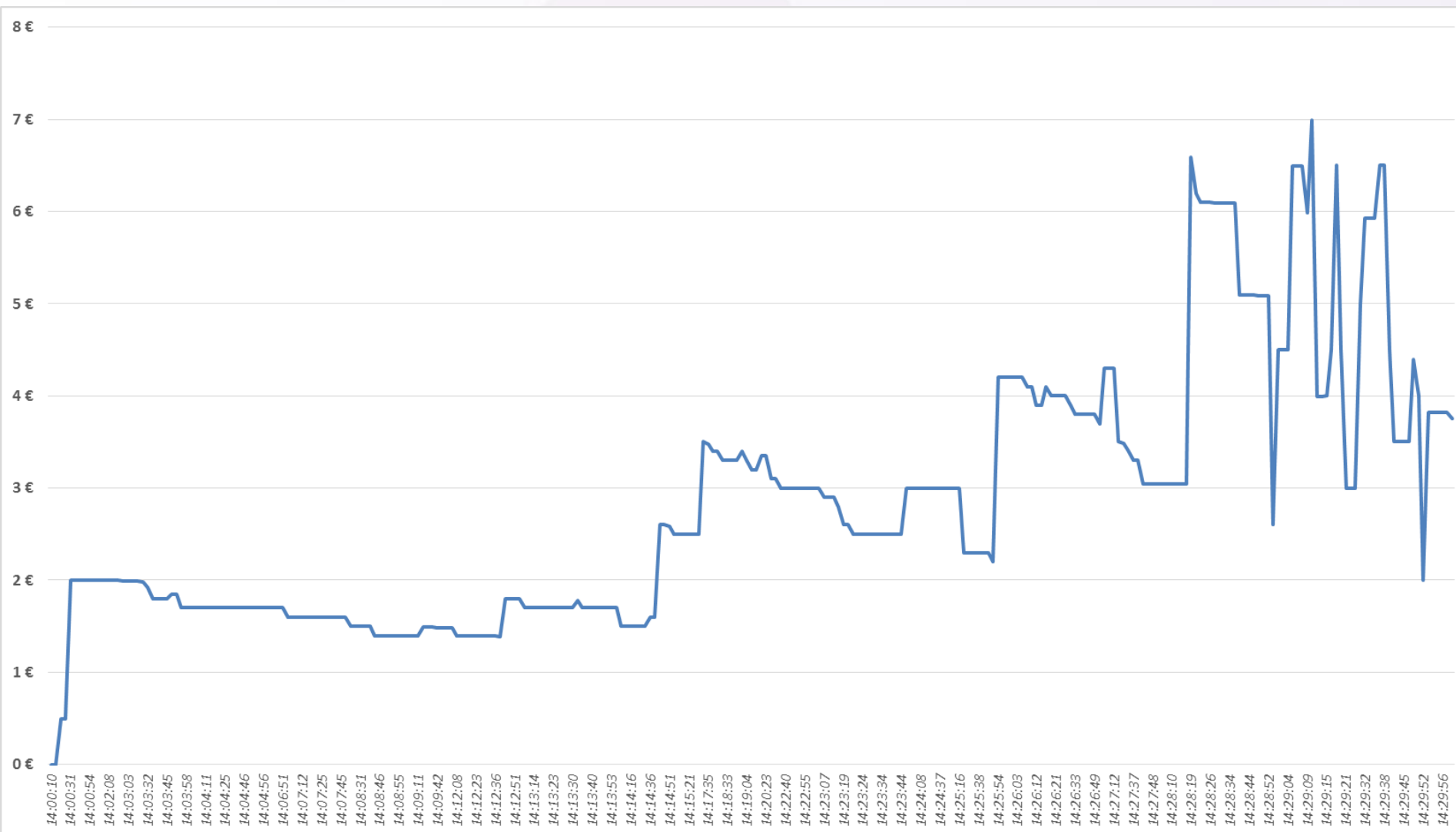
Evolution of Highest & Lowest price



5 last minutes

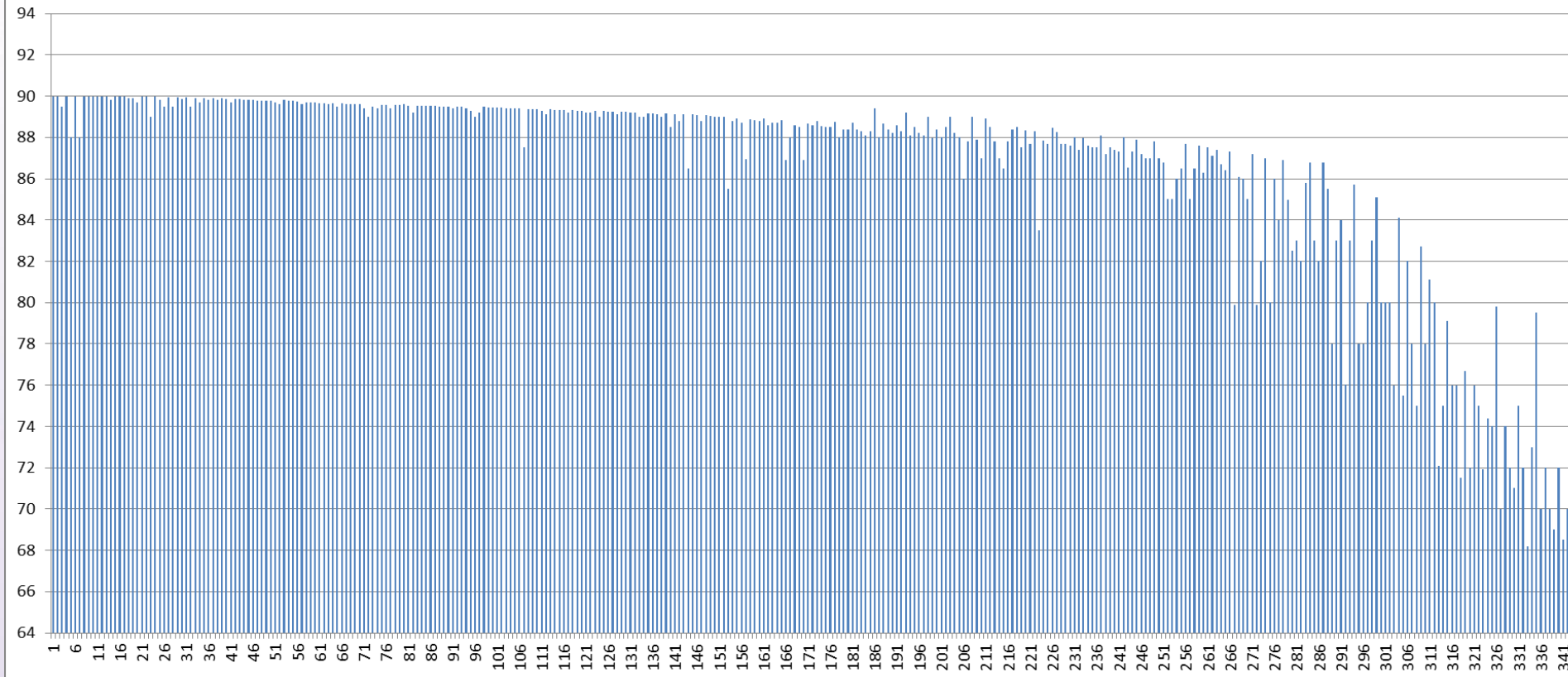
Category III, Wind installations

Evolution of Delta between Highest and Lowest price



Statistics (1) – Category III

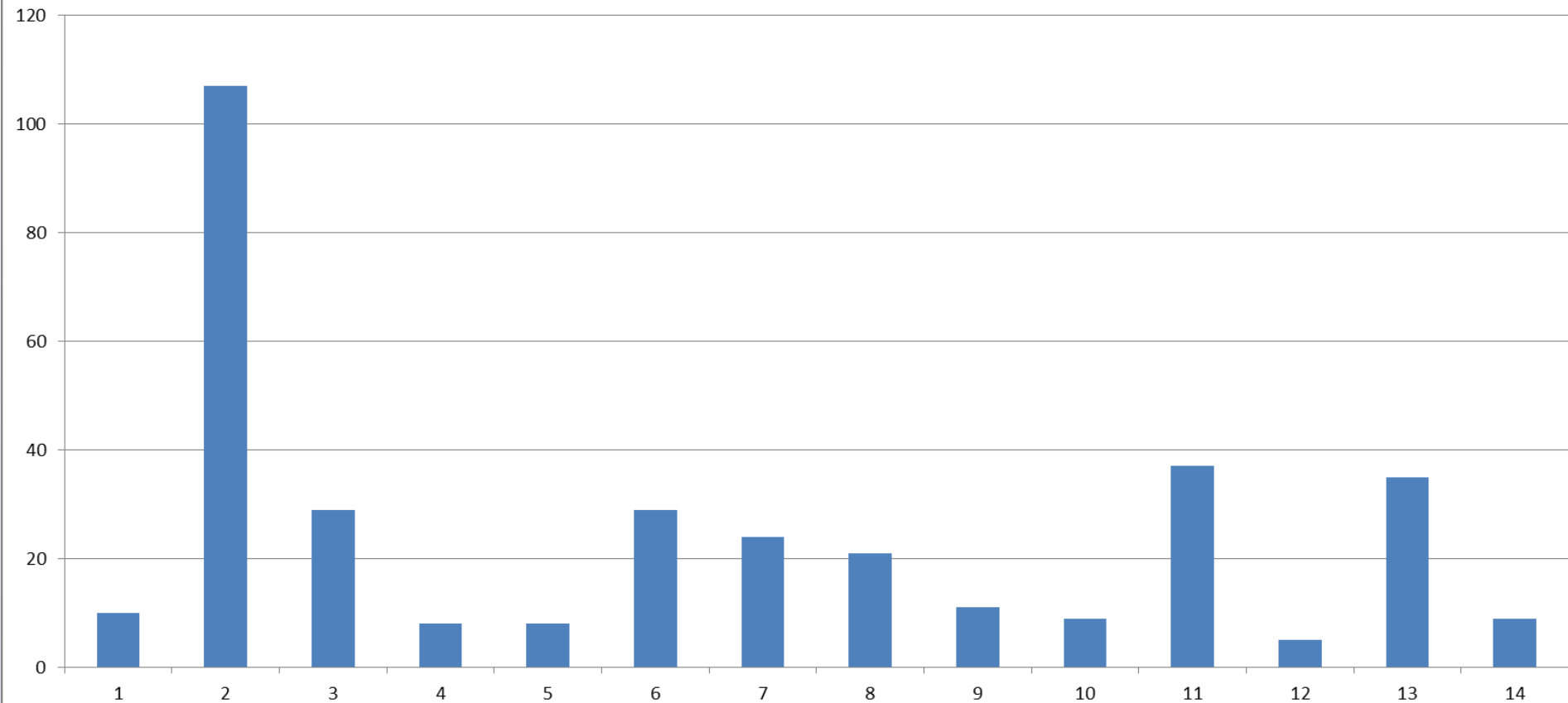
RAE Auction
Category III Wind Power Stations
All bids
total bids=342
total companies=14



Remark : 342 bids, within 30 minutes, correspond to 0,19 bids/sec

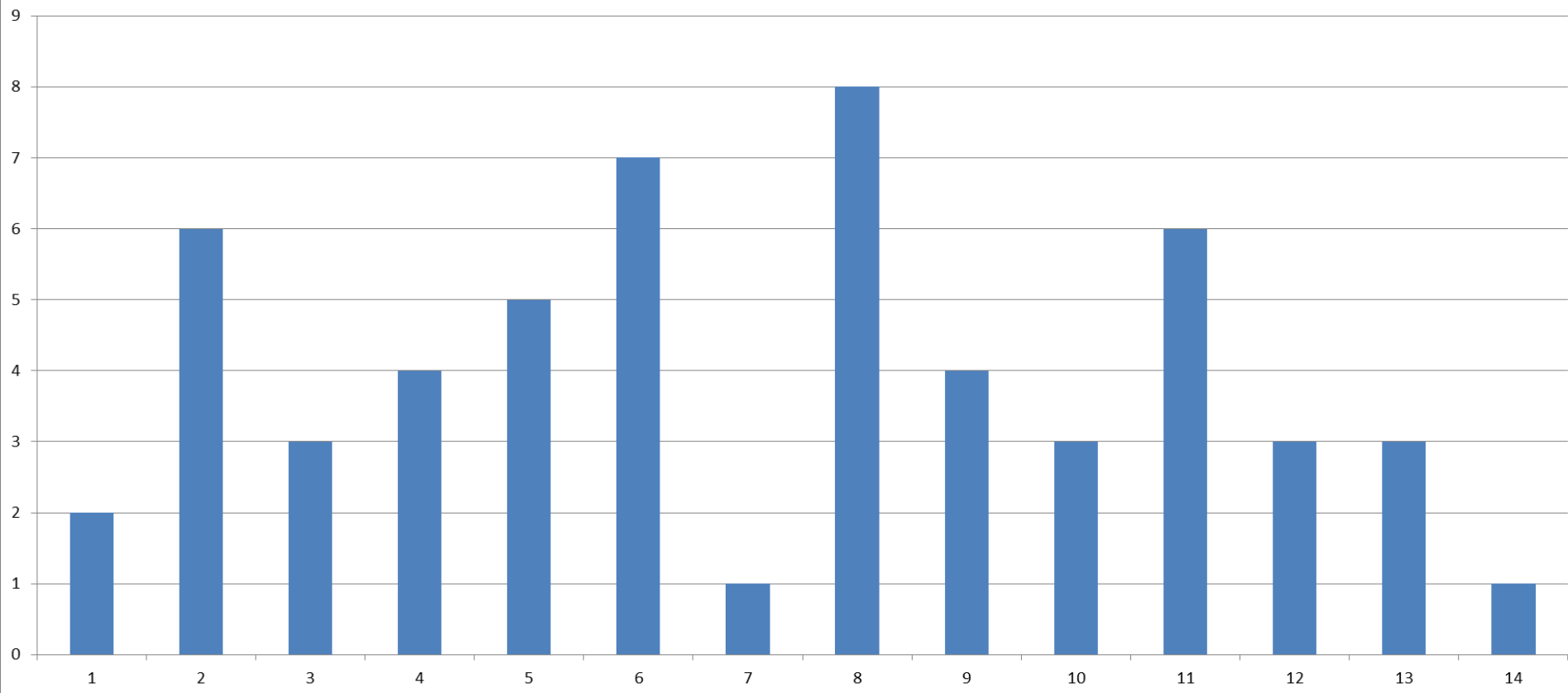
Statistics (2) – Category III

RAE Auction
Category III Wind Power Stations
bids/company
total bids=342
total companies=14



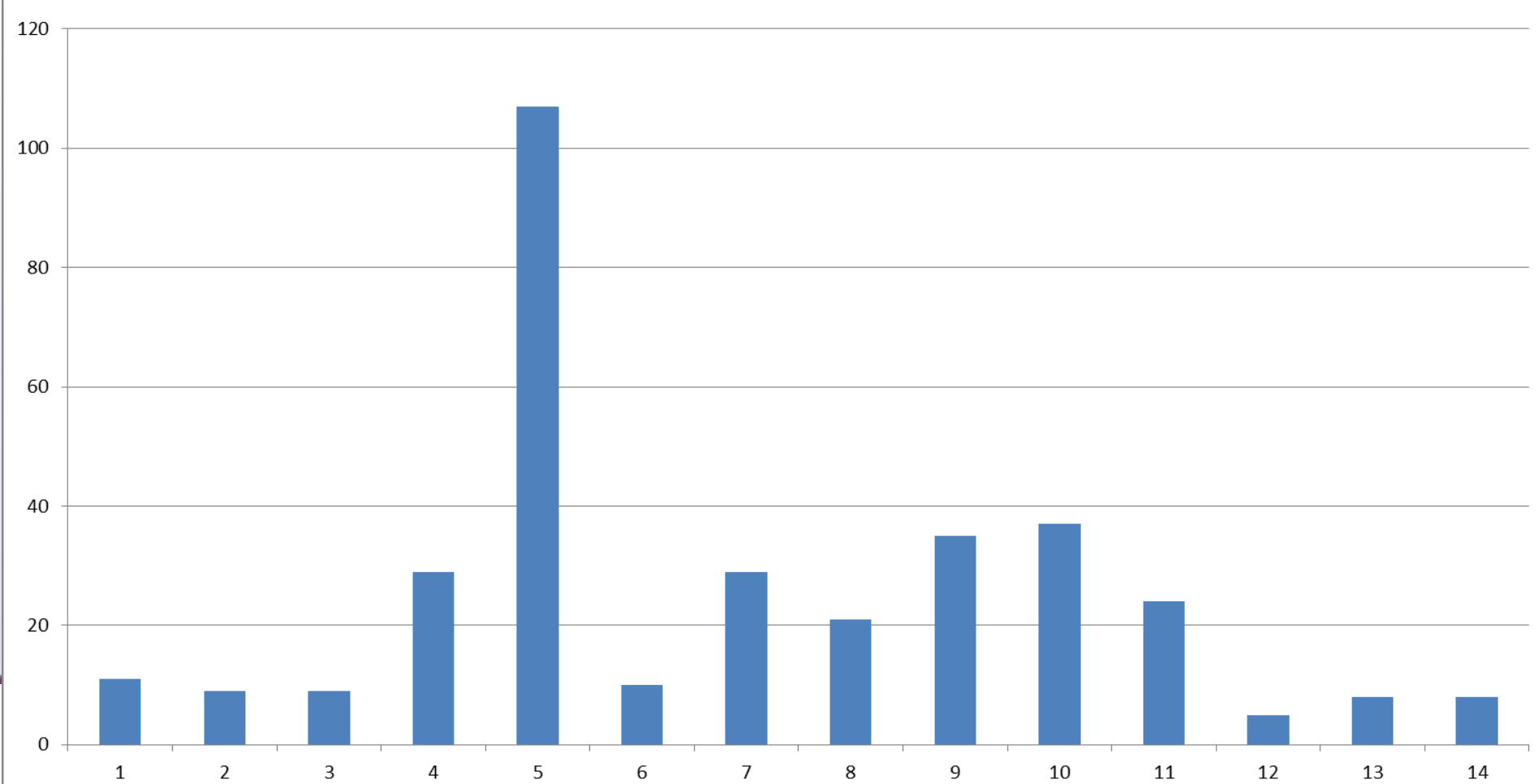
Statistics (3) – Category III

RAE Auction
Category III Wind Power Stations
Last minute bids/company
bids=342
companies=14



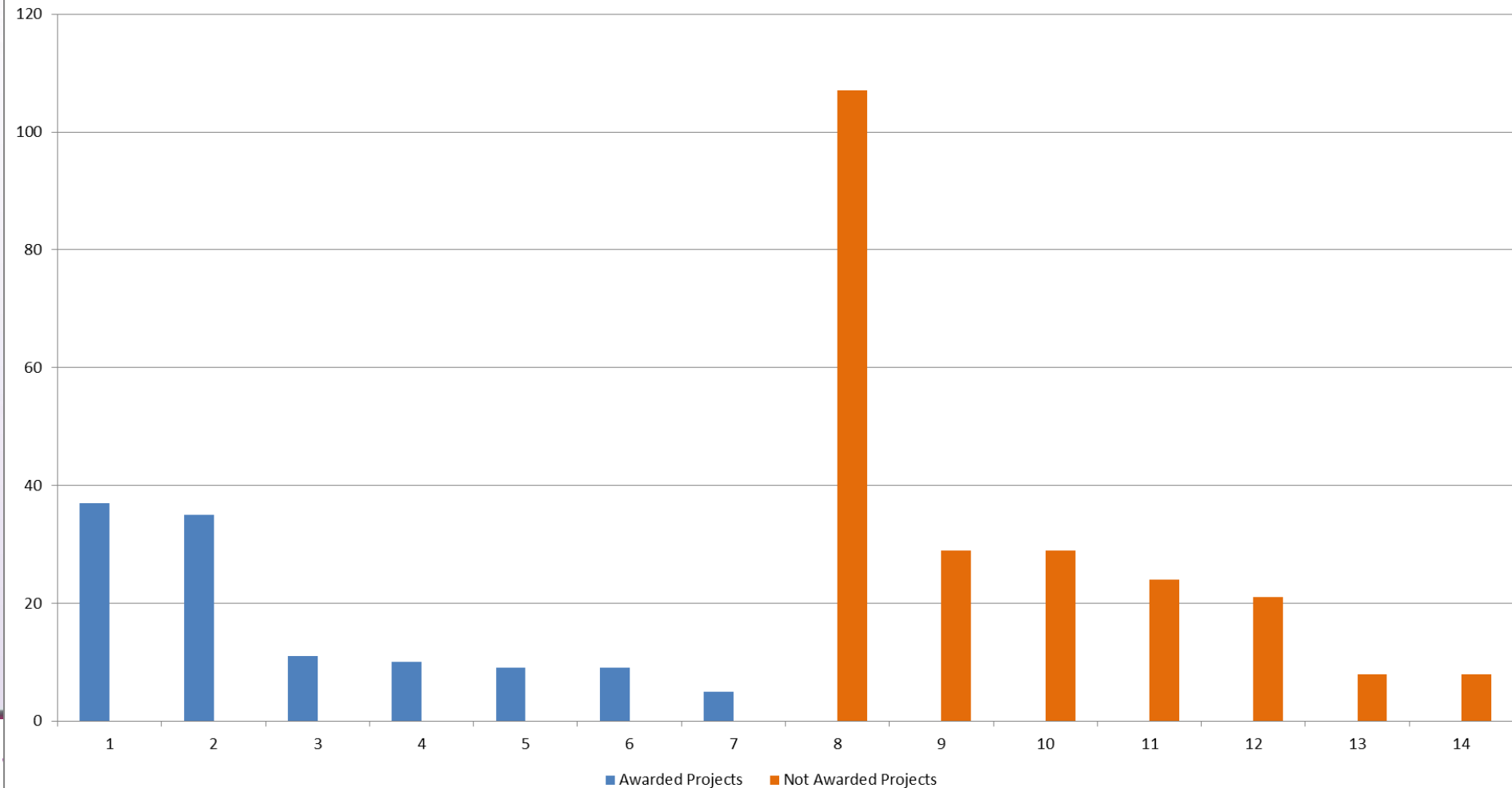
Statistics (4) – Category III

RAE Auction
Category III Wind Power Stations
bids/project
bids=342
projects=14



Statistics (5) – Category III

RAE Auction
Category III Wind Power Stations
bids/project
Total projects=14
Winning Projects = 7 (50%)



Conclusions (1/7)

- A specific online platform was modified according to the decisions of RAE.
- Application of the “75% Rule” with excellent results and benefits for the Consumer.
- There were no problems understanding and using the applications during the users’ training.
- The "virtual auctions" solved any questions about the procedure of the tenders.
- No mistakes in participants’ registration process, procedure of application and suspension supporting documents in the online platform.

Conclusions (2/7)

- The online submission of the applications enabled RAE to skip the time-consuming administrative check of the required documents and to proceed directly with the evaluation, significantly reducing the time required.
- **Approximately 100% of the auctioned Capacity was covered according to the tender procedure.**

Conclusions (3/7)

Achievement of significant reduction in prices:

Category I (PV installations $\leq 1\text{MW}$):

Ceiling price: 85 €/MWh

- 155 Projects participate with 1.527 bids accepted from the electronic platform.
- Prices from 80 € / MWh to 75,87 € / MWh →

weighted average price: 78,42 € / MWh

Conclusions (4/7)

Category II ($1\text{MW} < \text{PV} \leq 20\text{MW}$):

Ceiling price: 80 €/MWh

- 13 Projects participate with 280 bids accepted from the electronic platform.
- Prices from 71 € / MWh to 62,97 € / MWh →

weighted average price: 63,81 € / MWh

Conclusions (5/7)

Category III ($3\text{MW} < \text{Wind} \leq 50\text{MW}$):

Ceiling price: 90 €/MWh

- 14 Projects participate with 336 bids accepted from the electronic platform.
- Prices from 71,93 € / MWh to 68,18 € / MWh →

weighted average price: 69,53 € / MWh

Conclusions (6/7)

- Some participants of Category I asked to take several data from the auctions.
- The Regulatory Authority for Energy gave ALL THE DATA they asked for.
- Some of the participants knows that if their bid could be accepted, according to the final results of the electronic auction they couldn't succeed because their bid was higher from the highest one of the results.

Conclusions (7/7)

- What kind of data they asked for:
 - The detailed logfile of all the bids of their projects
 - The logfile of the server with the arrival time of each bid
 - The record time of each bid to the Data base server
 - The download velocity of the line between the Web Server and the Data Server
 - The detailed number of all the bids that were submitted during the 26 virtual electronic auctions
 - The protocol ID number of all the bids of all the participants which were accepted by the Data Server.

Conclusion

- The timetable of the auction procedure, according to the previous mentioned facts extends **from 3 months to 6 months**. This is a key parameter to design the next RES auctions.

On process

Σε εξέλιξη

Next Auctions

1st Auction:

Technology
Specific
(PV, Wind)

2nd Auction:

Neutral
(PV, Wind, both,
one connection
point)

3rd Auction:

Non mature
projects
(N. Makri-
Polypotamos)

4th Auction:

3 smart Islands

5th Auction:

Small Wind
Turbines

6th Auction:

RES in Non
Interconnected
Islands

Thoughts for timetable



Thought 1: Ceiling price

- Now: Specific rule according to the Minister's Decision
- RAE analyze the results of the auctions and the current situation of the RES market and will decide to sent the opinion to the Ministry of Environment and Energy putting a better market-rule for the ceiling price.
- With the rule of a minimum level of competition 75%, the ceiling price is not the key factor for the auctions.

Thought 2: Other measures

- Manipulation of the market, especially for the small category I (PV installations <1MW).
- Secure the timetable of each auction.

Thouth 3: FiT for small PV projects

- RAE analyzes the results of the auctions and the current situation of the RES market and will decide to sent the opinion to the Ministry of Environment and Energy for a new category for PV installations, and also a category for energy communities, with Fid In Tariff mechanism (Fix price). This price, in any case will be equal or less than the result of the recent auctions of the small category.

Thought 4: A new phenomenon: Reduce the Wind installed capacity <3MW

- Many applications submitted to RAE: reduce the Wind capacity from a level above 20MW to 3MW.
- RAE analyzes the phenomenon and will decide to sent an opinion to the Minister of Environment and Energy.

Thank you for your Attention!



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