

# APPENDICE 2

Trends emissivi Camini Area a caldo

**TAVOLA 1:** Cokerie (Camini E424, E426, E428, E435, E436)

**TAVOLA 2:** Agglomerato (E312, E314b, E315b, E324 e E325)

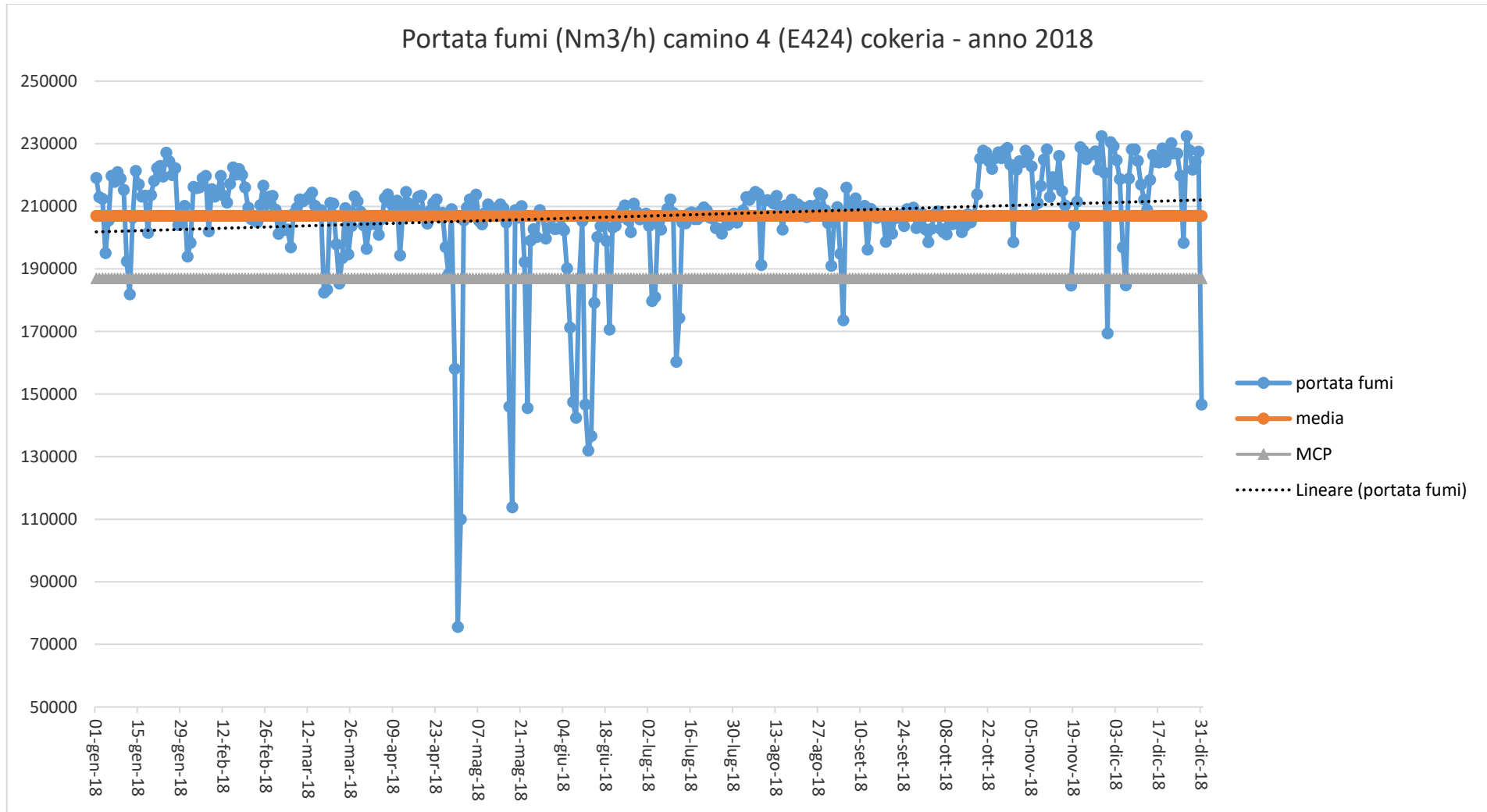
**TAVOLA 3:** Acciaierie (E525, E525b, E551b e E551c)

**TAVOLA 4:** Altoforni (E102b, E103b, E109, E111, E112, E114, E134, E 135 e E137)

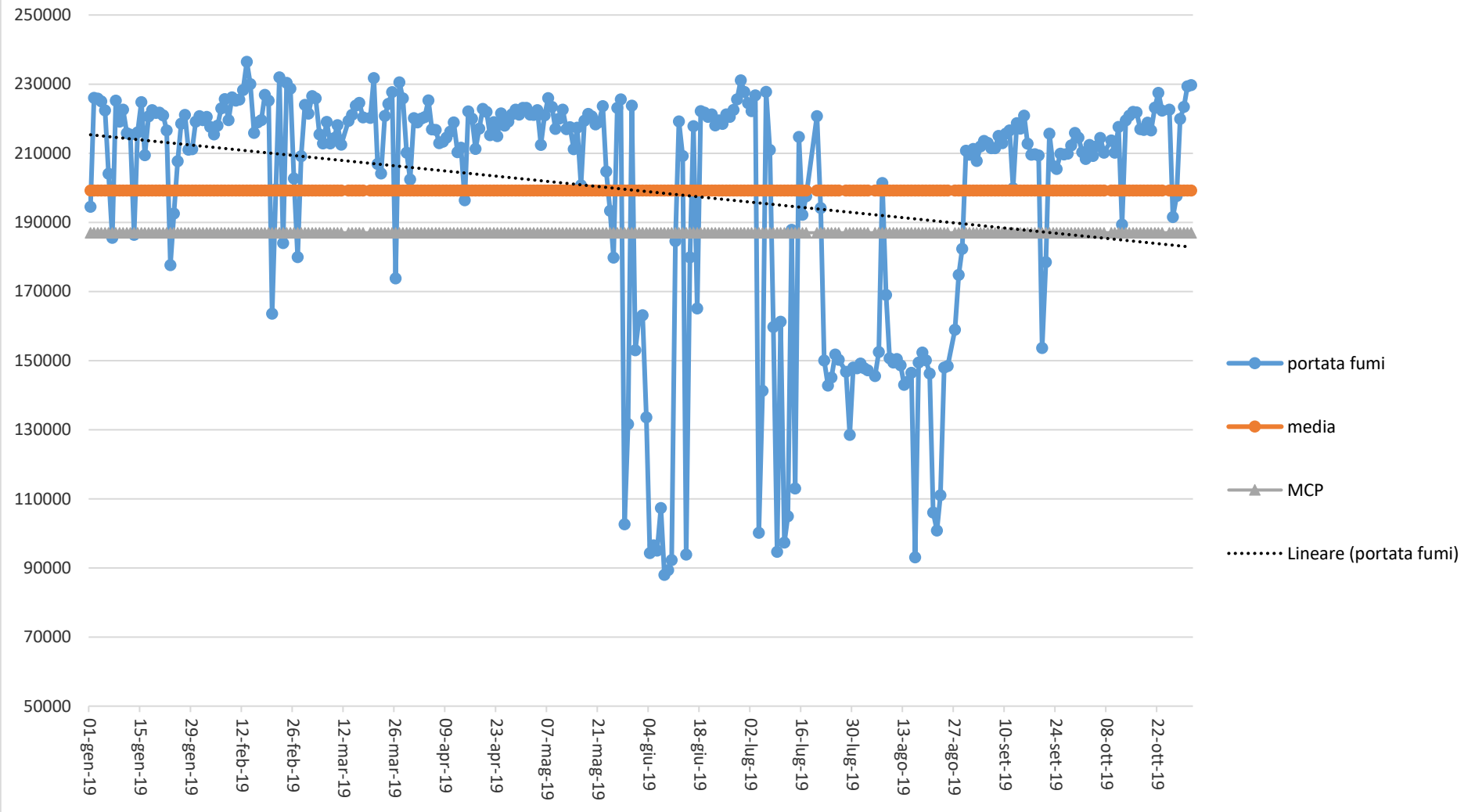
**TAVOLA 5:** Emissioni diffuse

**TAVOLA 1 - Camini cokeria**

**E424, E426, E428, E435, E436**

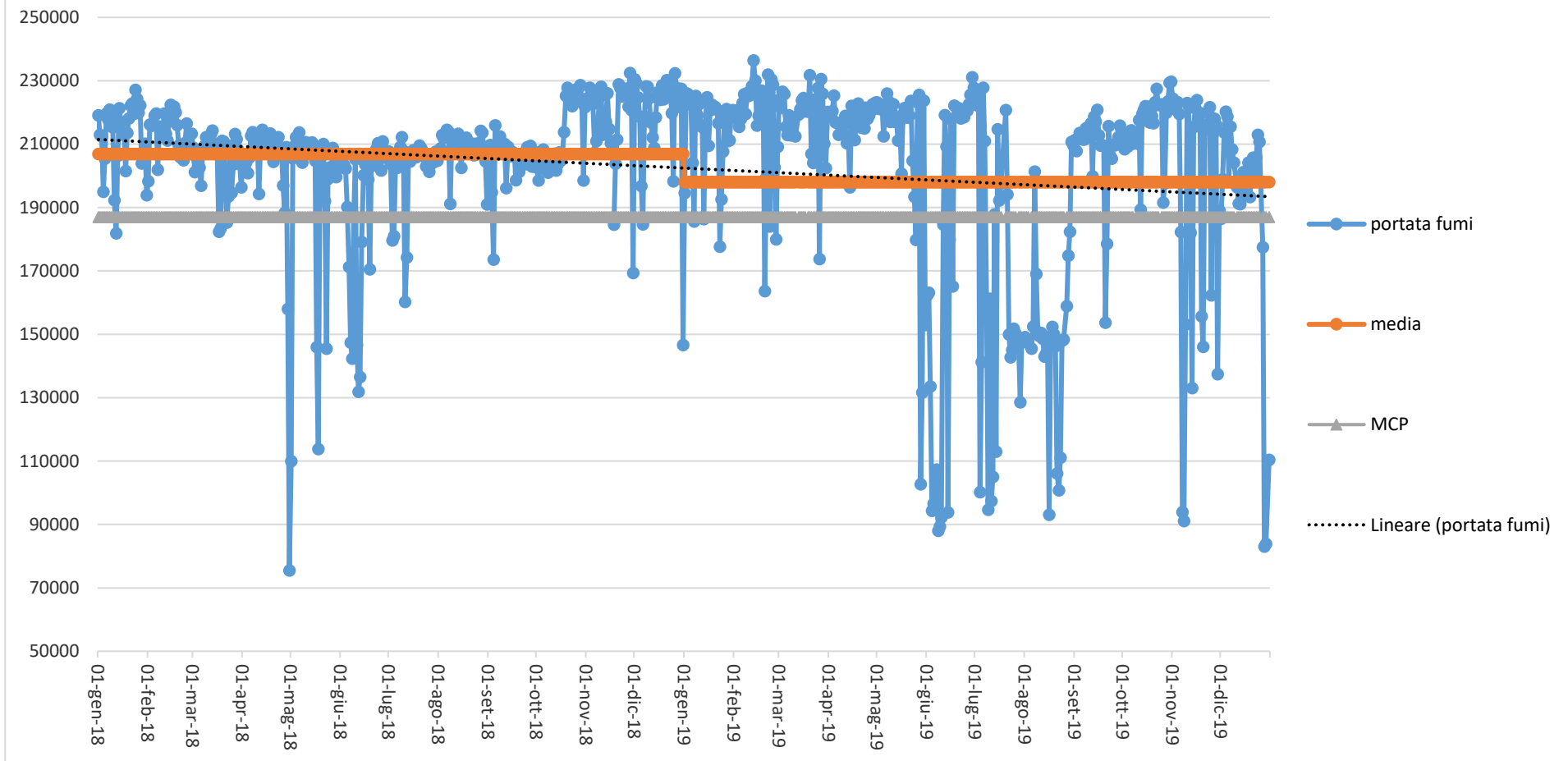


Portata fumi (Nm3/h) camino 4 (E424) cokeria - anno 2019

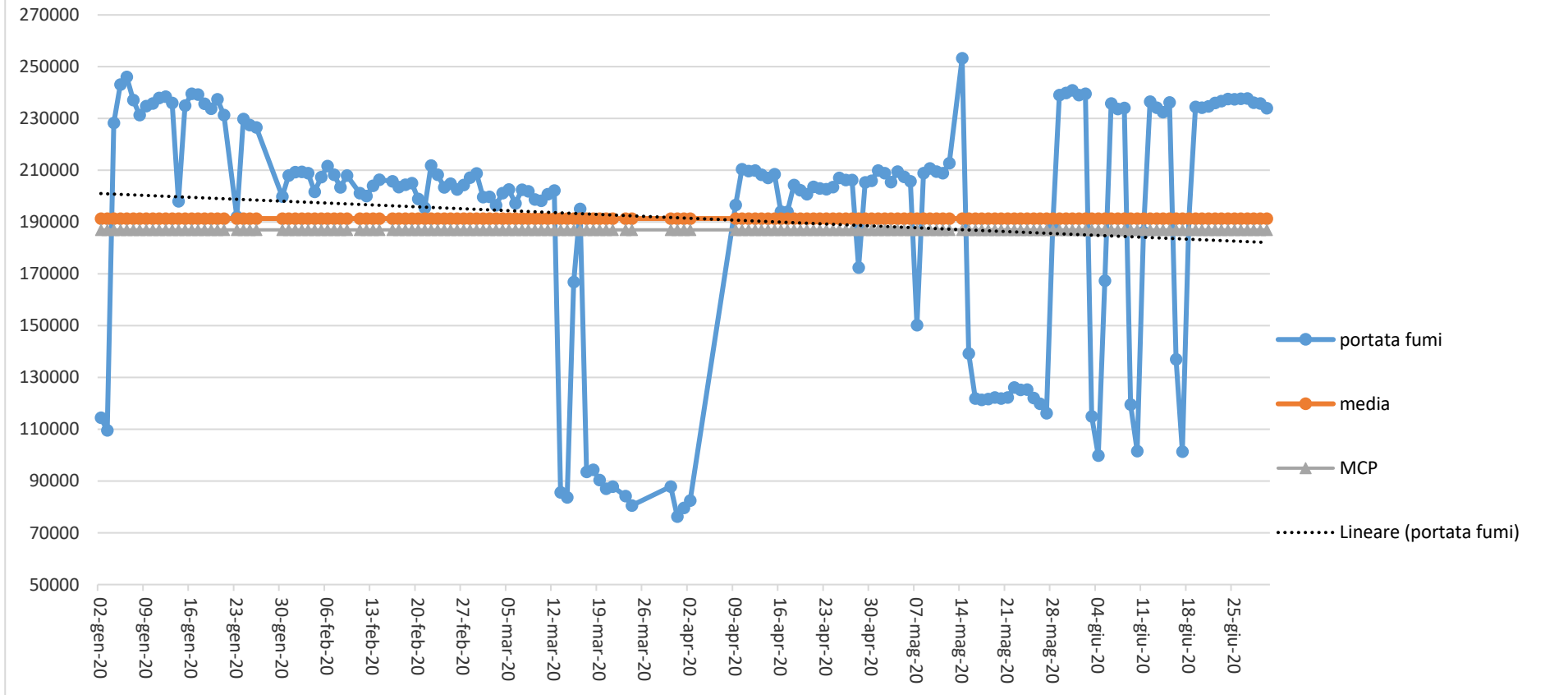




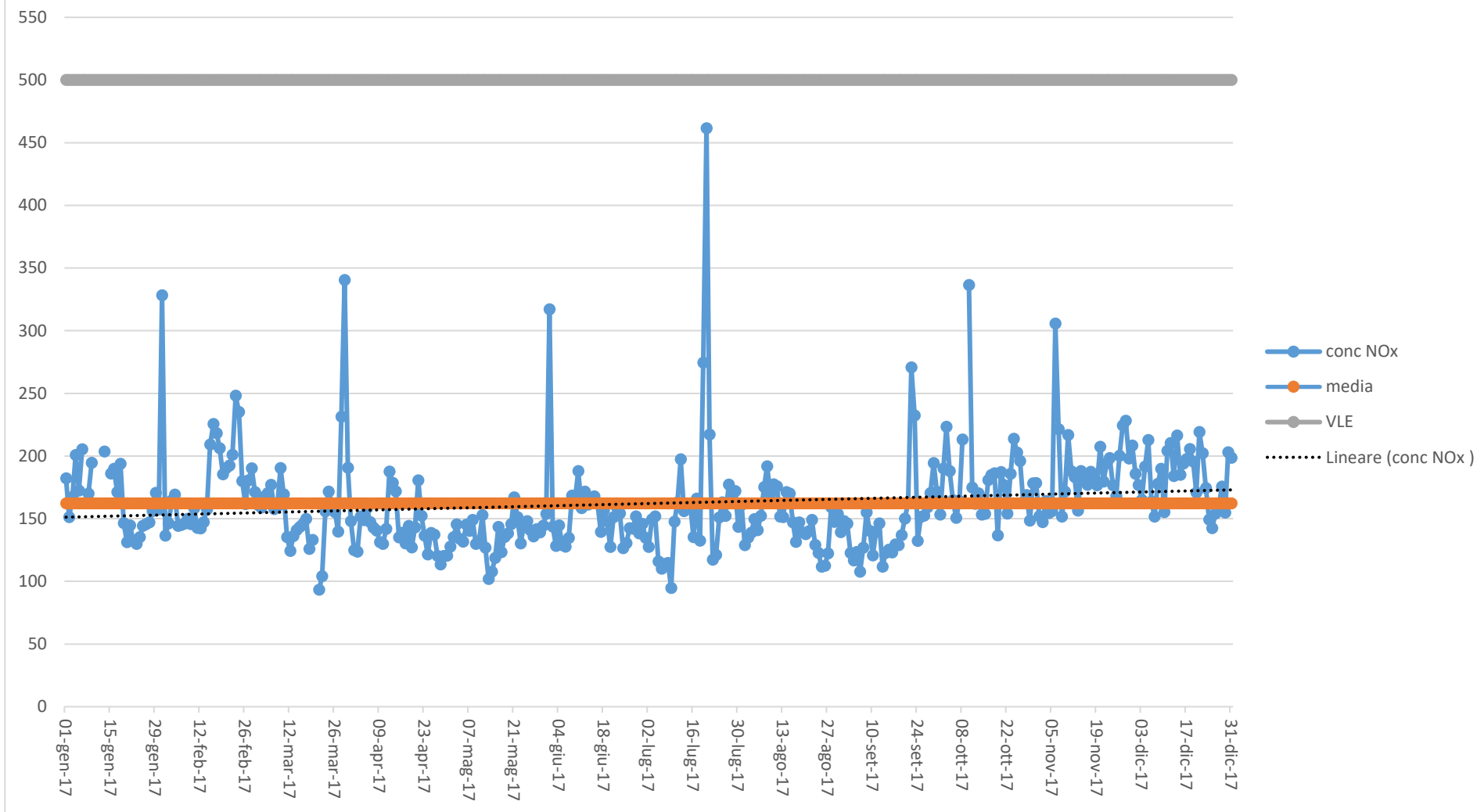
Portata fumi (Nm<sup>3</sup>/h) camino 4 (E424) cokeria - anni 2018-2019



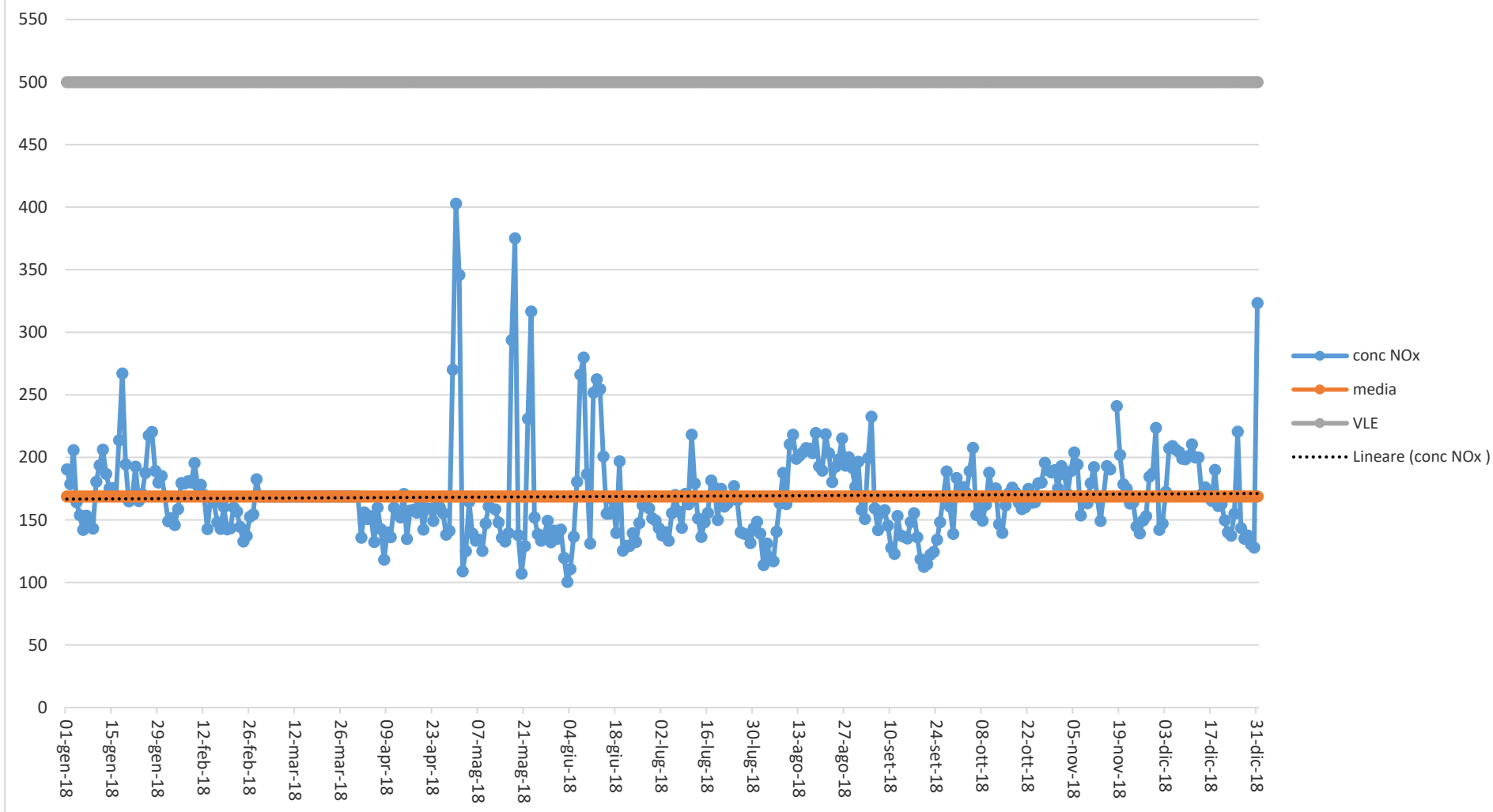
Portata fumi (Nm3/h) camino 4 (E424) cokeria - anno 2020



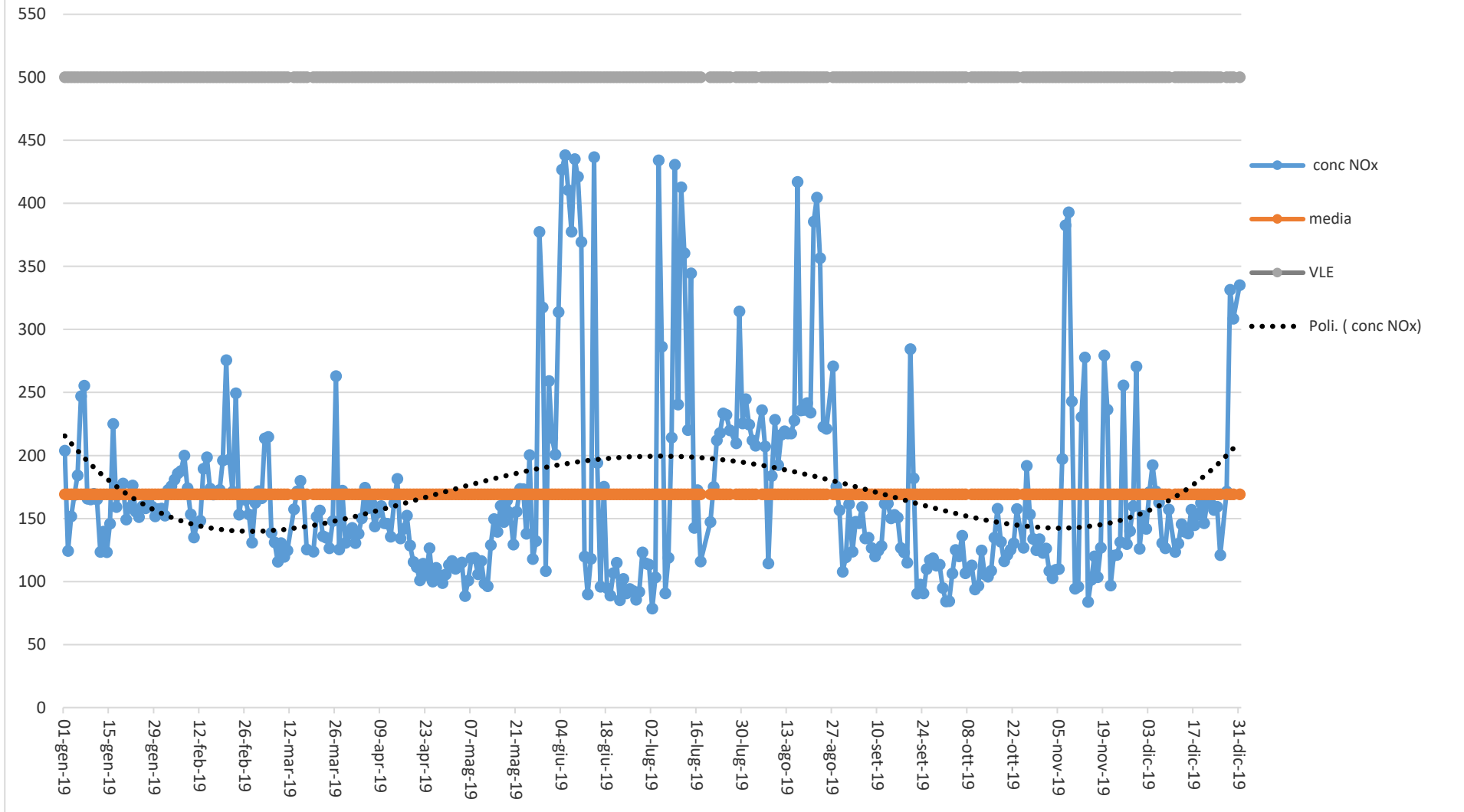
Concentrazione NOx (mg/Nm3, media giornaliera) camino E424 cokeria - ANNO 2017



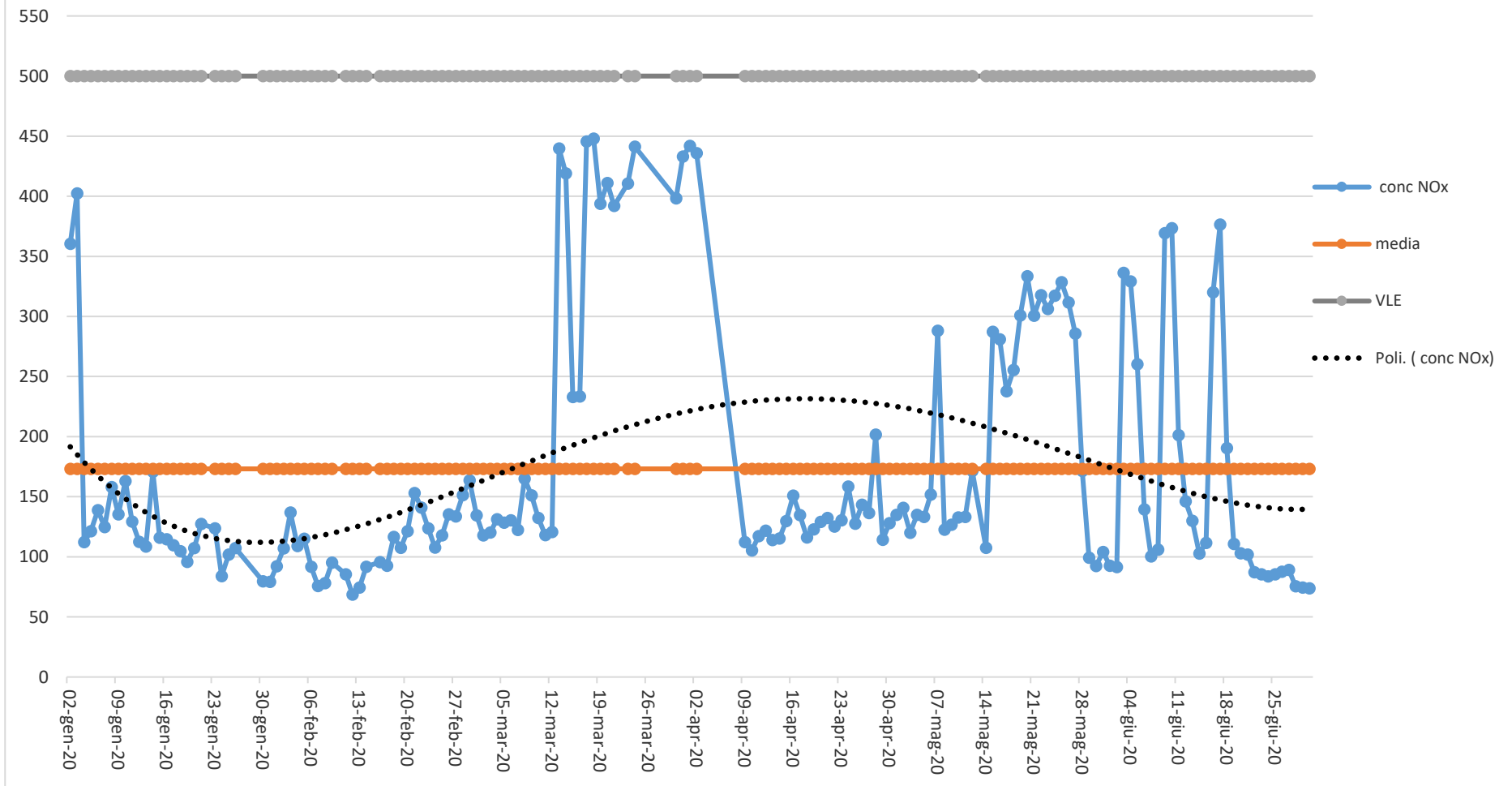
# Concentrazione NOx (mg/Nm3, media giornaliera) camino E424 cokeria - ANNO 2018



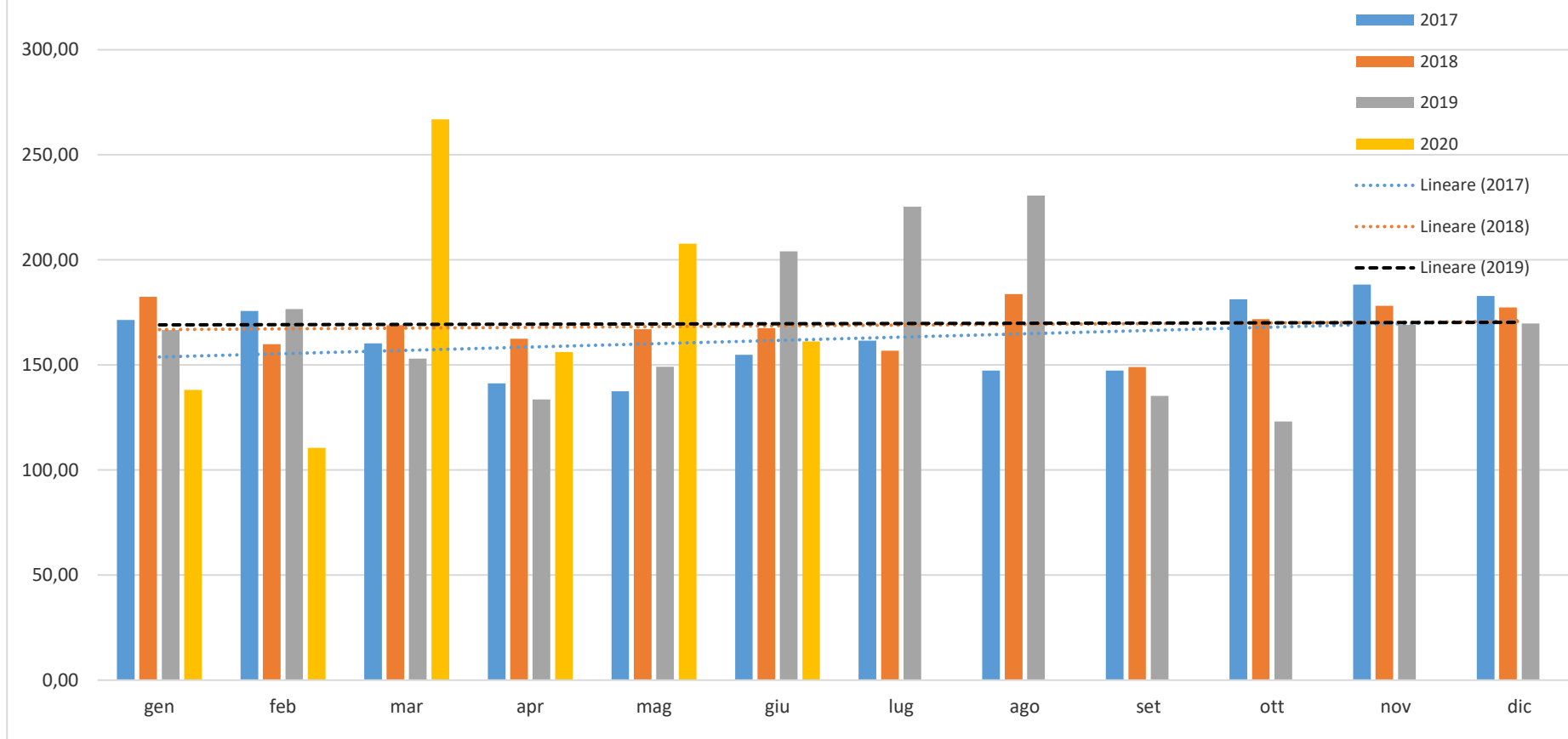
# Concentrazione NOx (mg/Nm3, media giornaliera) camino E424 cokeria - ANNO 2019



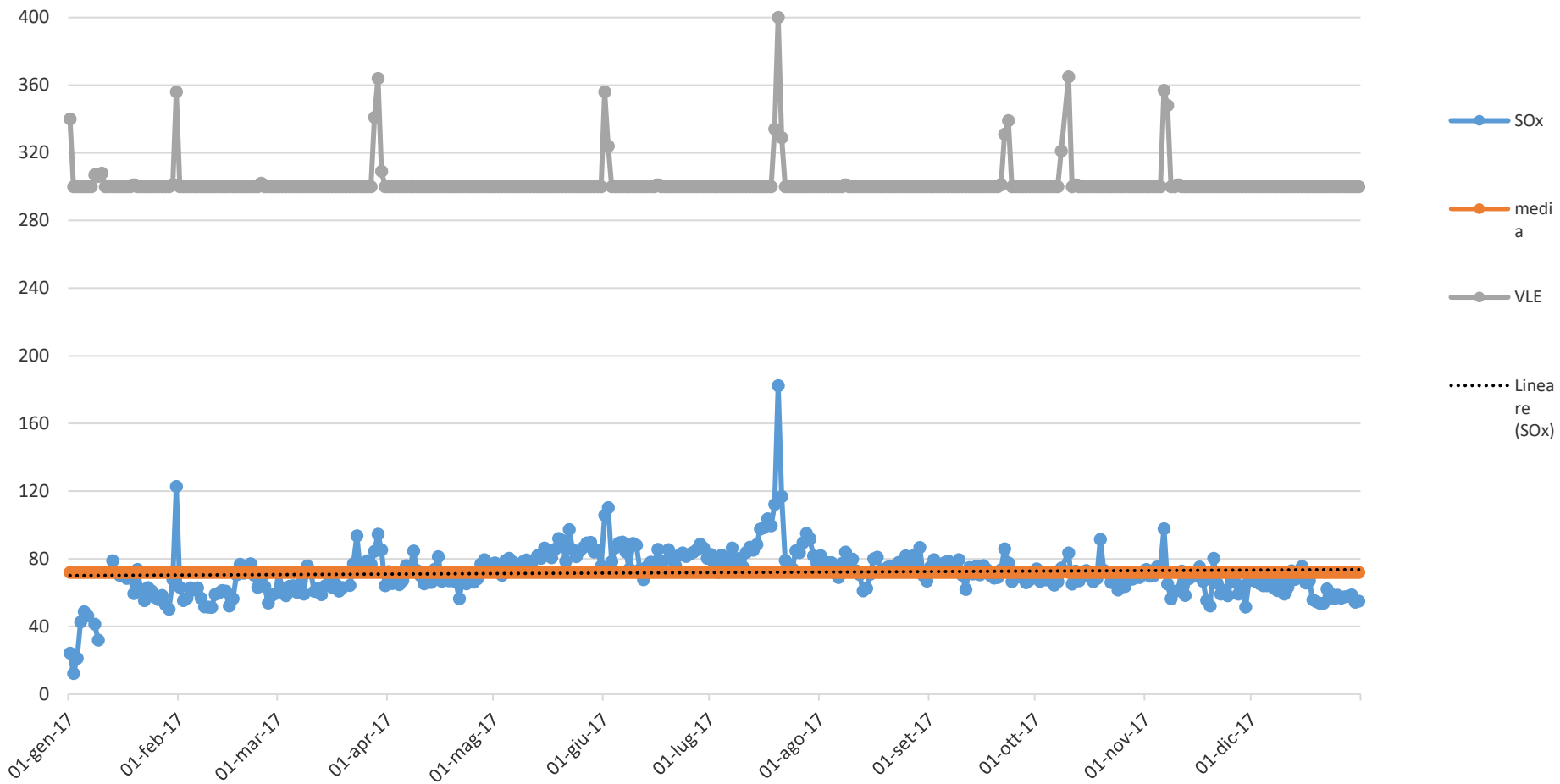
### Concentrazione NOx (mg/Nm3, media giornaliera) camino E424 cokeria - ANNO 2020



## Concentrazione NOx (mg/Nm<sup>3</sup>, medie mensili) camino E424 cokeria ANNI 2017-2018-2019-2020

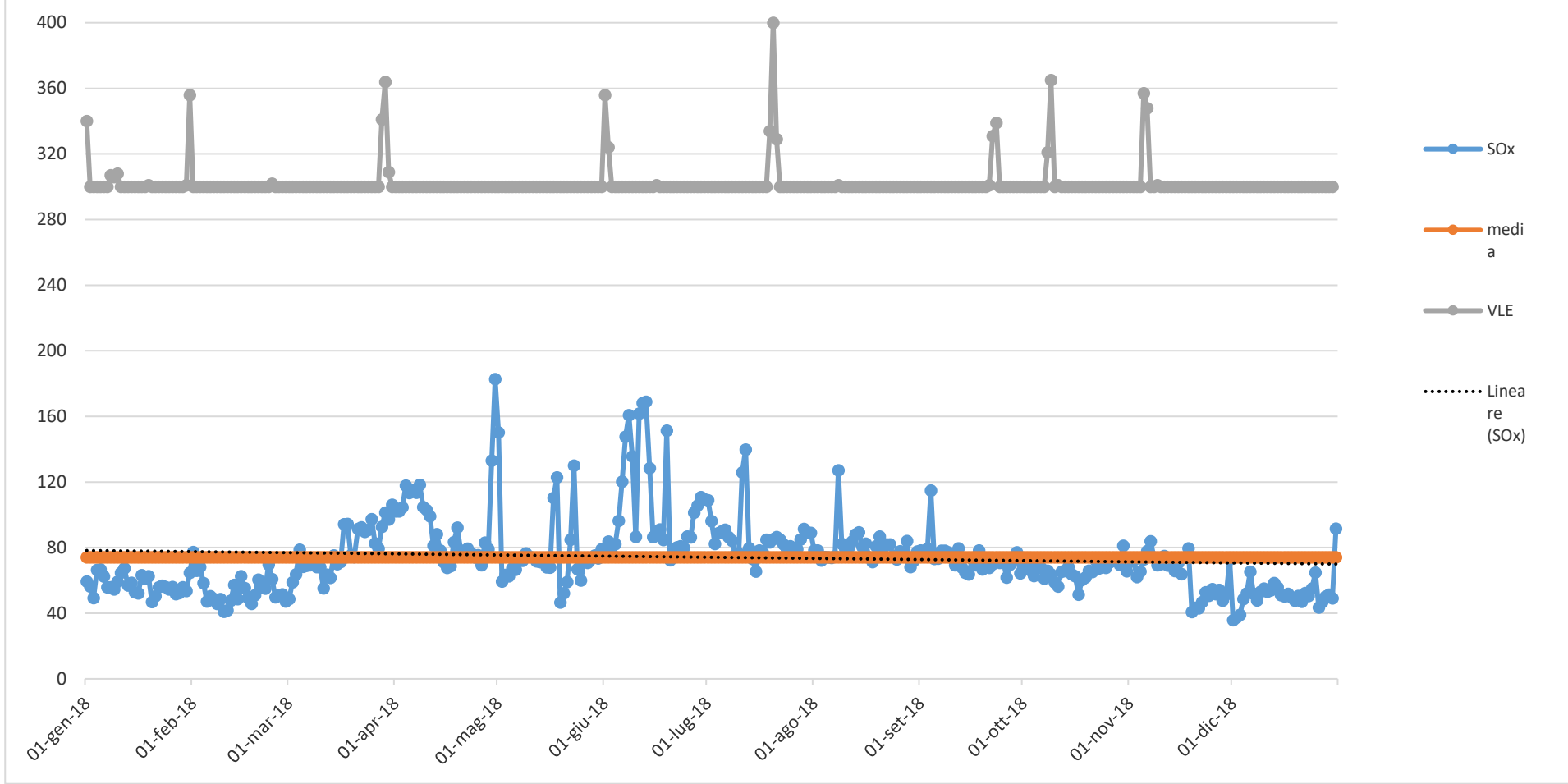


### Concentrazione SOx (mg/Nm3, media giornaliera) camino E424 - ANNO 2017

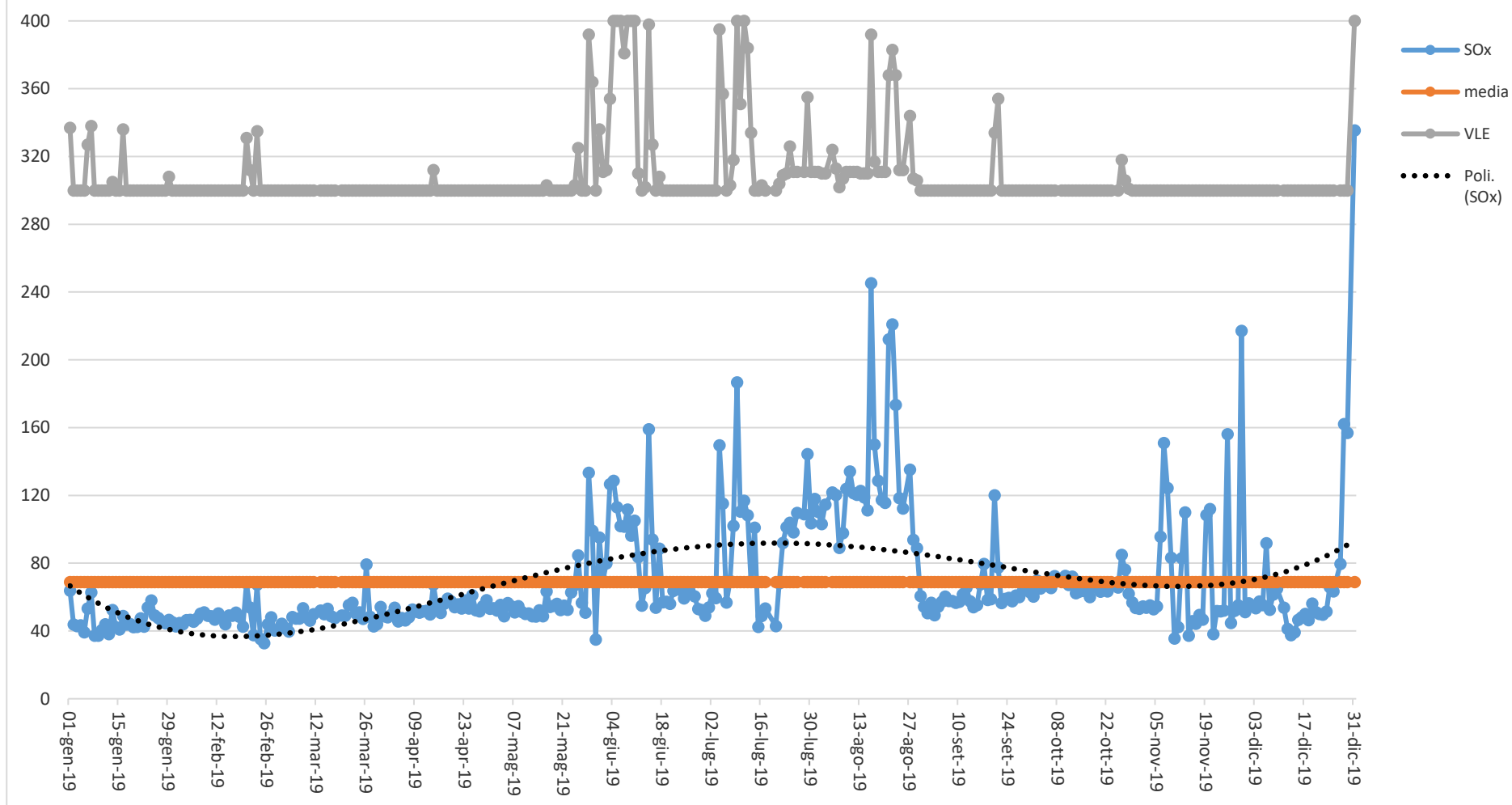




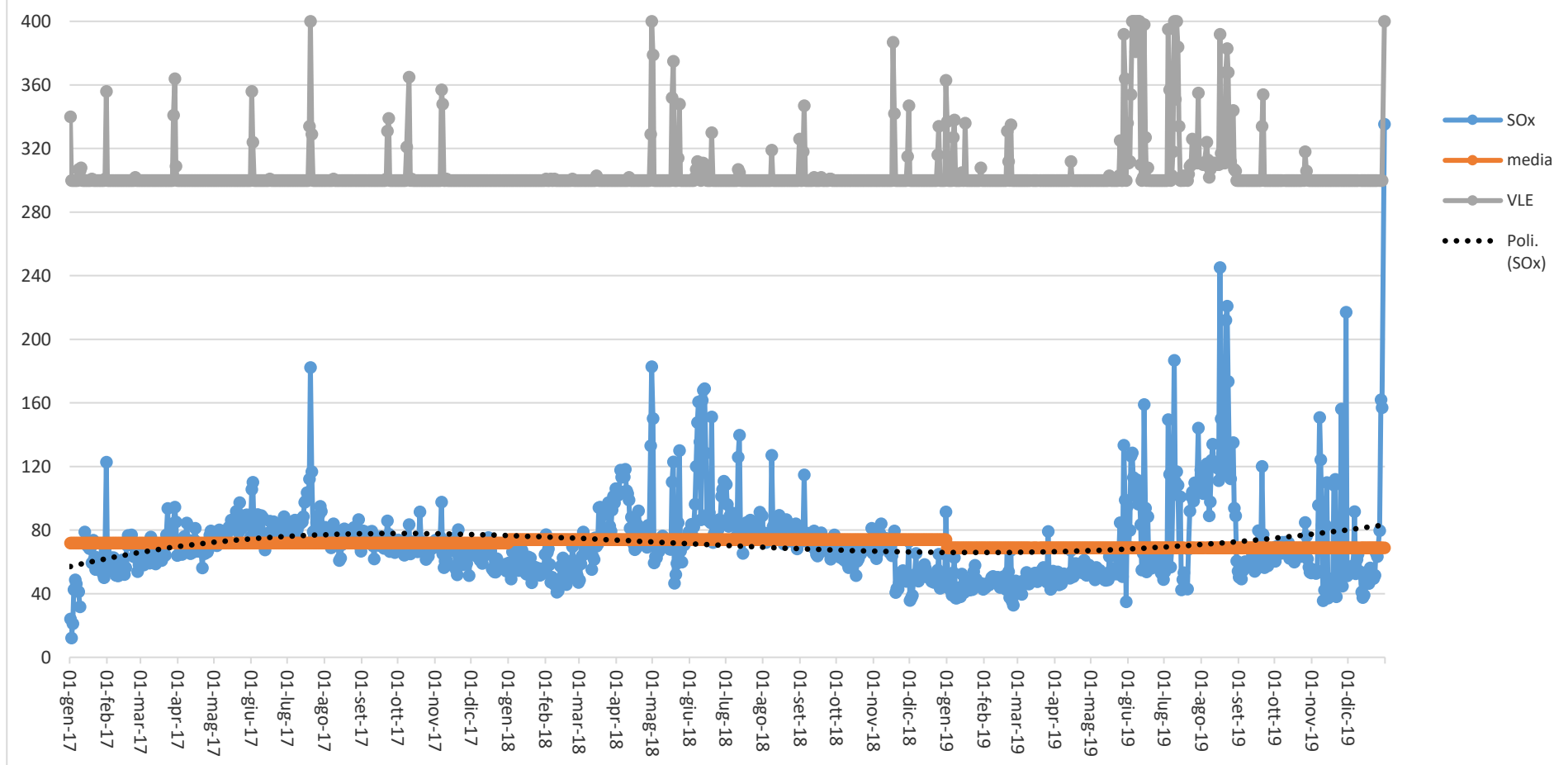
### Concentrazione SOx (mg/Nm3, media giornaliera) camino E424 - ANNO 2018



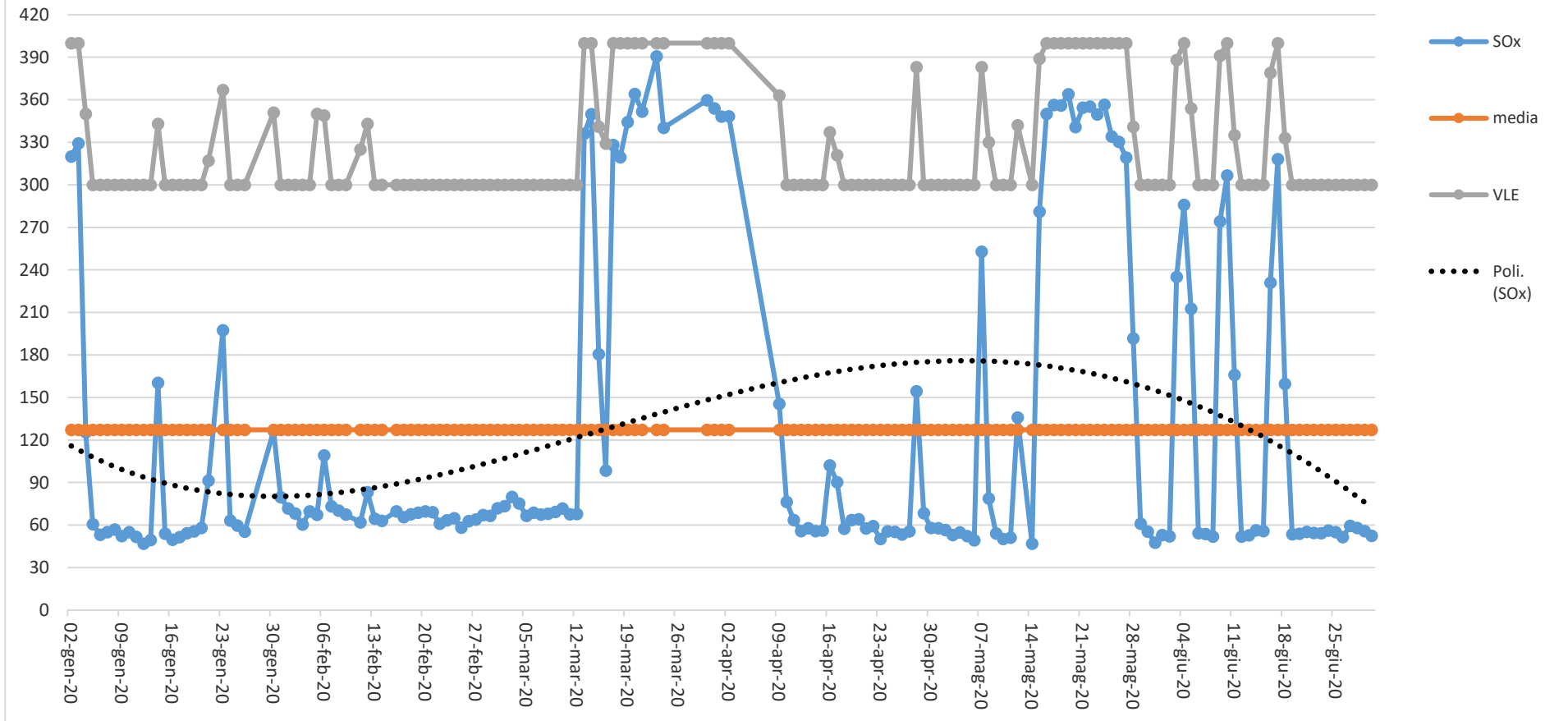
## Concentrazione SOx (mg/Nm<sup>3</sup>, media giornaliera) camino E424 - ANNO 2019



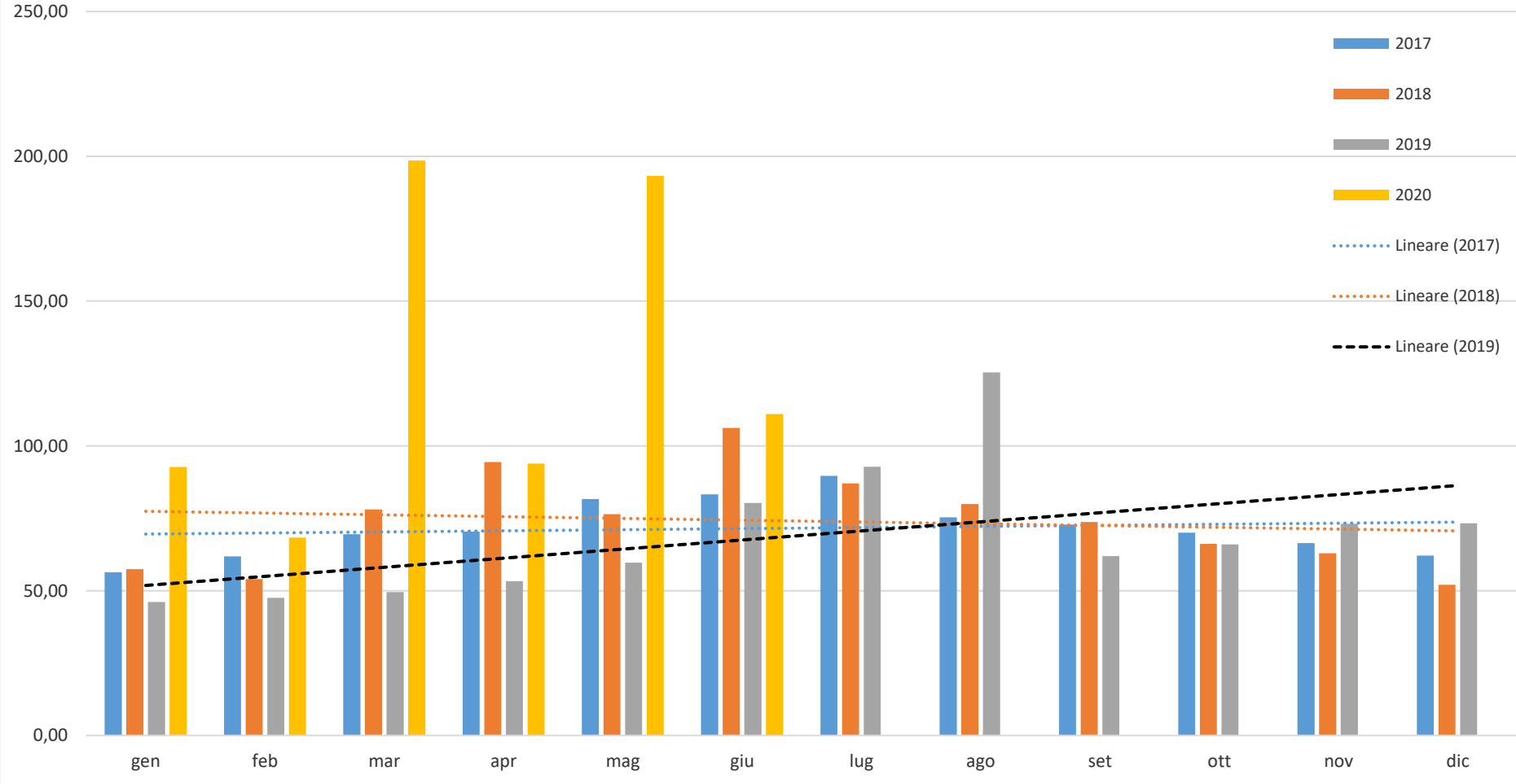
## Concentrazione SOx (mg/Nm<sup>3</sup>, media giornaliera) camino E424 - ANNI 2017-2018-2019



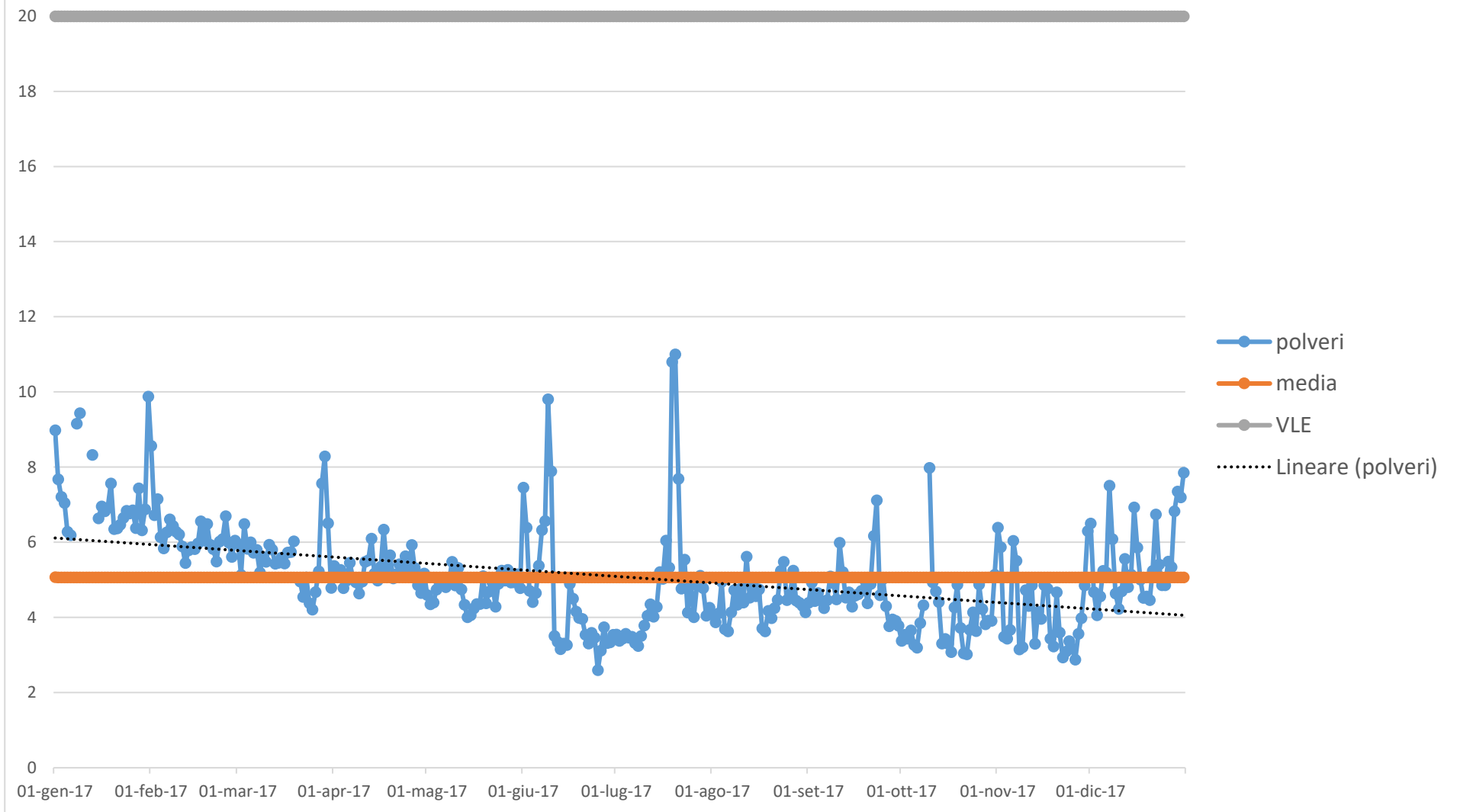
### Concentrazione SOx (mg/Nm3, media giornaliera) camino E424 - ANNO 2020



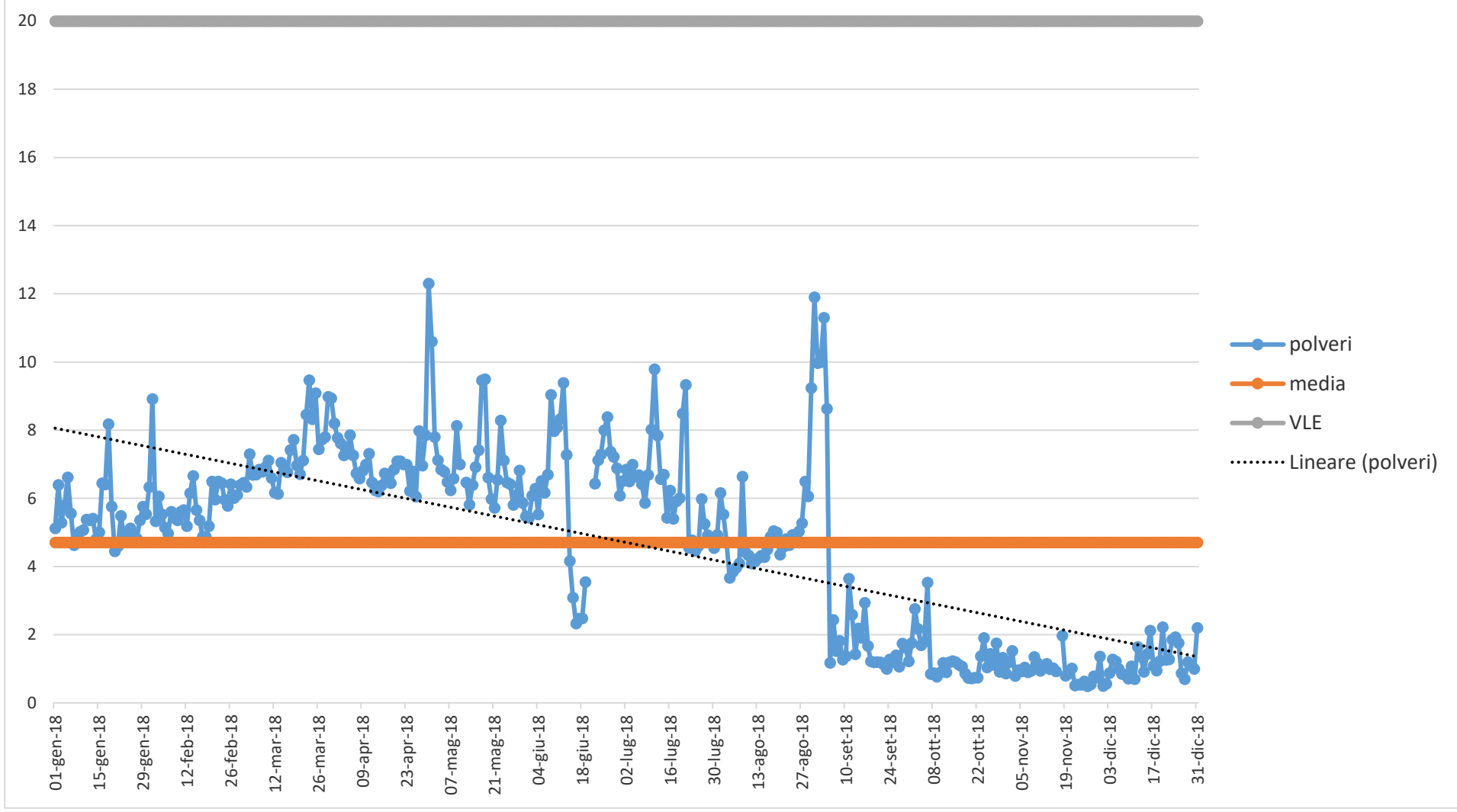
### Concentrazione SOx (mg/Nm3, medie mensili) camino E424 cokeria ANNI 2017-2018-2019



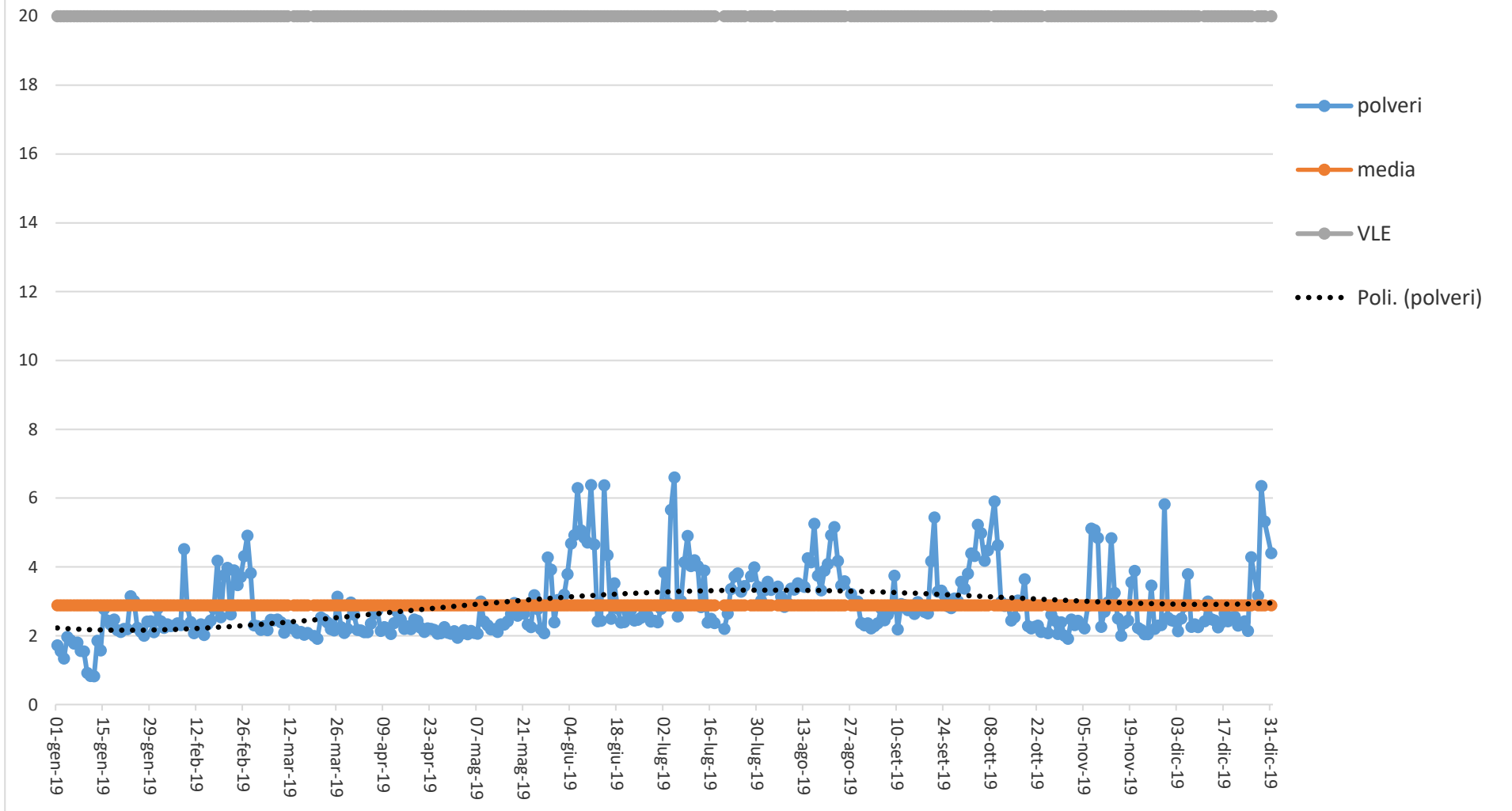
### Concentrazione polveri (mg/Nm3, media giornaliera) camino E424 - ANNO 2017



### Concentrazione polveri (mg/Nm3, media giornaliera) camino E424 - ANNO 2018

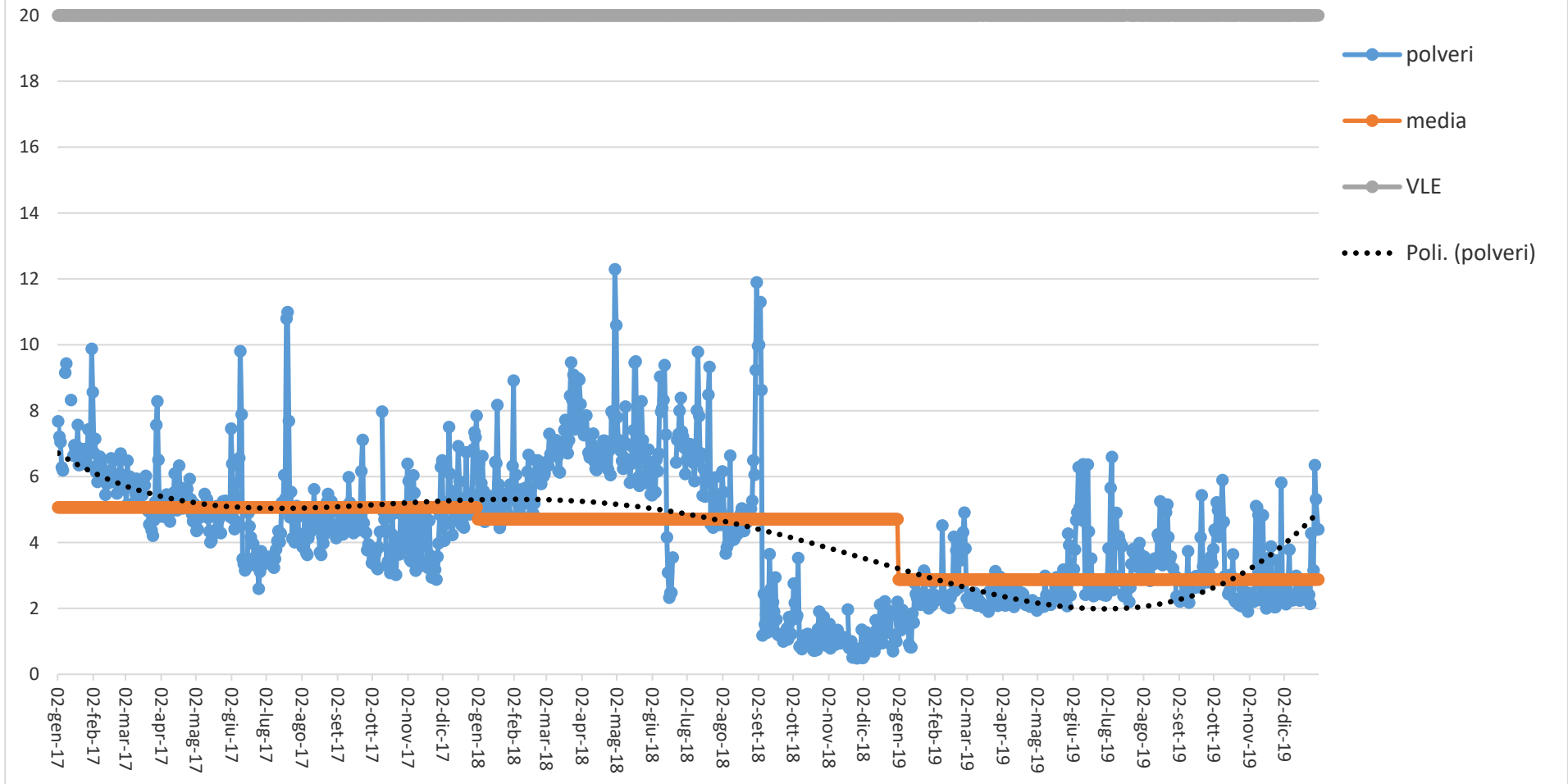


### Concentrazione polveri (mg/Nm3, media giornaliera) camino E424 - ANNO 2019

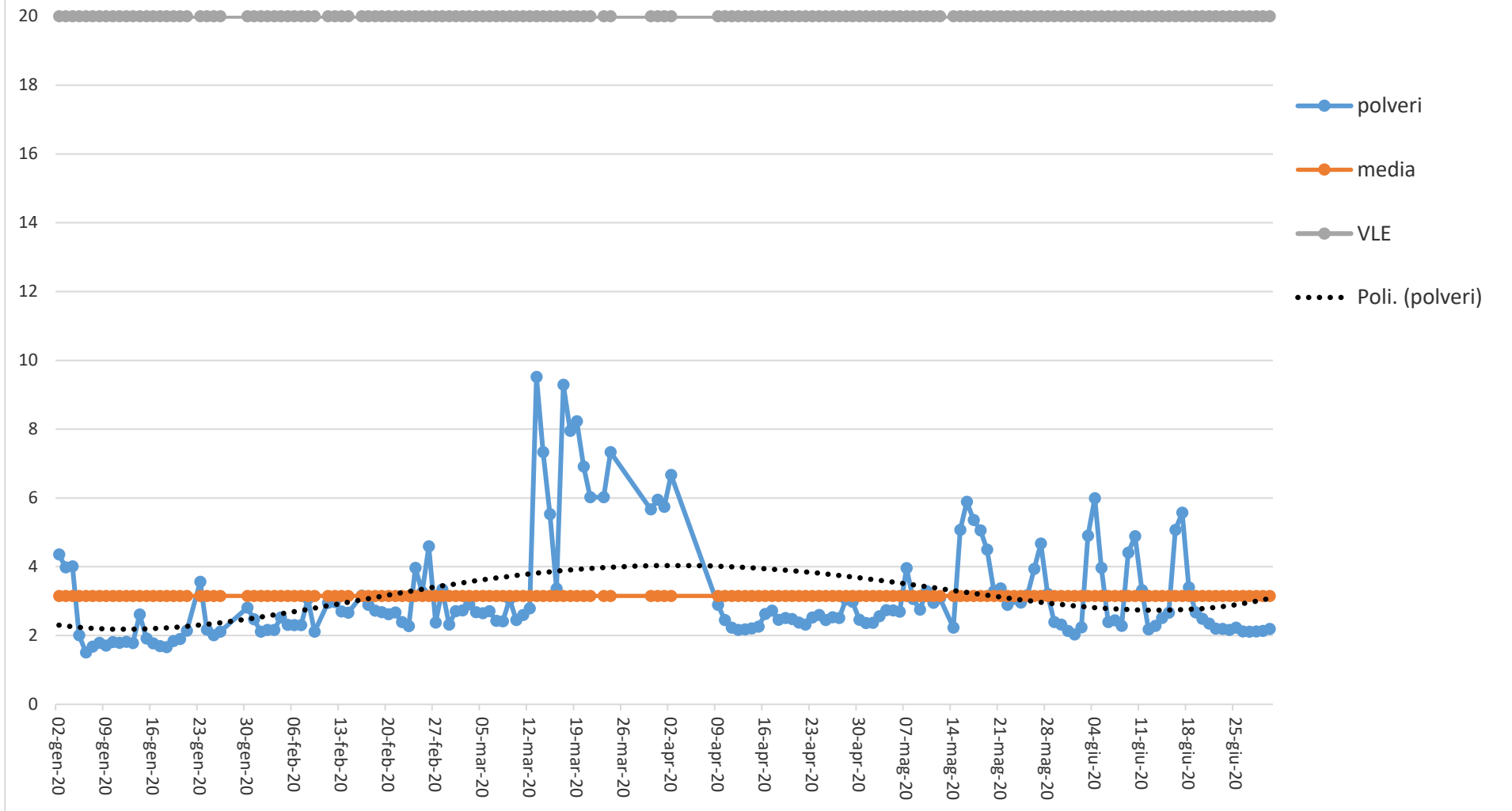




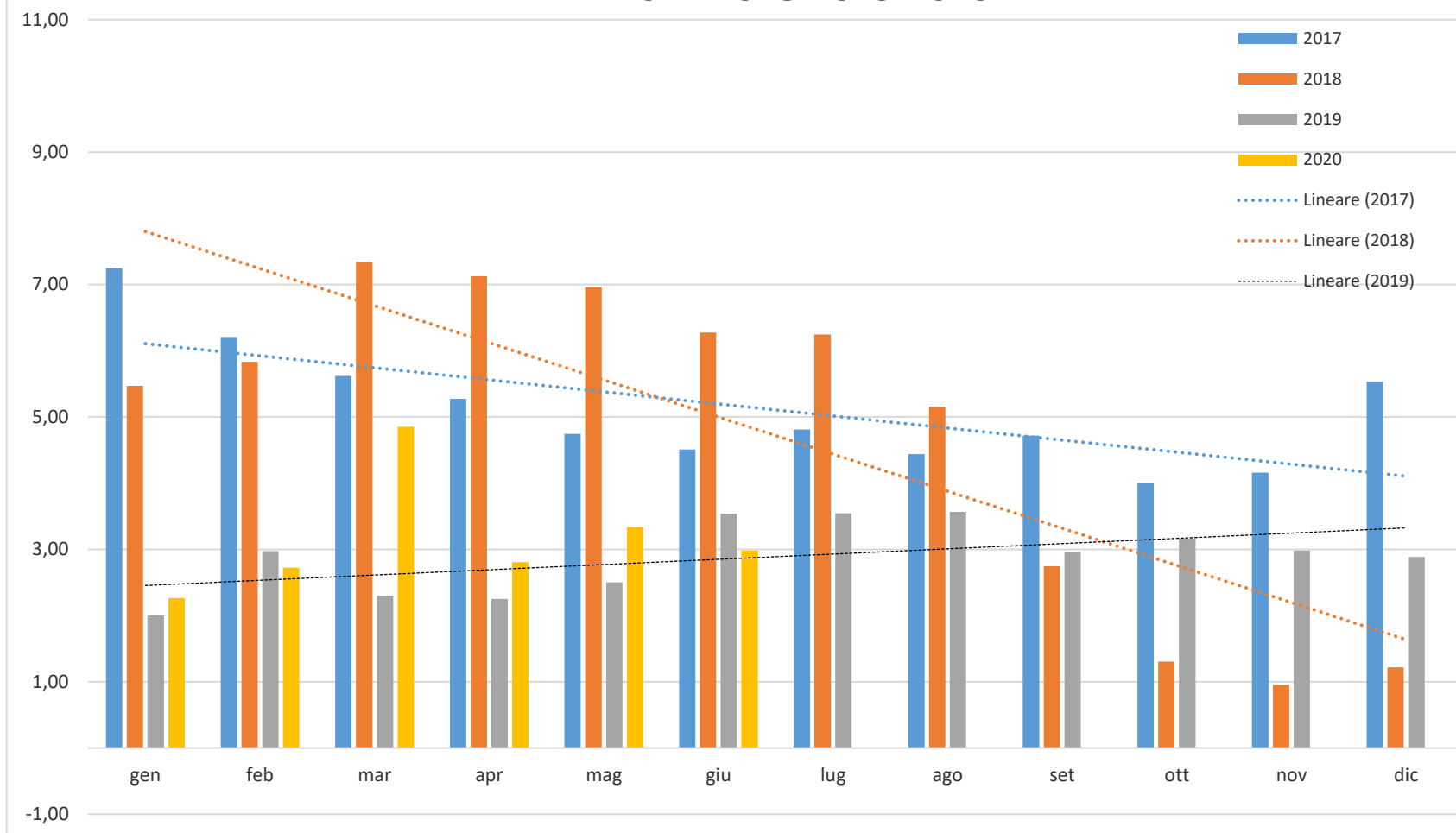
## Concentrazione polveri (mg/Nm3, media giornaliera) camino E424 - ANNI 2017-2018- 2019



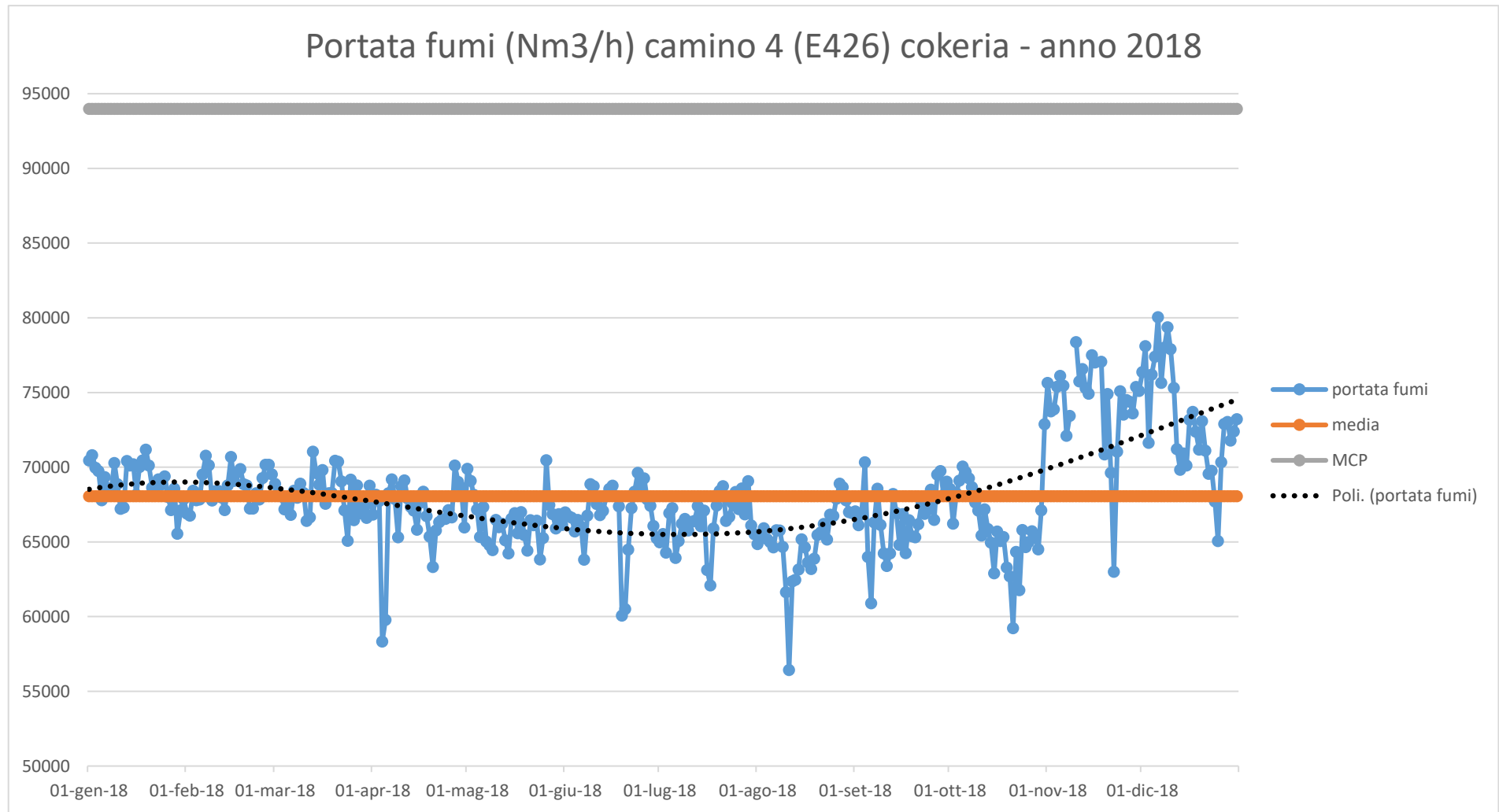
### Concentrazione polveri (mg/Nm3, media giornaliera) camino E424 - ANNO 2020



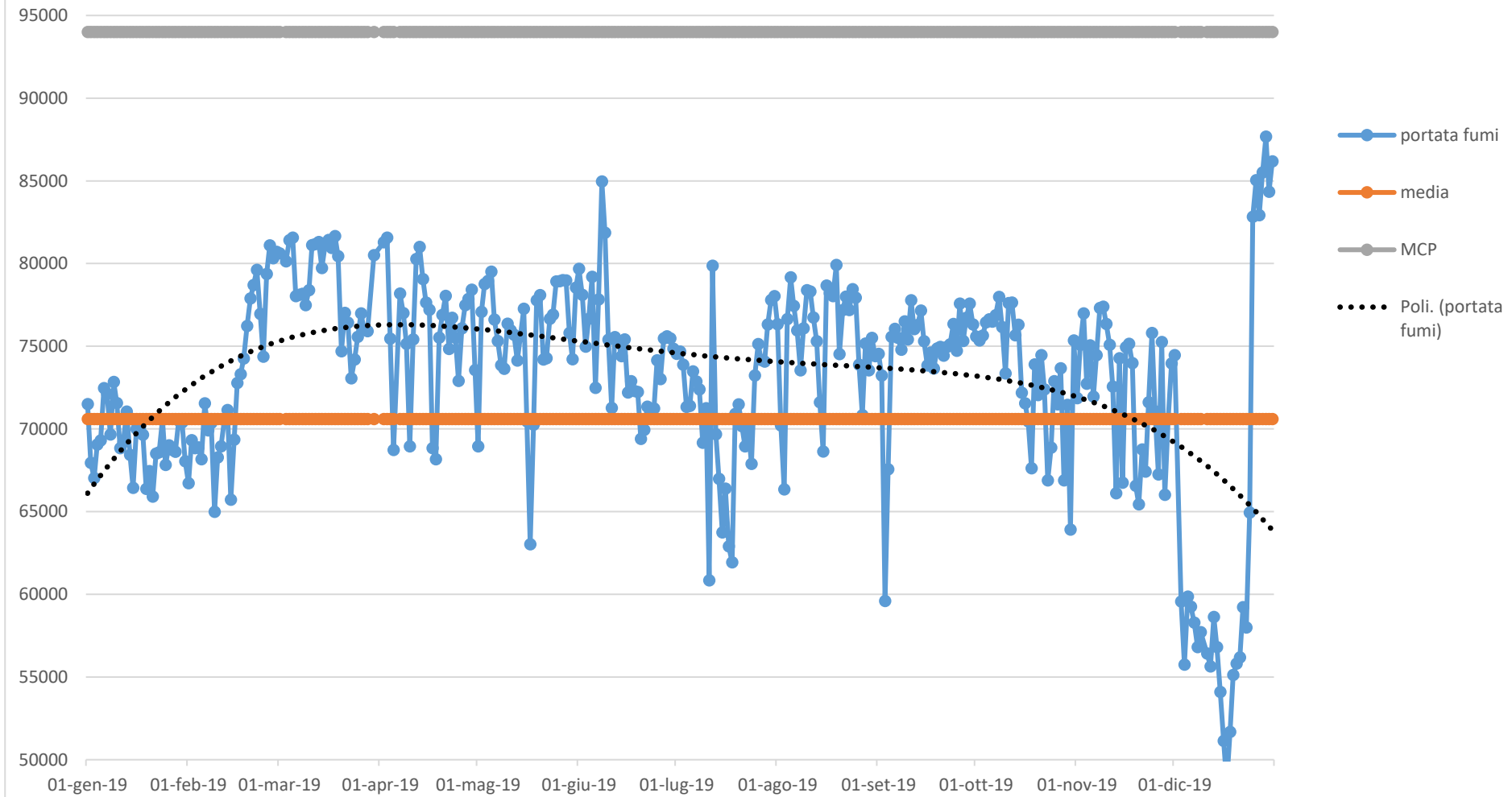
## Concentrazione polveri (mg/Nm<sup>3</sup>, medie mensili) camino E424 cokeria ANNI 2017-2018-2019-2020



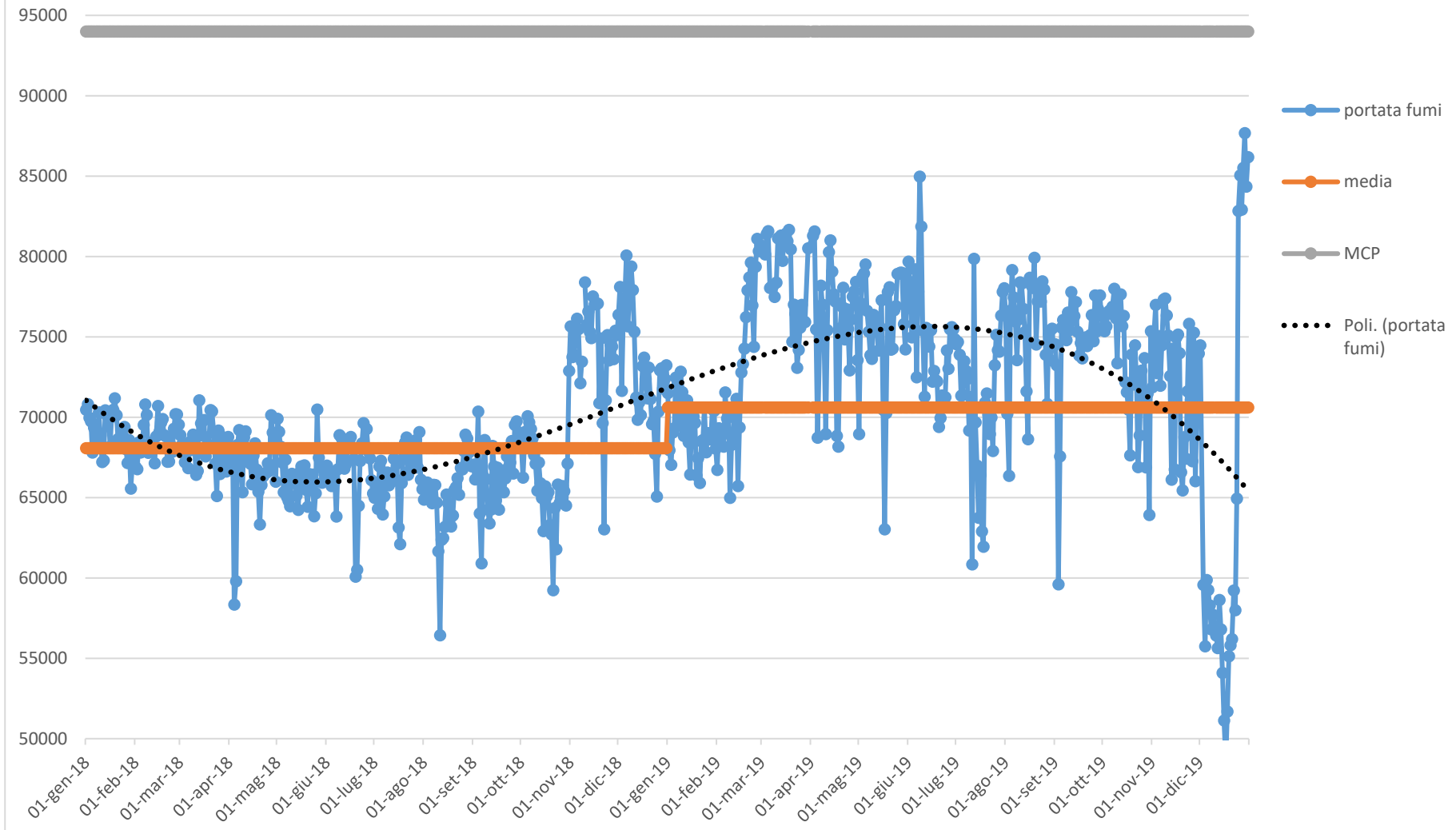
**FIG. 1 – Camino E424 - COKEFAZIONE**



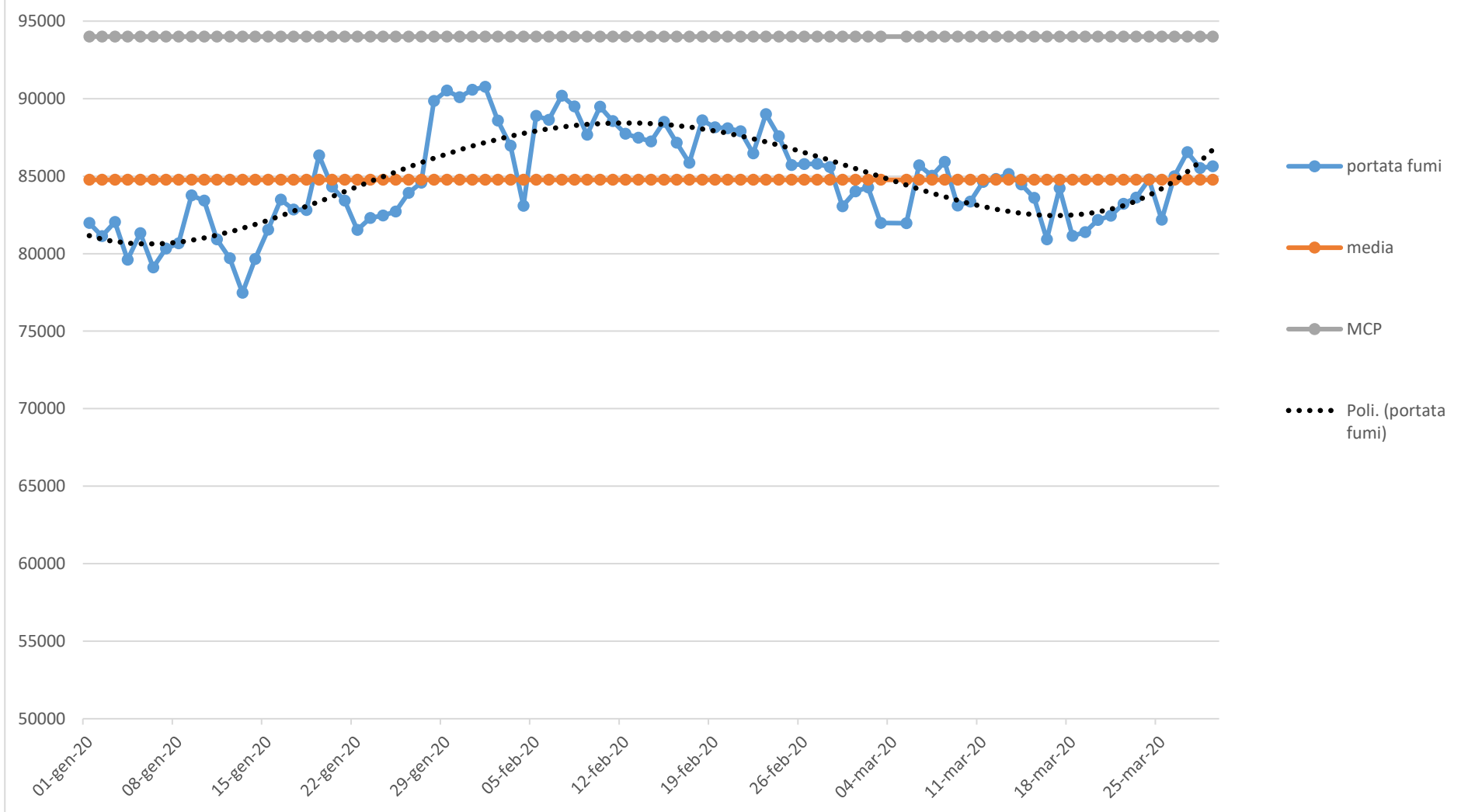
# Portata fumi (Nm3/h) camino 4 (E426) cokeria - anno 2019



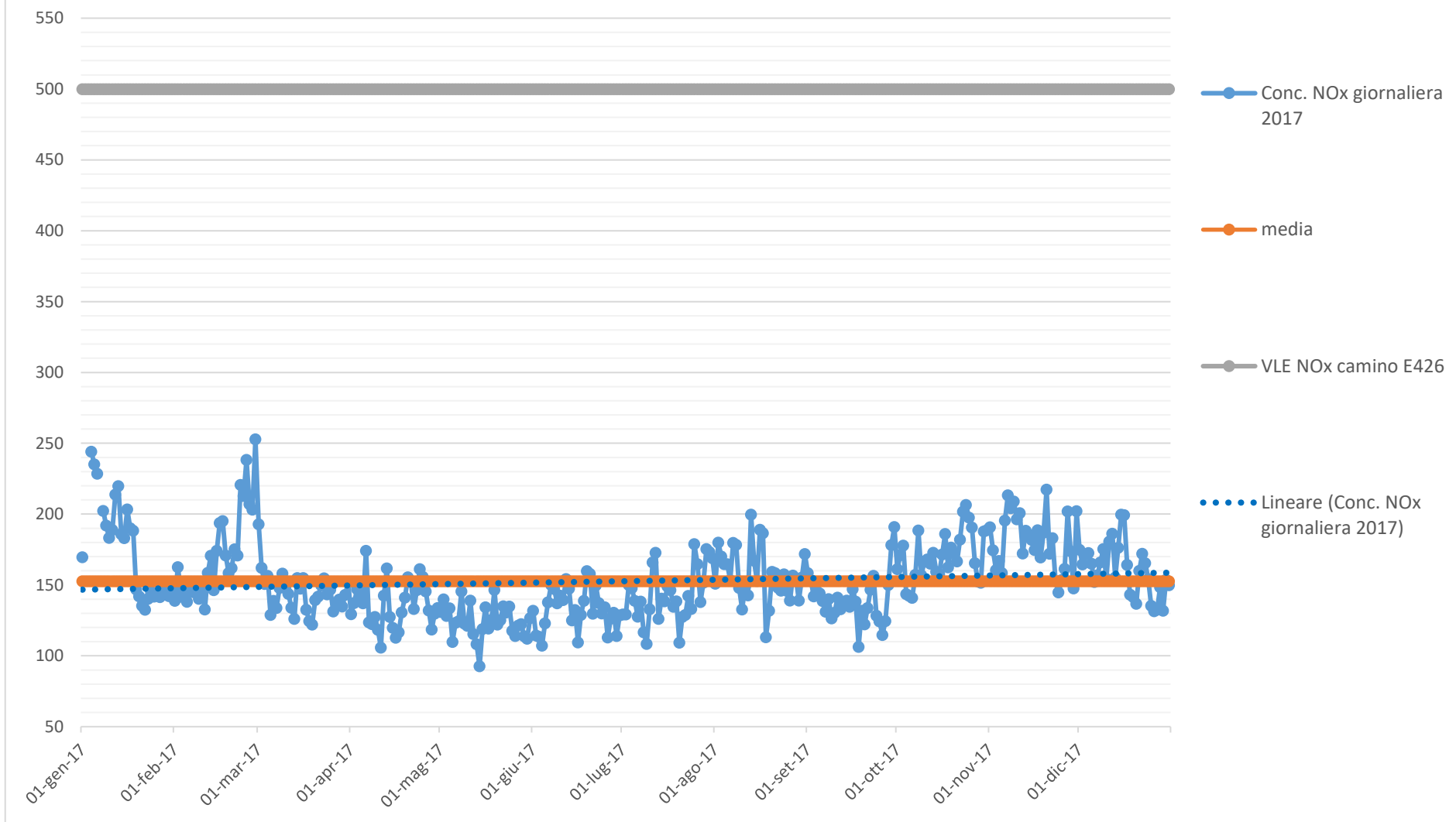
# Portata fumi (Nm3/h) camino 4 (E426) cokeria - anni 2018 - 2019



# Portata fumi (Nm3/h) camino 4 (E426) cokeria - anno 2020

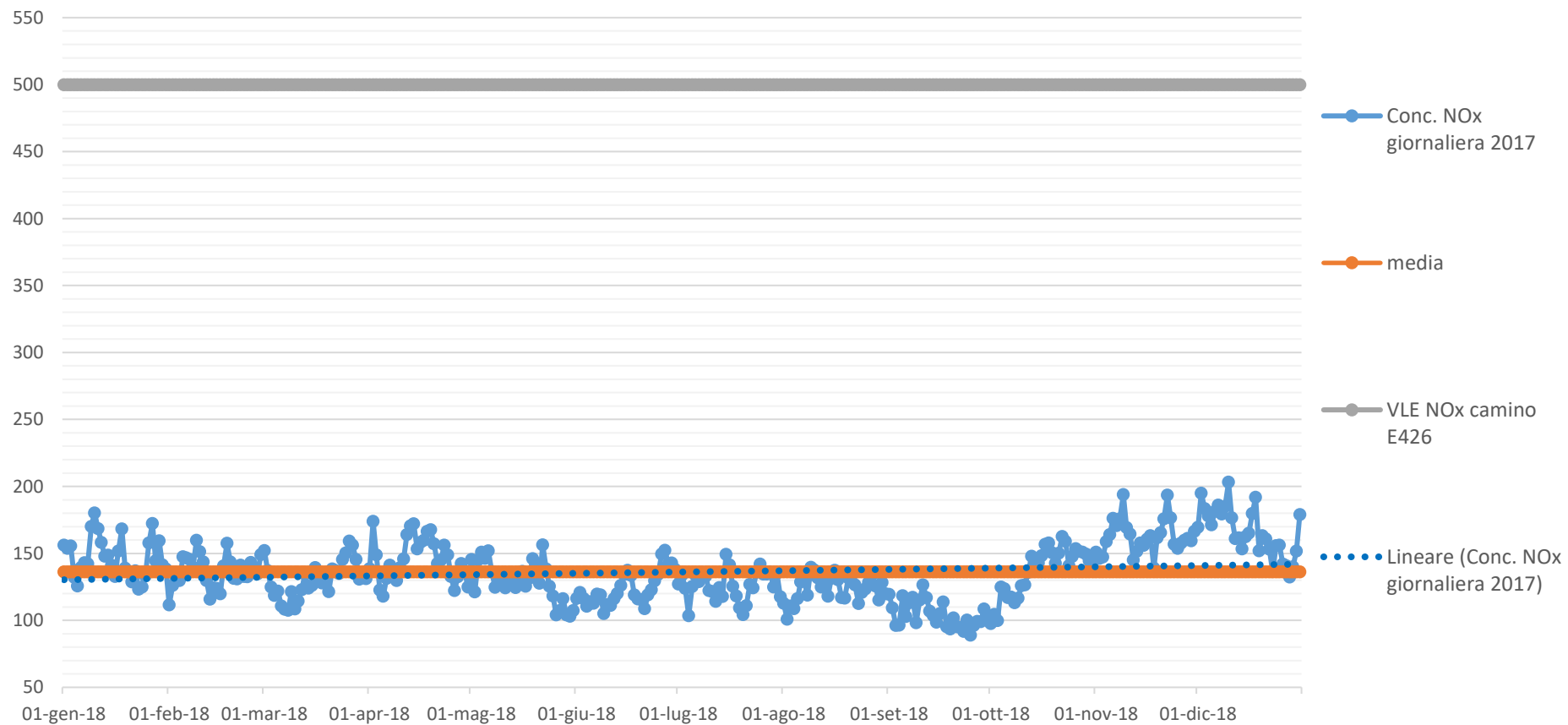


### Concentrazione NOx (mg/Nm3, media giornaliera) camino E426 cokeria-ANNO 2017

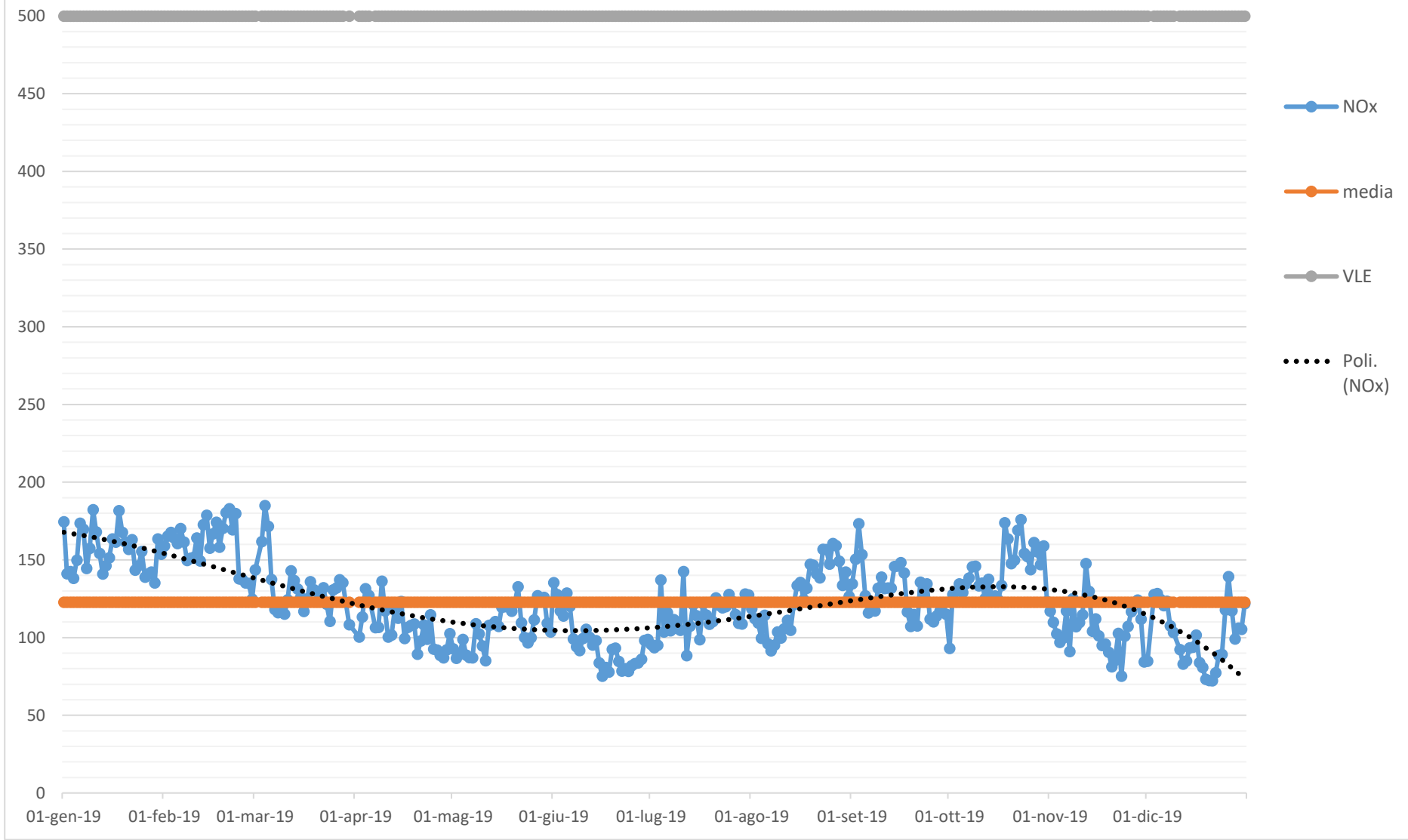




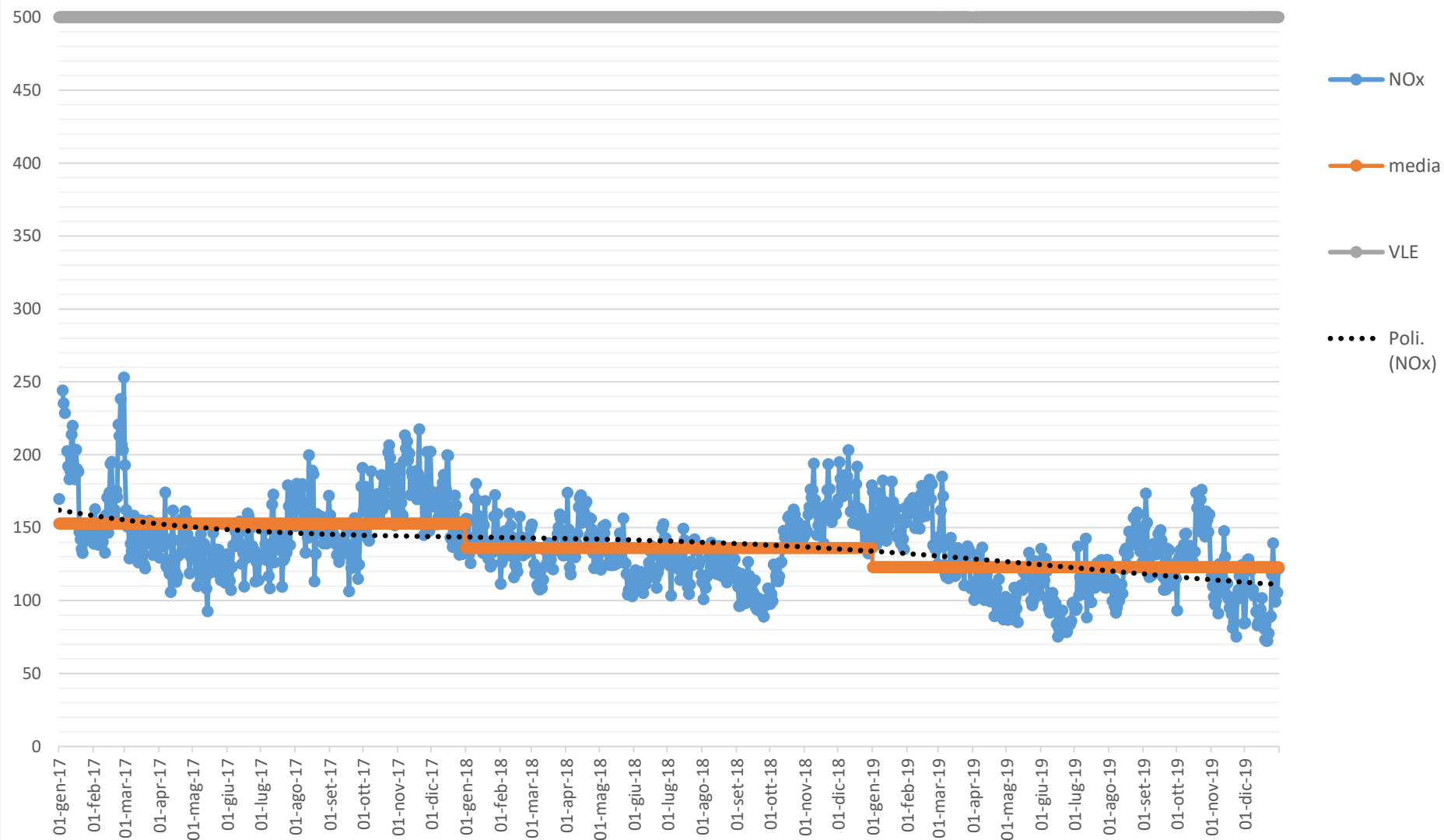
### Concentrazione NOx (mg/Nm3, media giornaliera) camino E426 cokeria -ANNO 2018



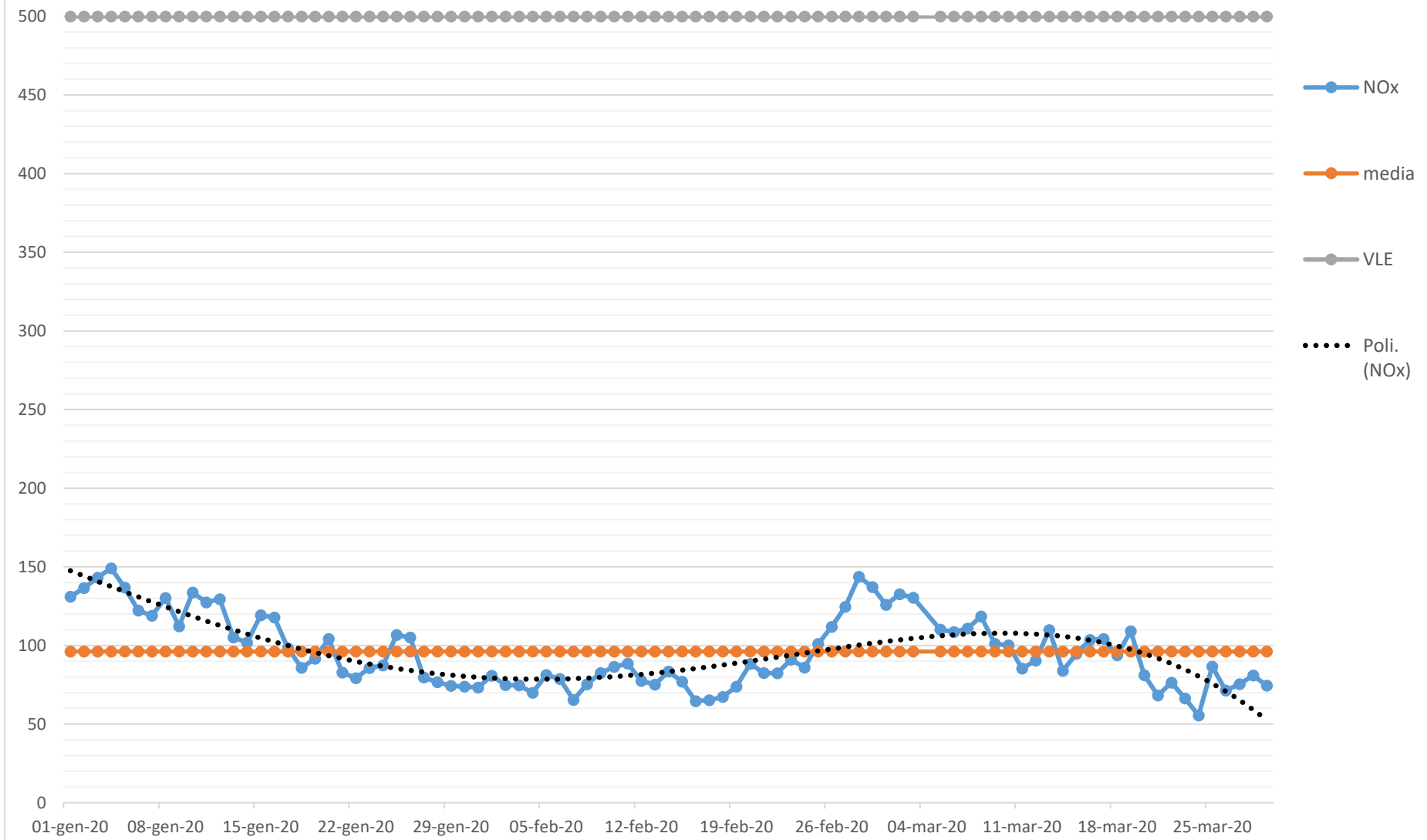
Concentrazione di NOx (mg/Nm3, media giornaliera) camino E426 cokeria - ANNO 2019



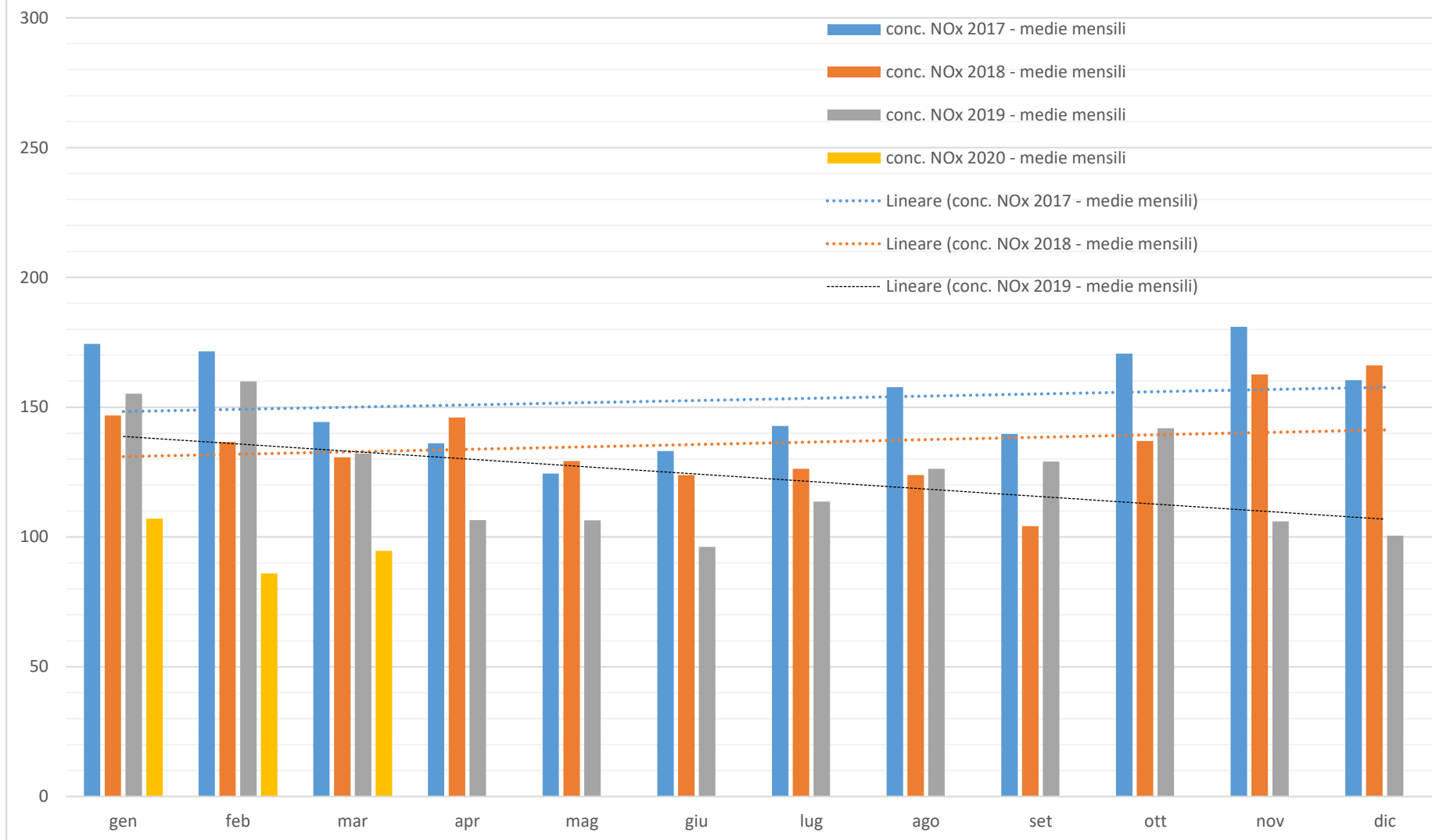
Concentrazione di NOx (mg/Nm3, media giornaliera) camino E426 cokeria-ANNI 2017-2018- 2019



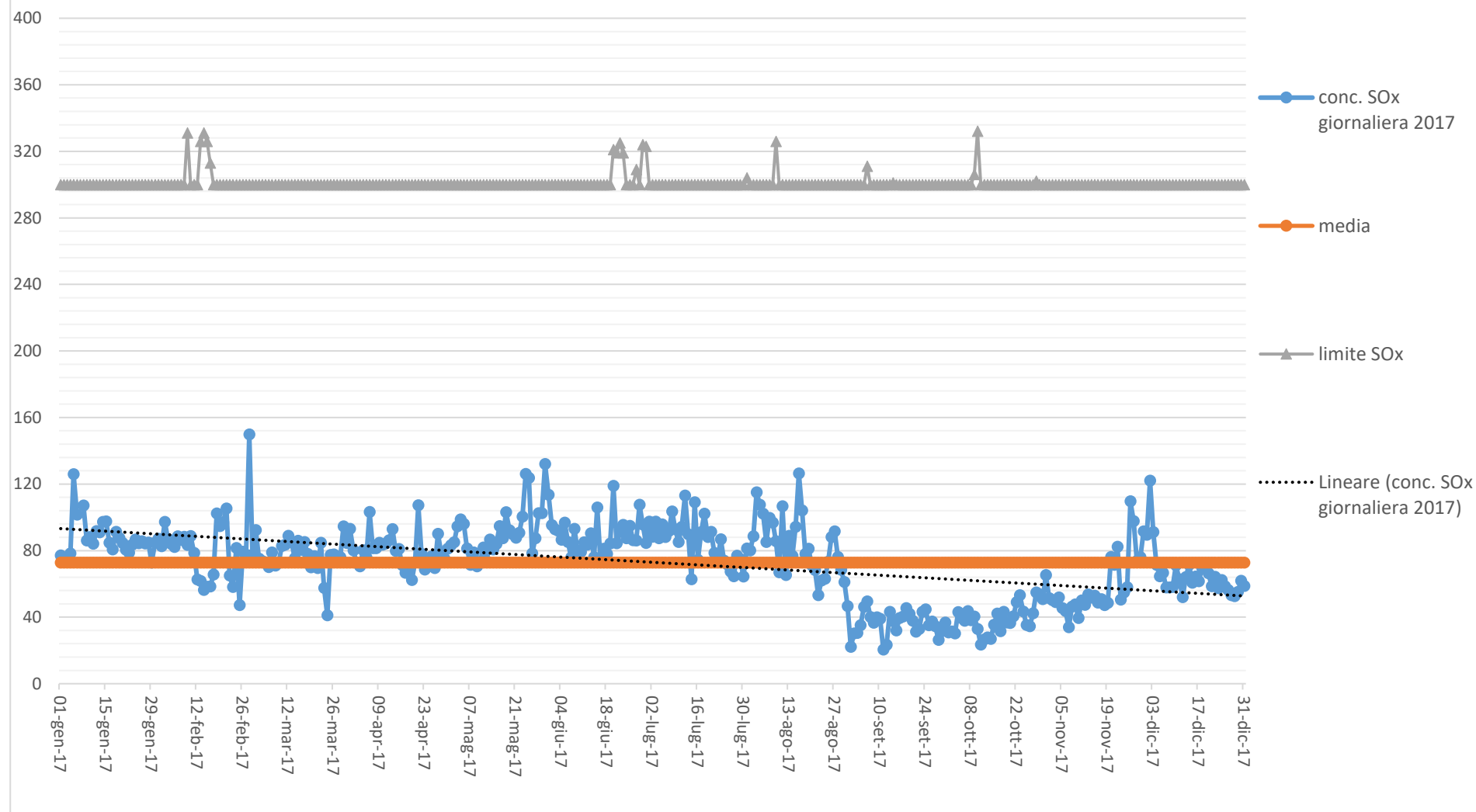
Concentrazione di NOx (mg/Nm3, media giornaliera) camino E426 cokeria - ANNO 2020



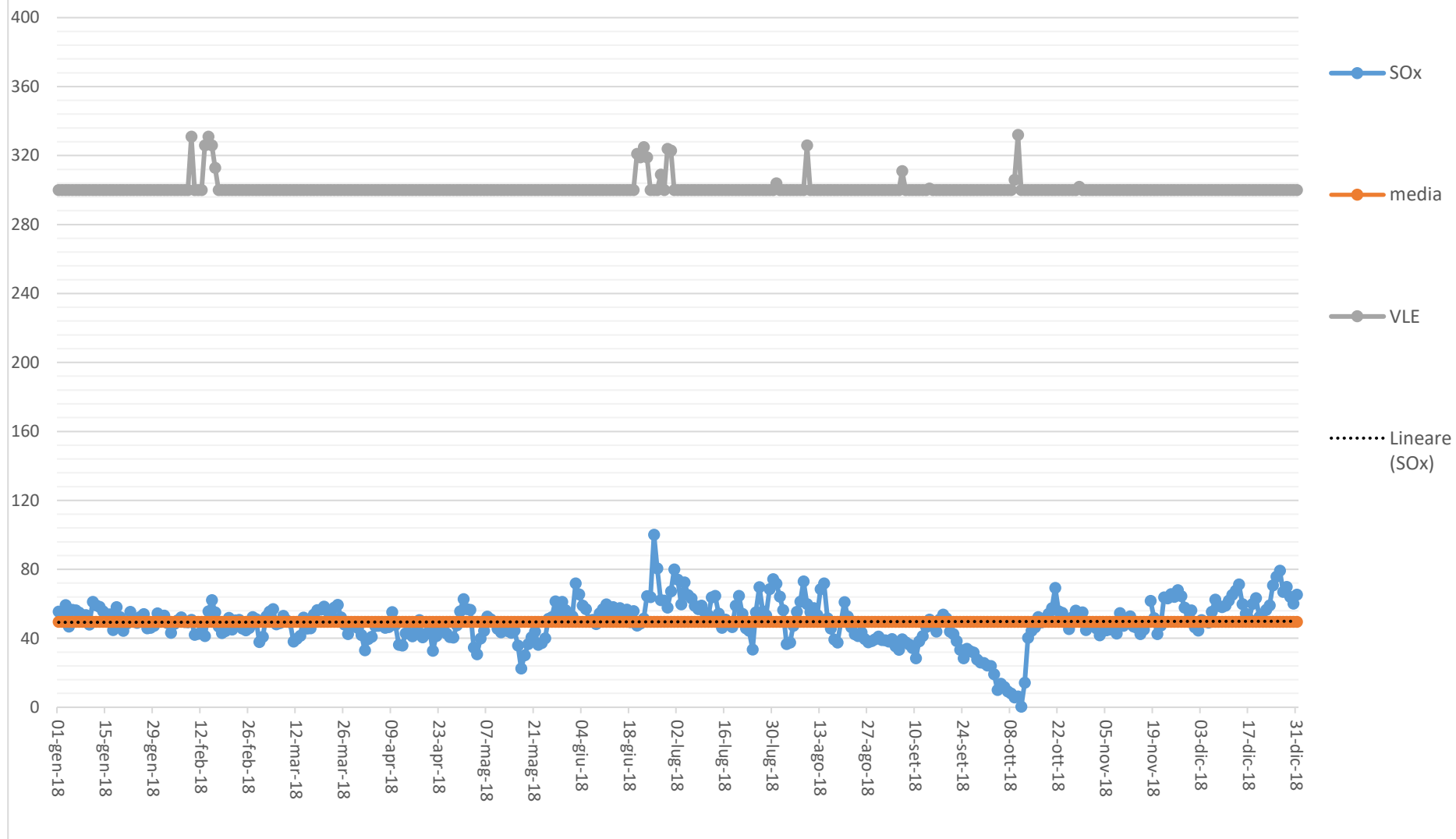
## Concentrazione NOx (mg/Nm<sup>3</sup>, medie mensili) camino E426 cokeria ANNI 2017-2018-2019-2020



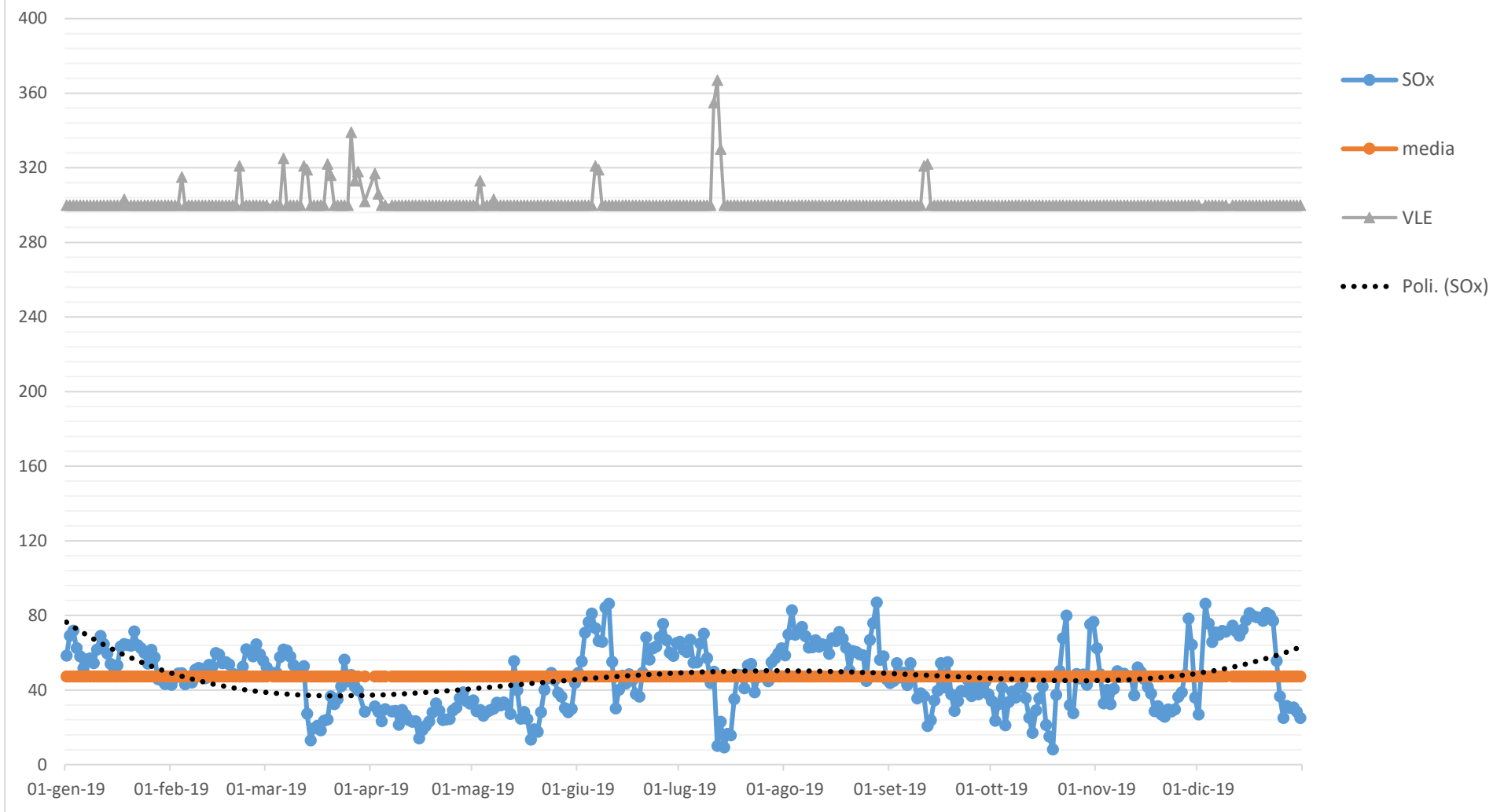
### Concentrazione SOx (mg/Nm3, media giornaliera) camino E426 - ANNO 2017



### Concentrazione SOx (mg/Nm3, media giornaliera) camino E426 - ANNO 2018

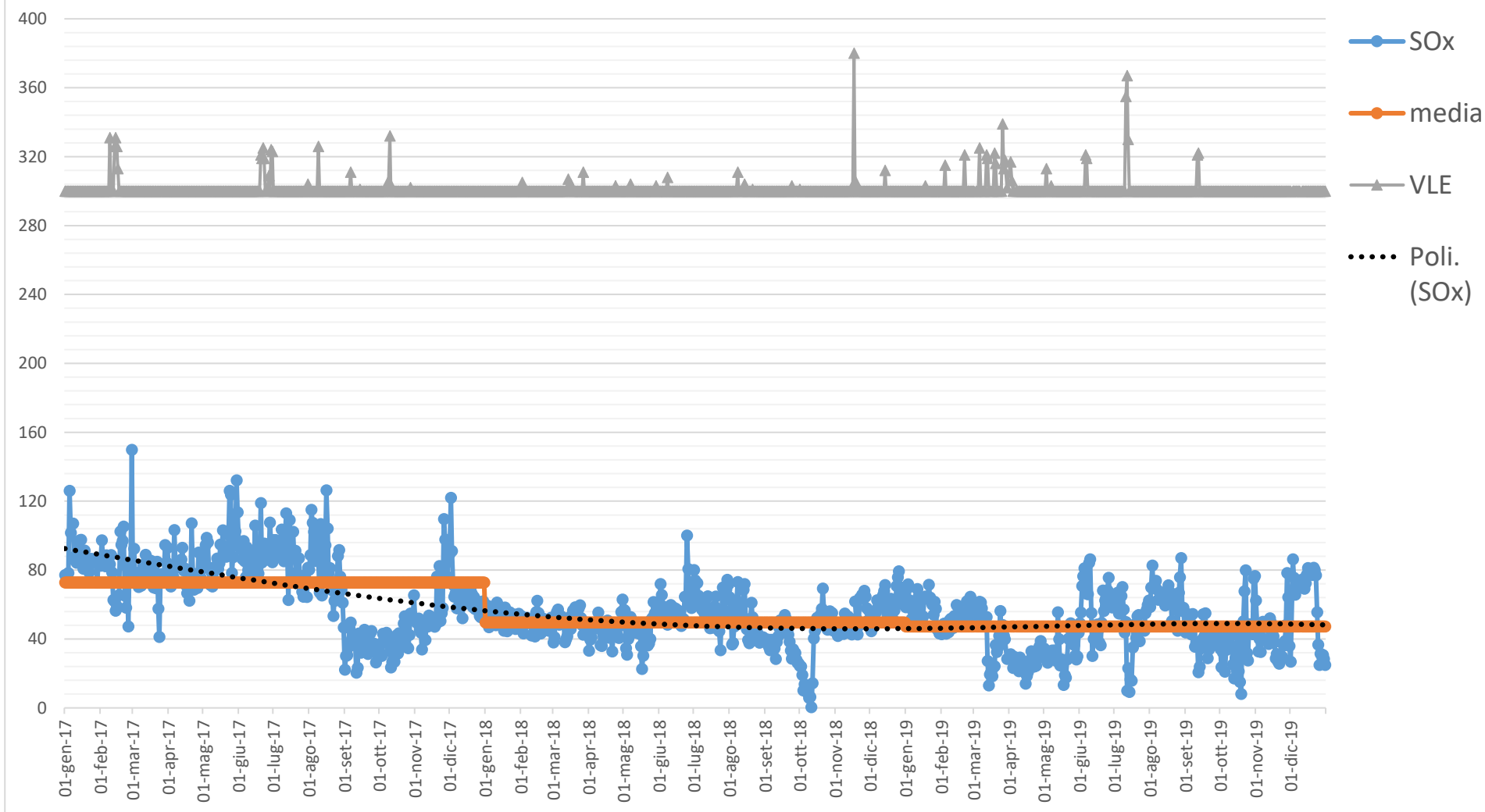


### Concentrazione SOx (mg/Nm3, media giornaliera) camino E426 - ANNO 2019

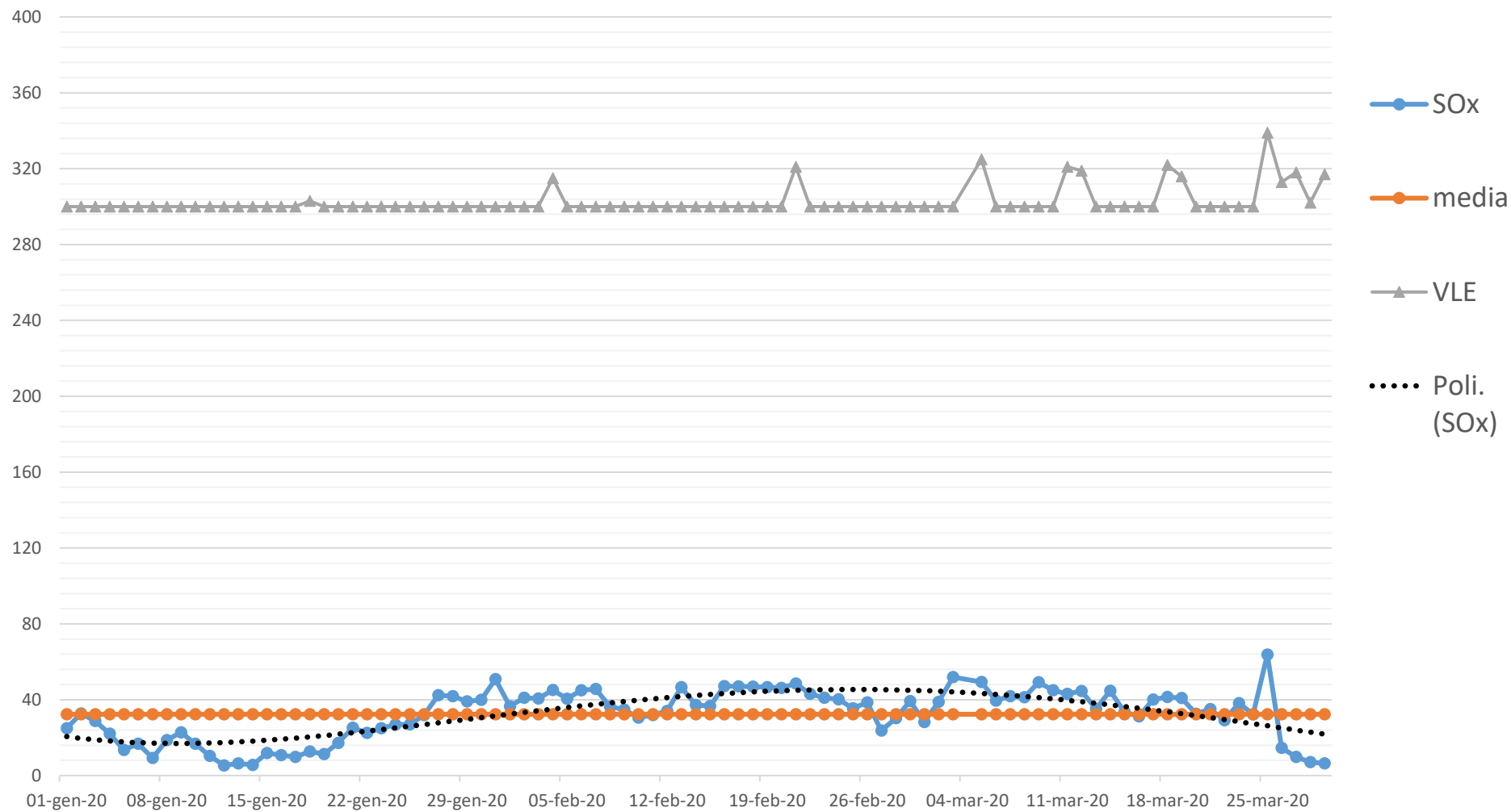




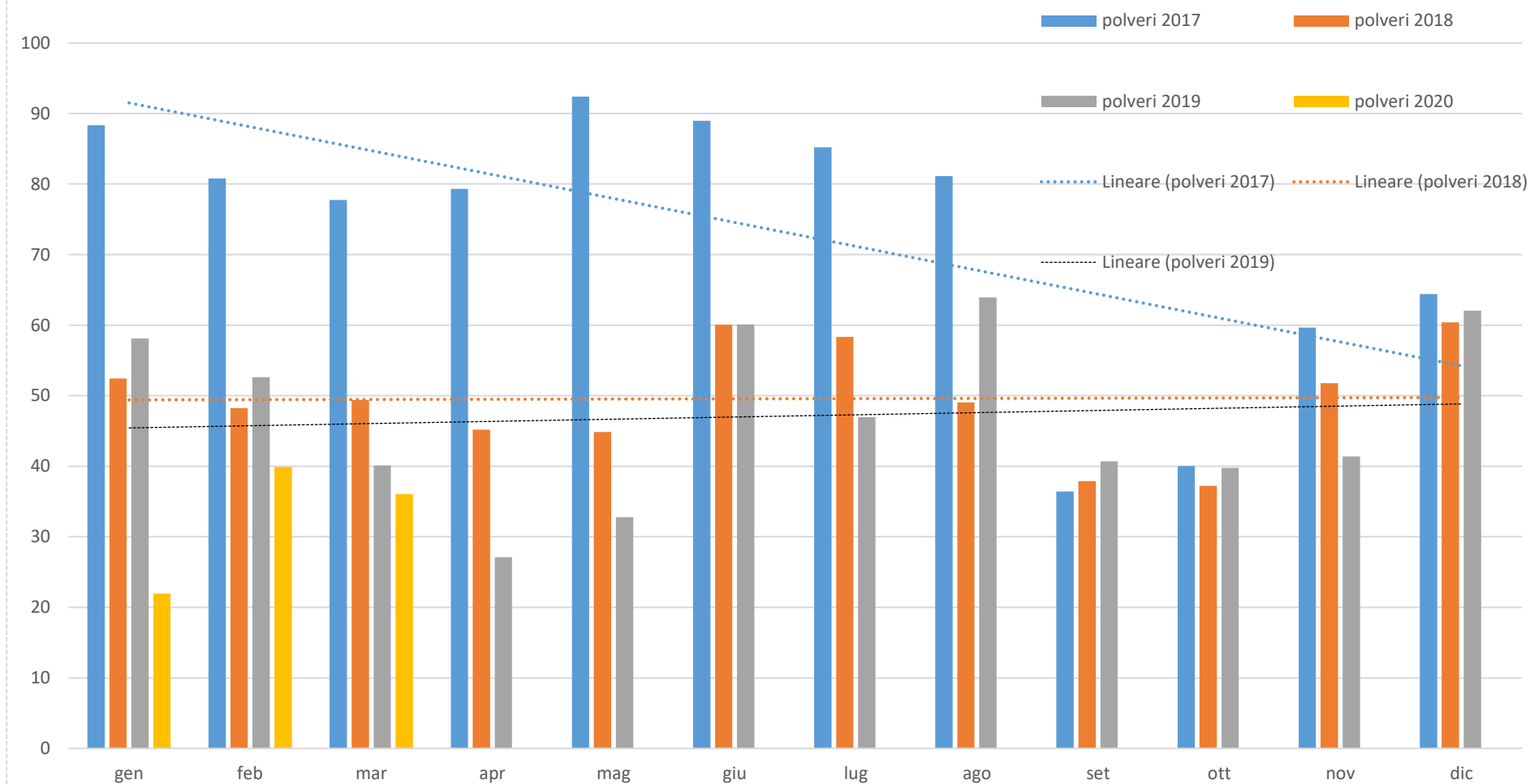
### Concentrazione SOx (mg/Nm3, media giornaliera)camino E426-ANNI 2017-2018-2019



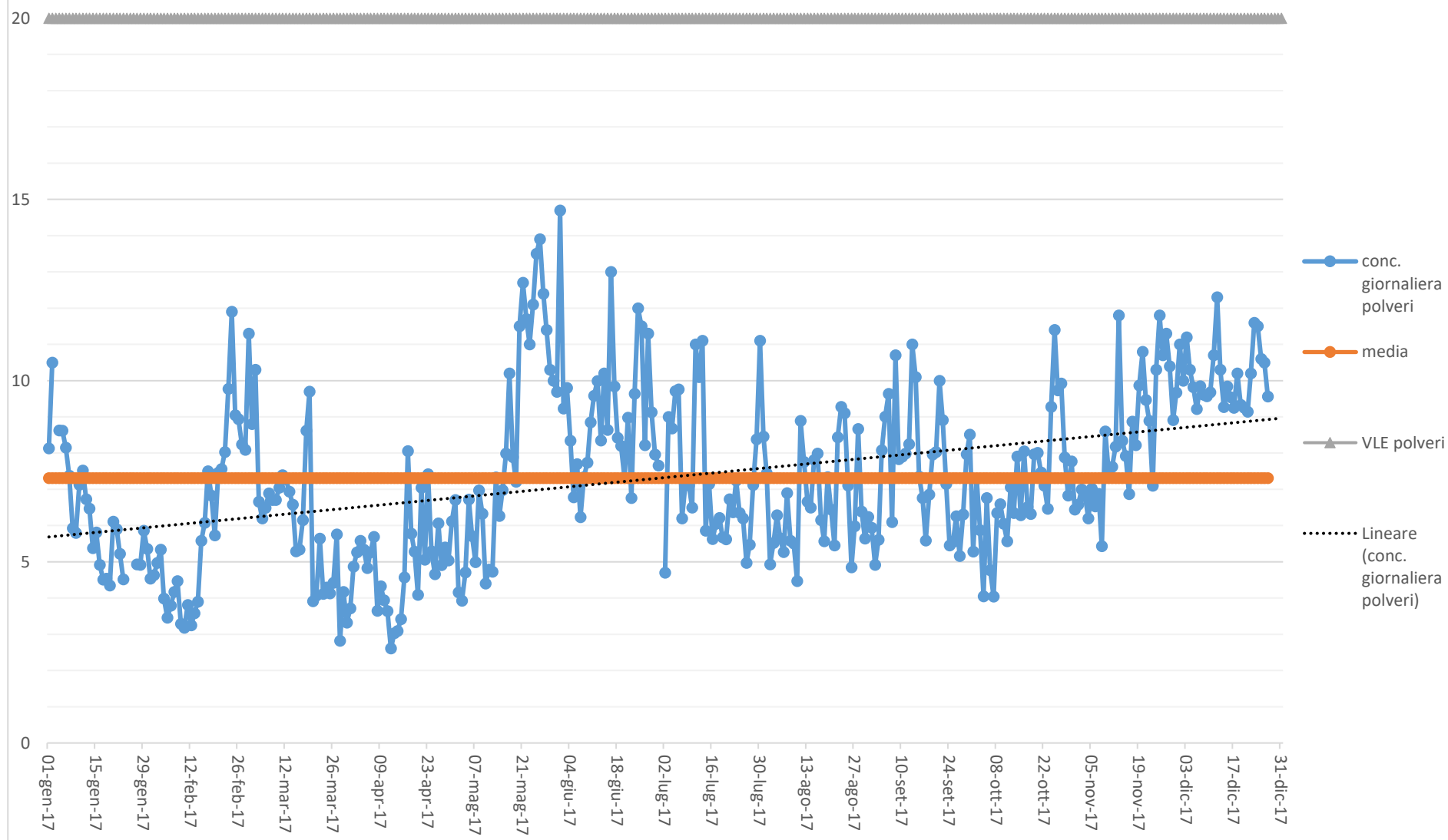
### Concentrazione SOx (mg/Nm3, media giornaliera) camino E426 - ANNO 2020



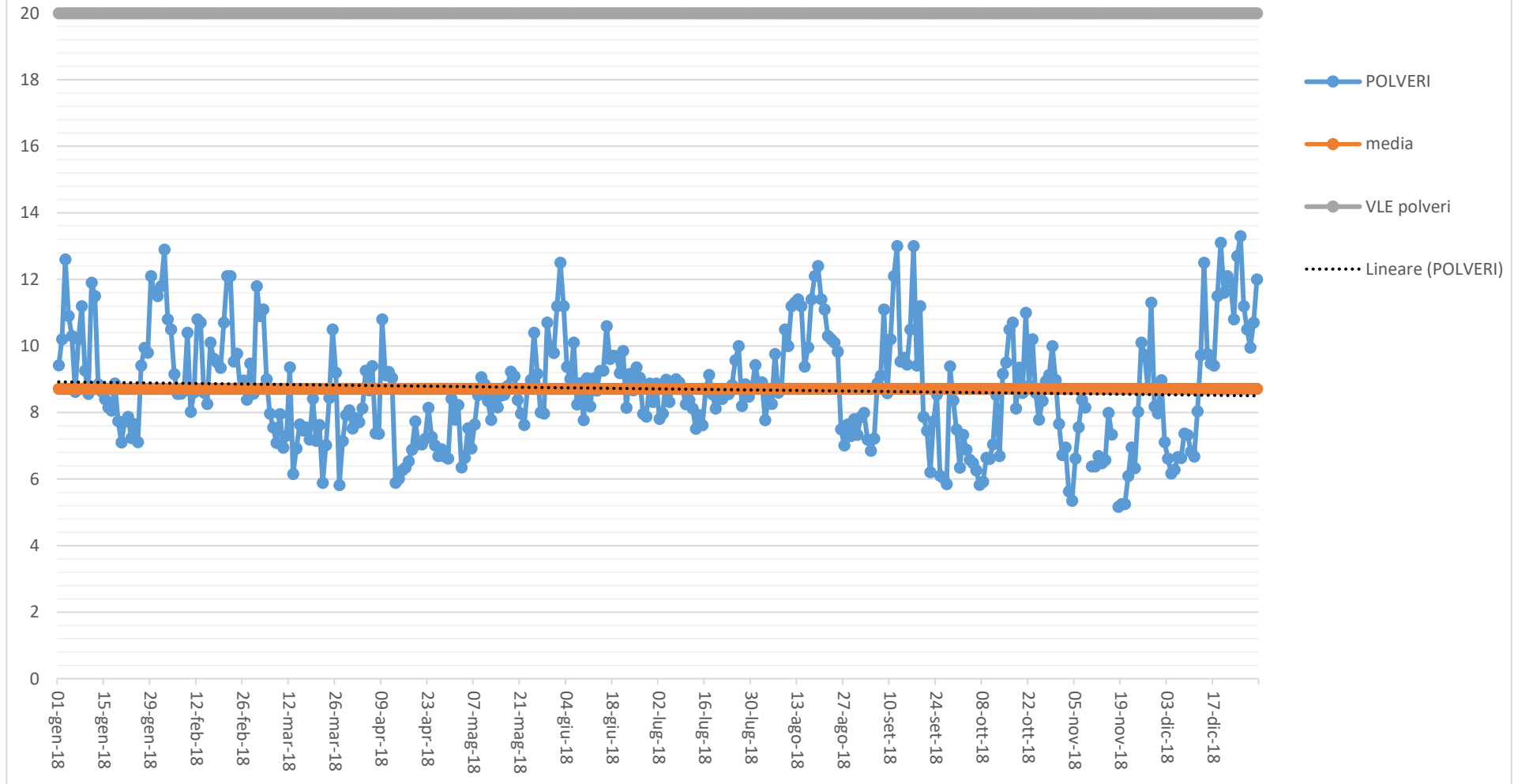
## Concentrazione SOx (mg/Nm<sup>3</sup>, medie mensili) camino E426 cokeria ANNI 2017-2018-2019- 2020



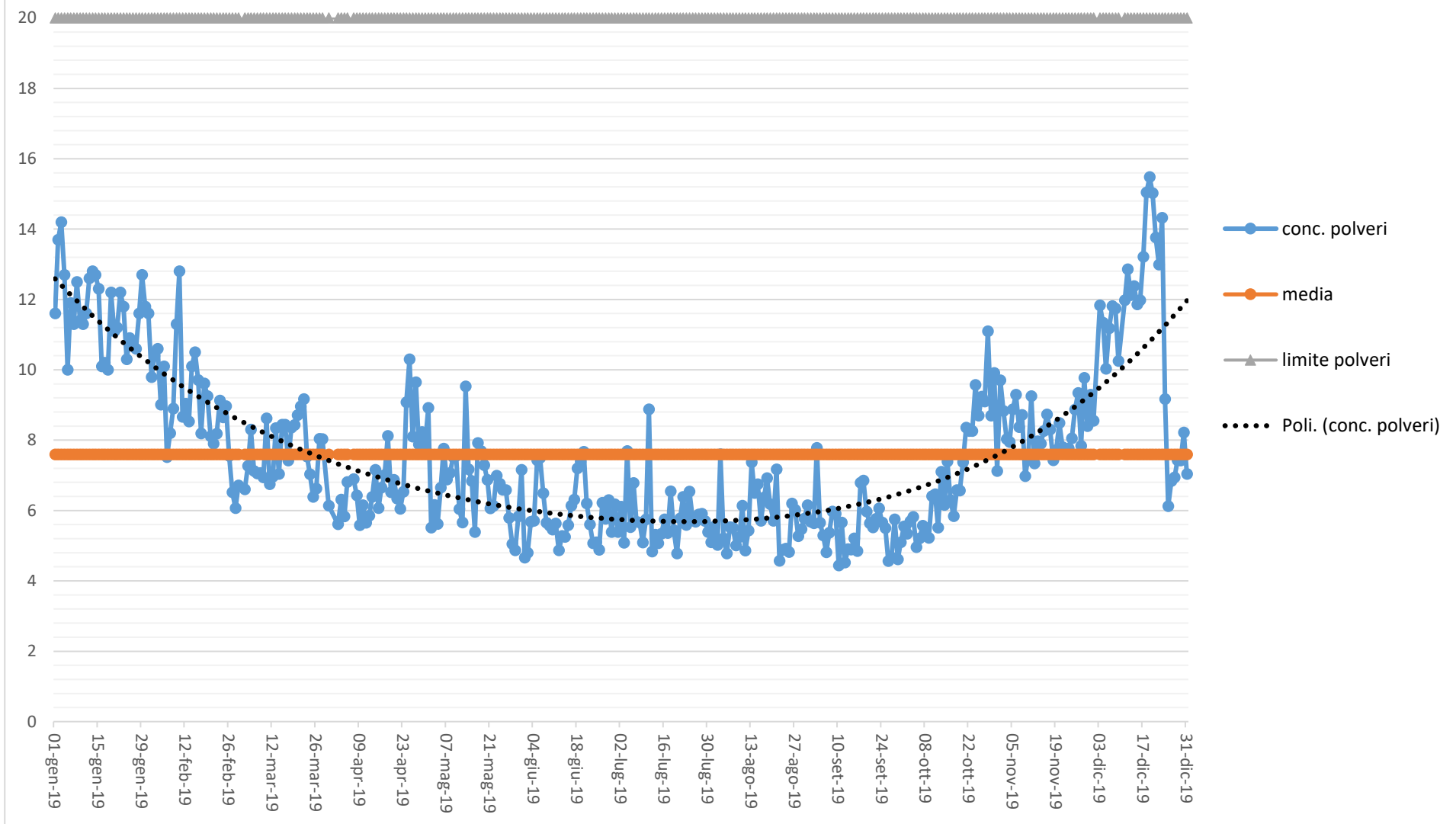
# Concentrazione polveri (mg/Nm3, media giornaliera) camino E426 - ANNO 2017



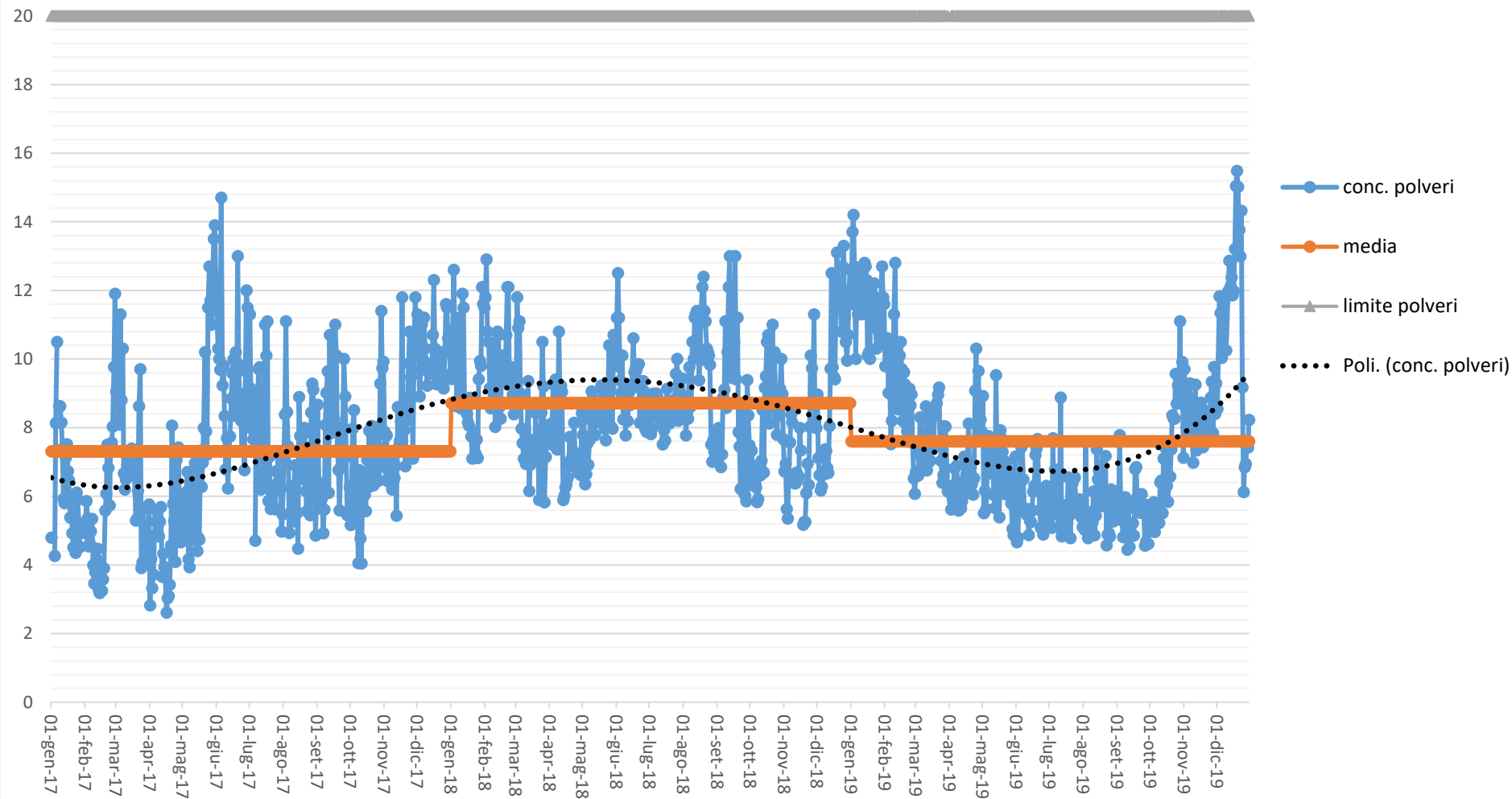
## Concentrazione polveri (mg/Nm<sup>3</sup>, media giornaliera) camino E426 - ANNO 2018



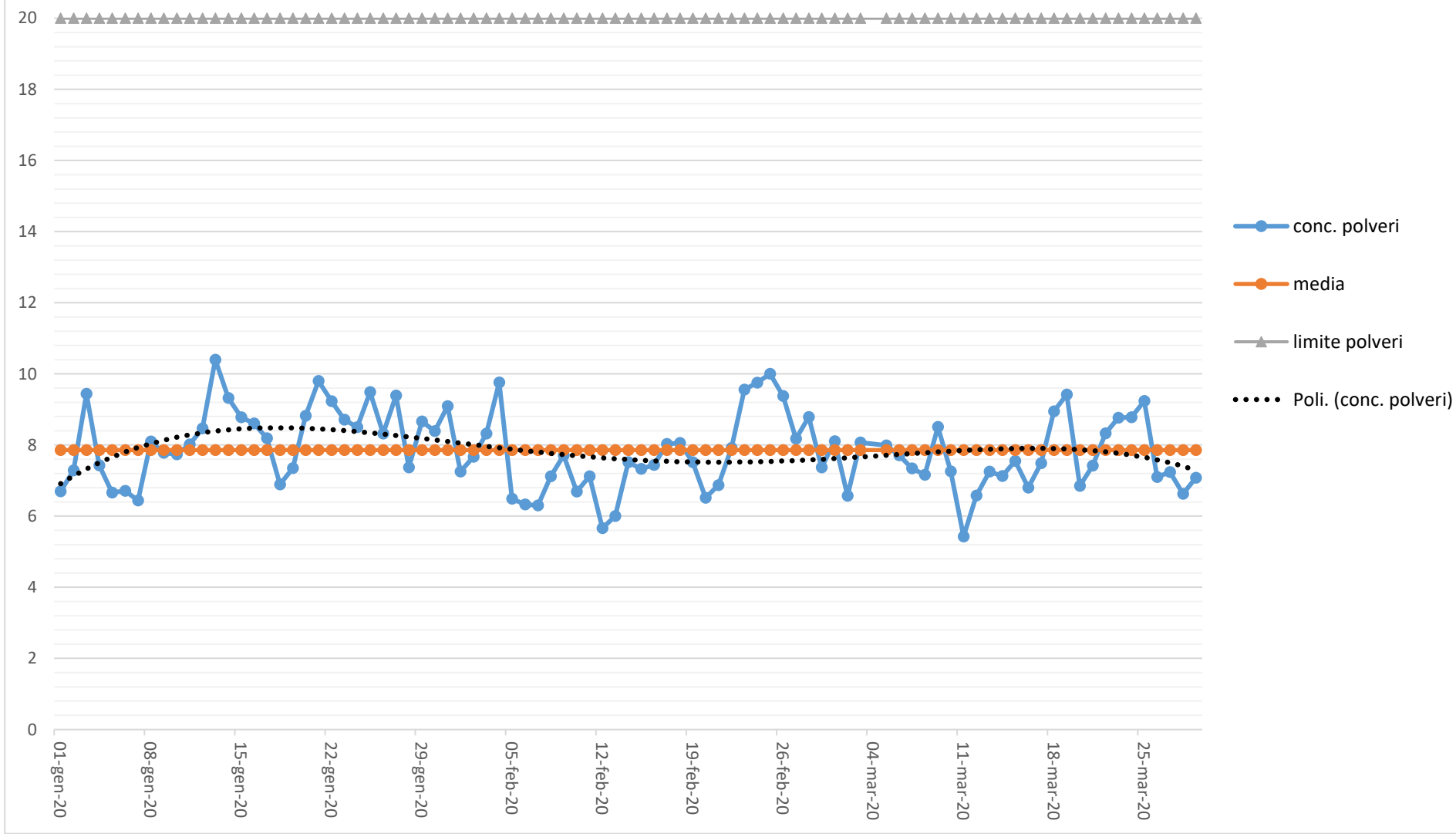
### Concentrazione polveri (mg/Nm3, media giornaliera) camino E426 - ANNO 2019



### Concentrazione polveri (mg/Nm<sup>3</sup>, media giornaliera) camino E426 ANNI 2017 - 2018 - 2019

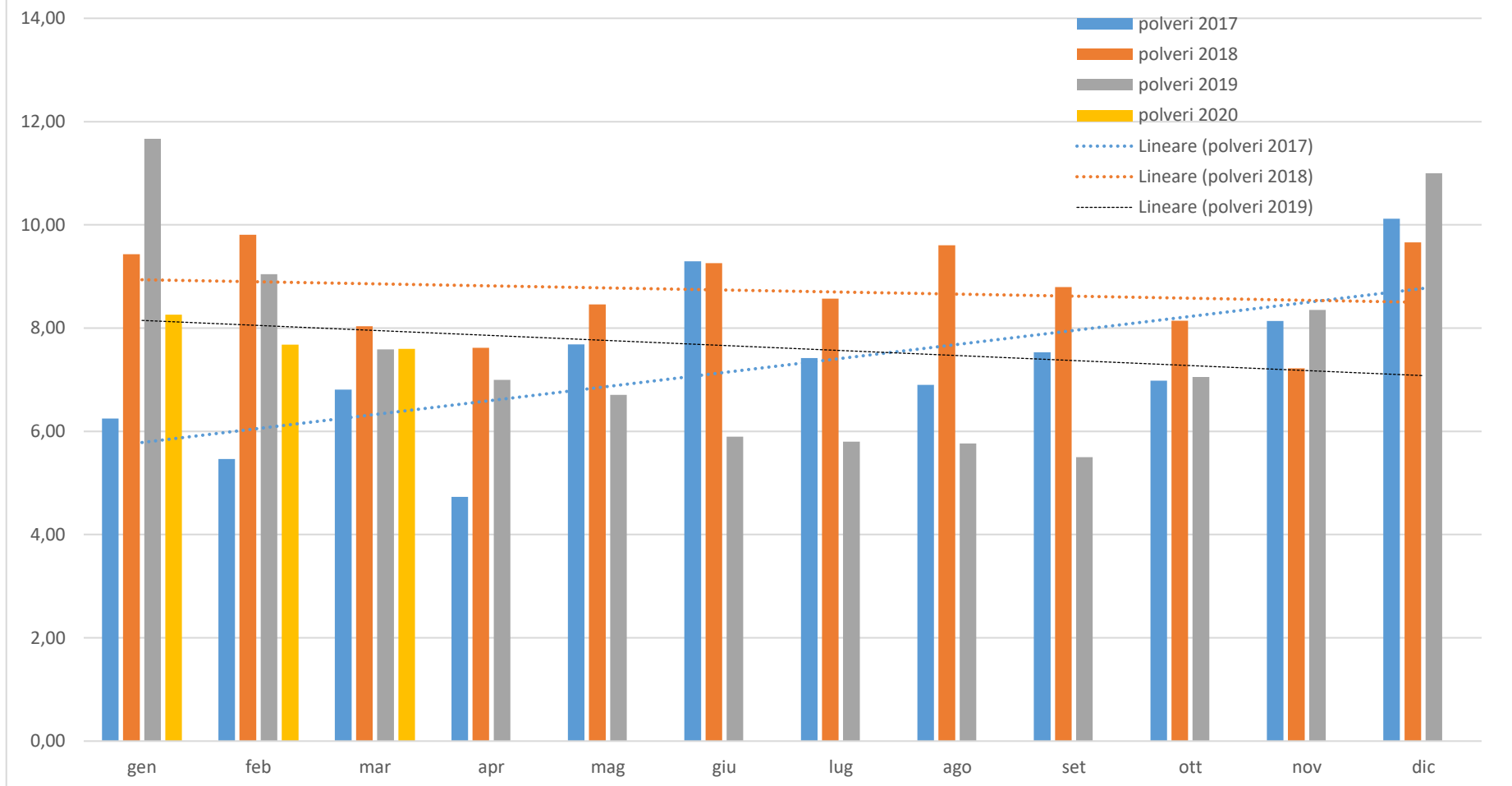


### Concentrazione polveri (mg/Nm3, media giornaliera) camino E426 - ANNO 2020

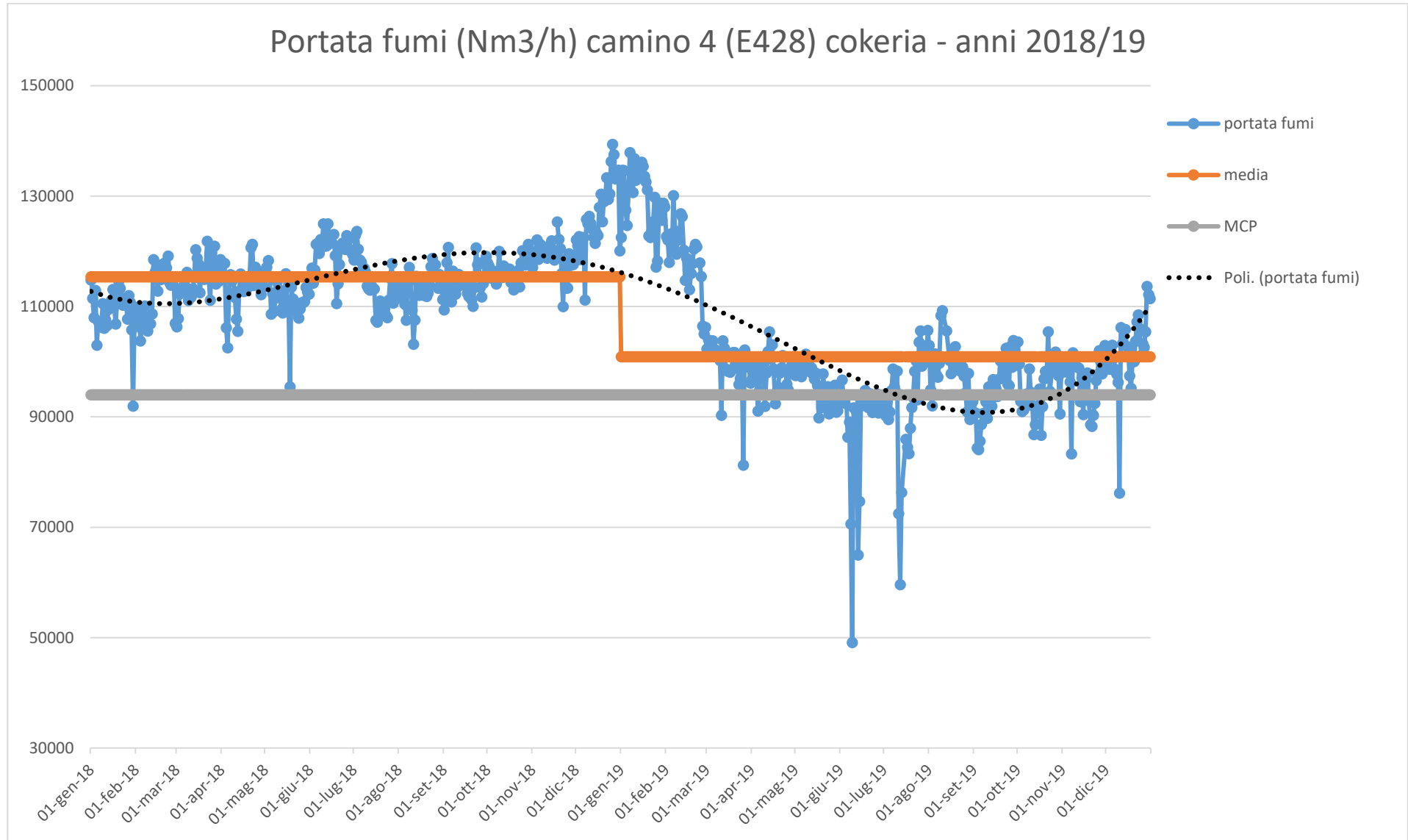




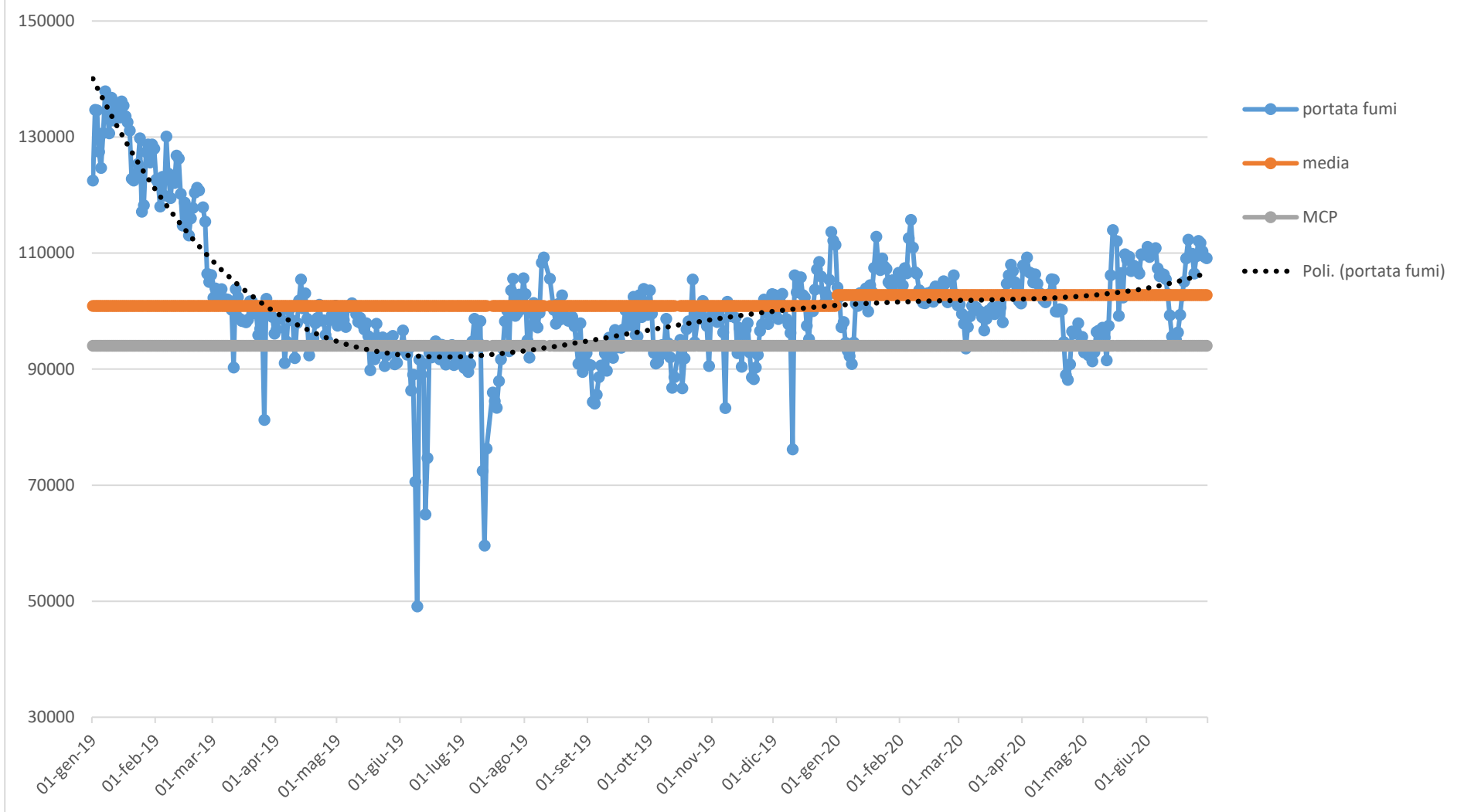
## Concentrazione polveri (mg/Nm<sup>3</sup>, medie mensili) camino E426 cokeria ANNI 2017-2018-2019



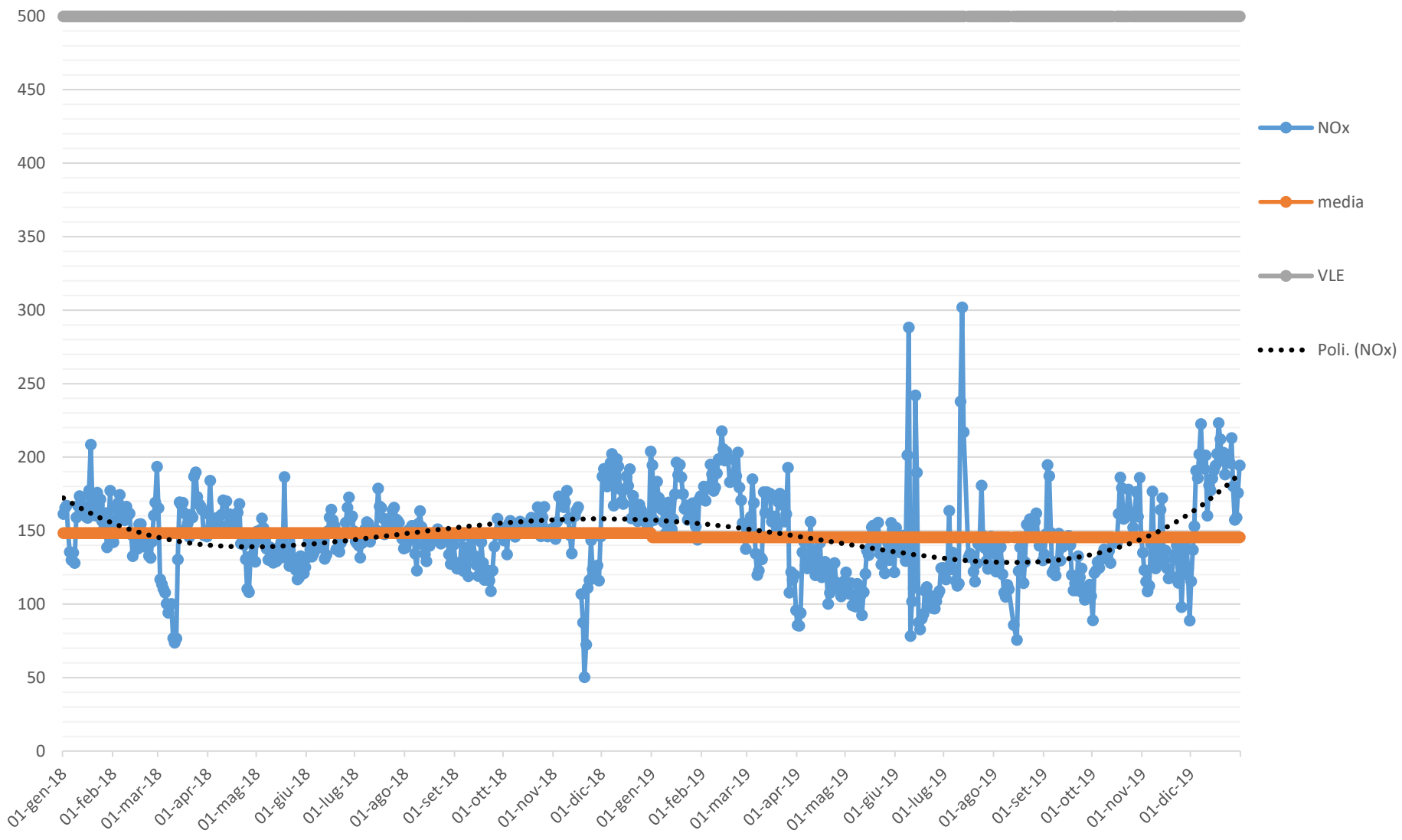
**FIG. 2 – Camino E426 - COKEFAZIONE**



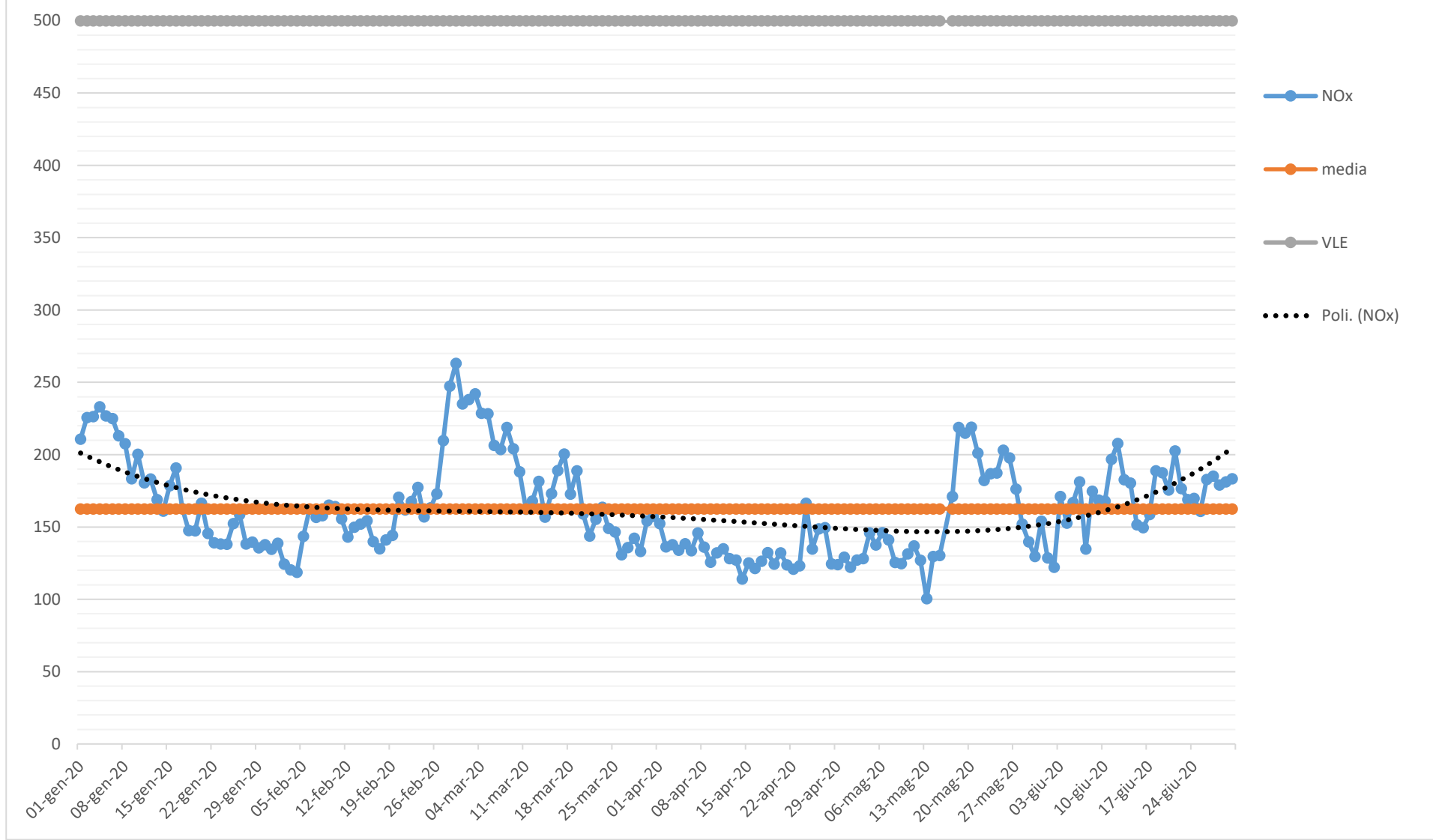
# Portata fumi (Nm<sup>3</sup>/h) camino 4 (E428) cokeria - anni 2019/2020



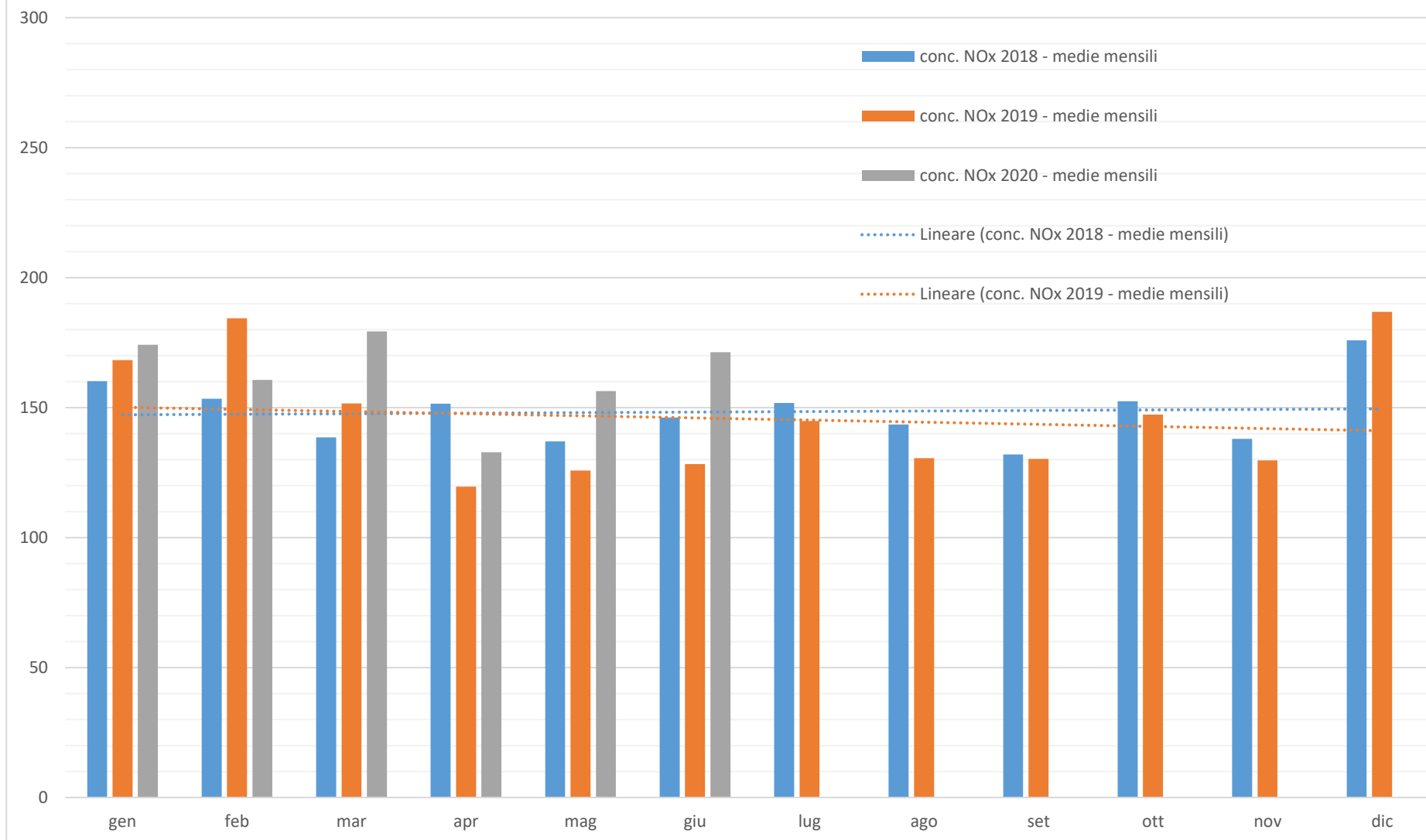
Concentrazione NOx (mg/Nm3, media giornaliera) camino E428 cokeria - ANNI 2018-2019



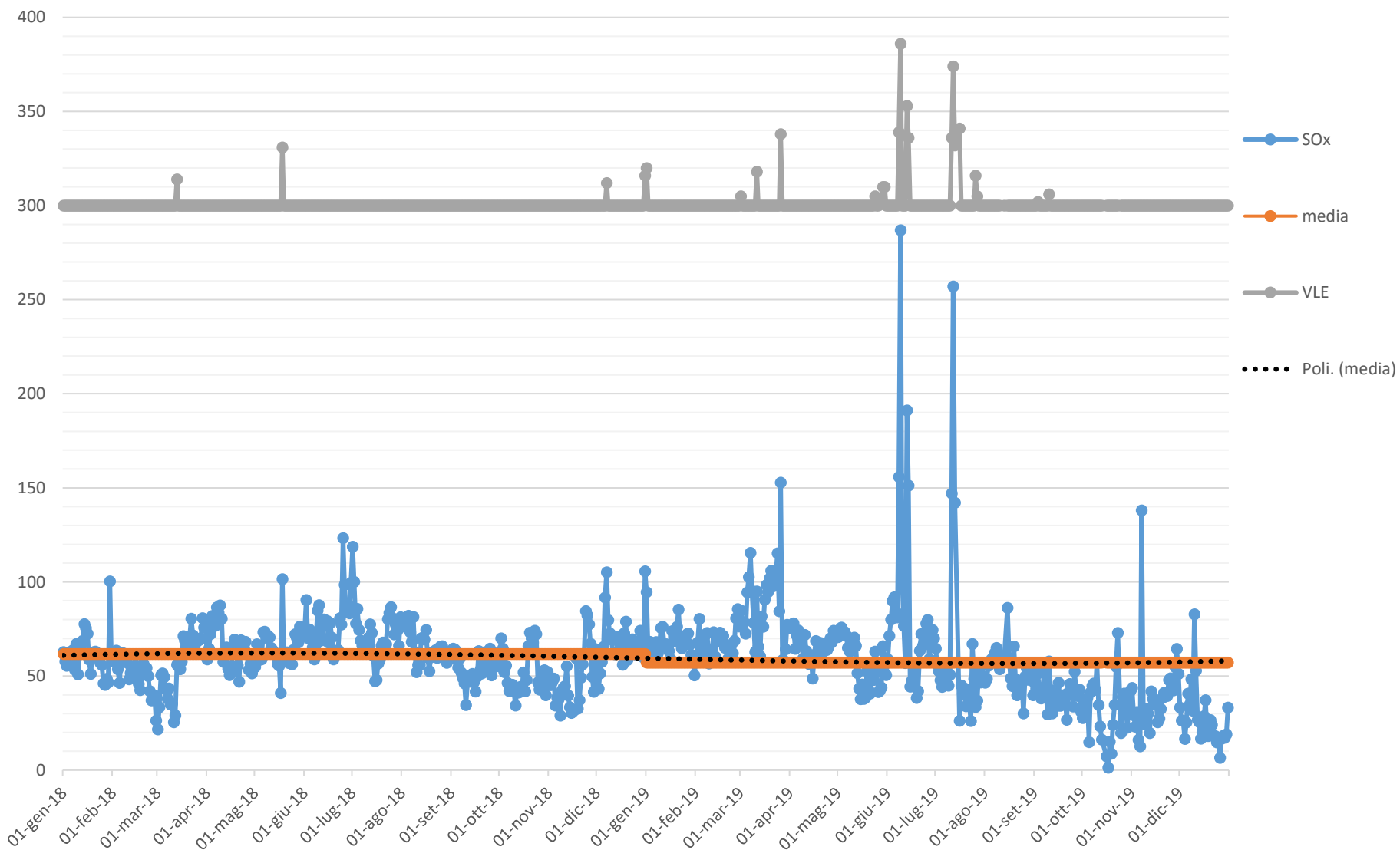
### Concentrazione NOx (mg/Nm3, media giornaliera) camino E428 cokeria - ANNO 2020



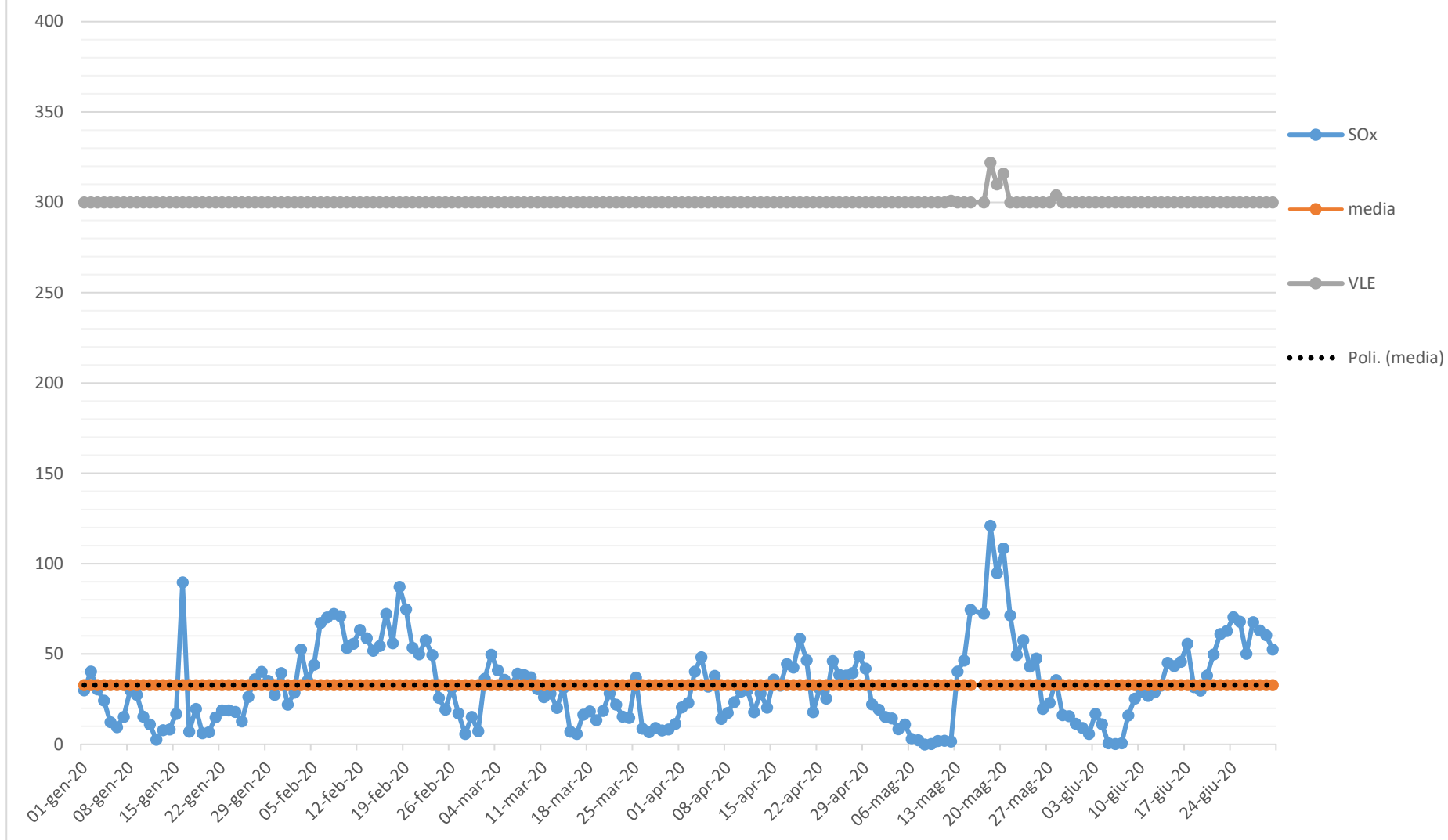
### Concentrazione NOx (mg/Nm<sup>3</sup>, medie mensili) camino E428 cokeria ANNI 2018-2019-2020



### Concentrazione SOx (mg/Nm3, media giornaliera) camino E428 -ANNI 2018/19

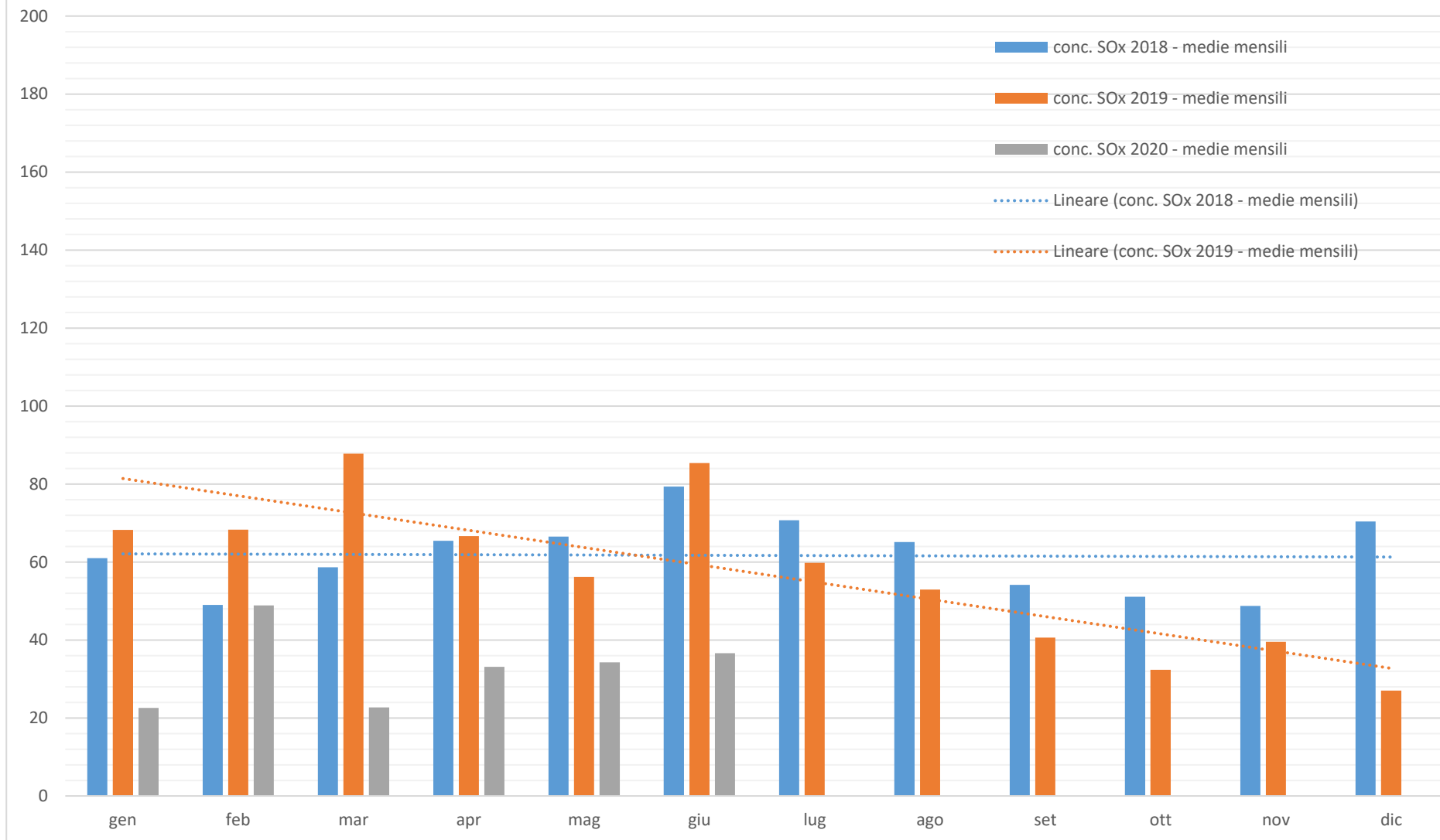


### Concentrazione SOx (mg/Nm3, media giornaliera) camino E428 -ANNO 2020

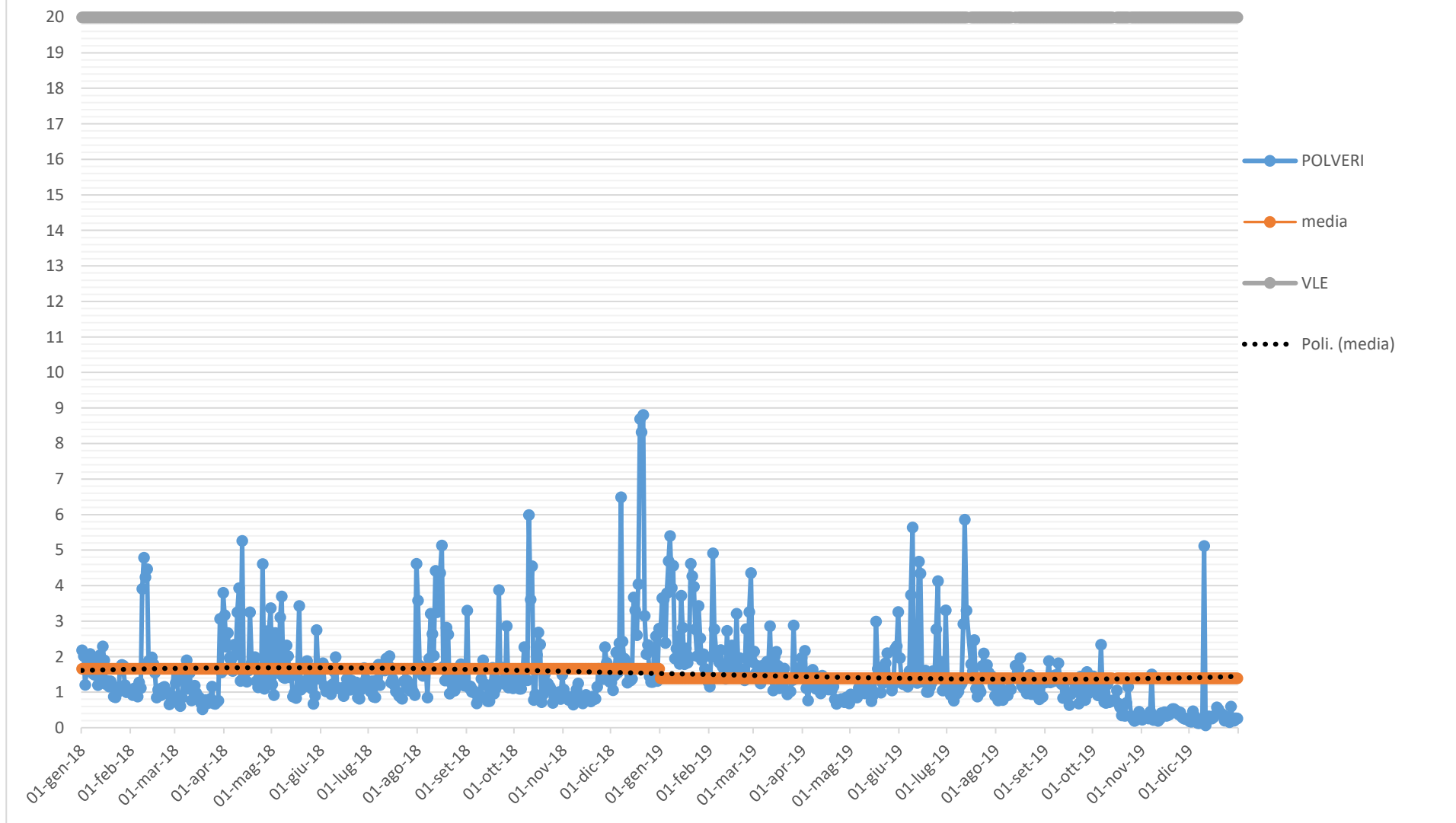




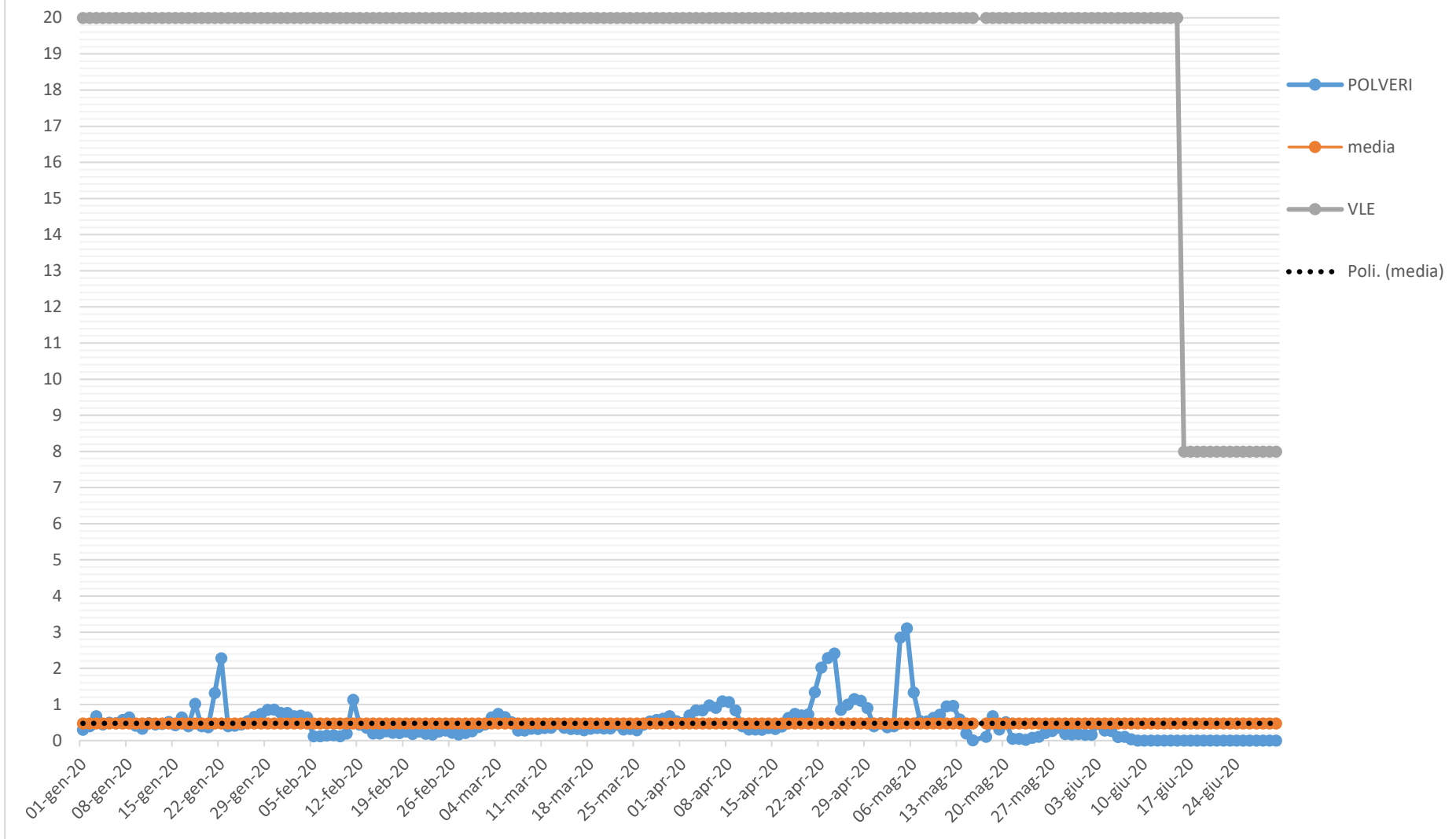
## Concentrazione SOx (mg/Nm<sup>3</sup>, medie mensili) camino E428 cokeria ANNI 2018-2019-2020



### Concentrazione polveri (mg/Nm3, media giornaliera) camino E428 - ANNI 2018/2019



### Concentrazione polveri (mg/Nm3, media giornaliera) camino E428 - ANNO 2020



### Concentrazione Polveri (mg/Nm<sup>3</sup>, medie mensili) camino E428 cokeria ANNI 2018-2019

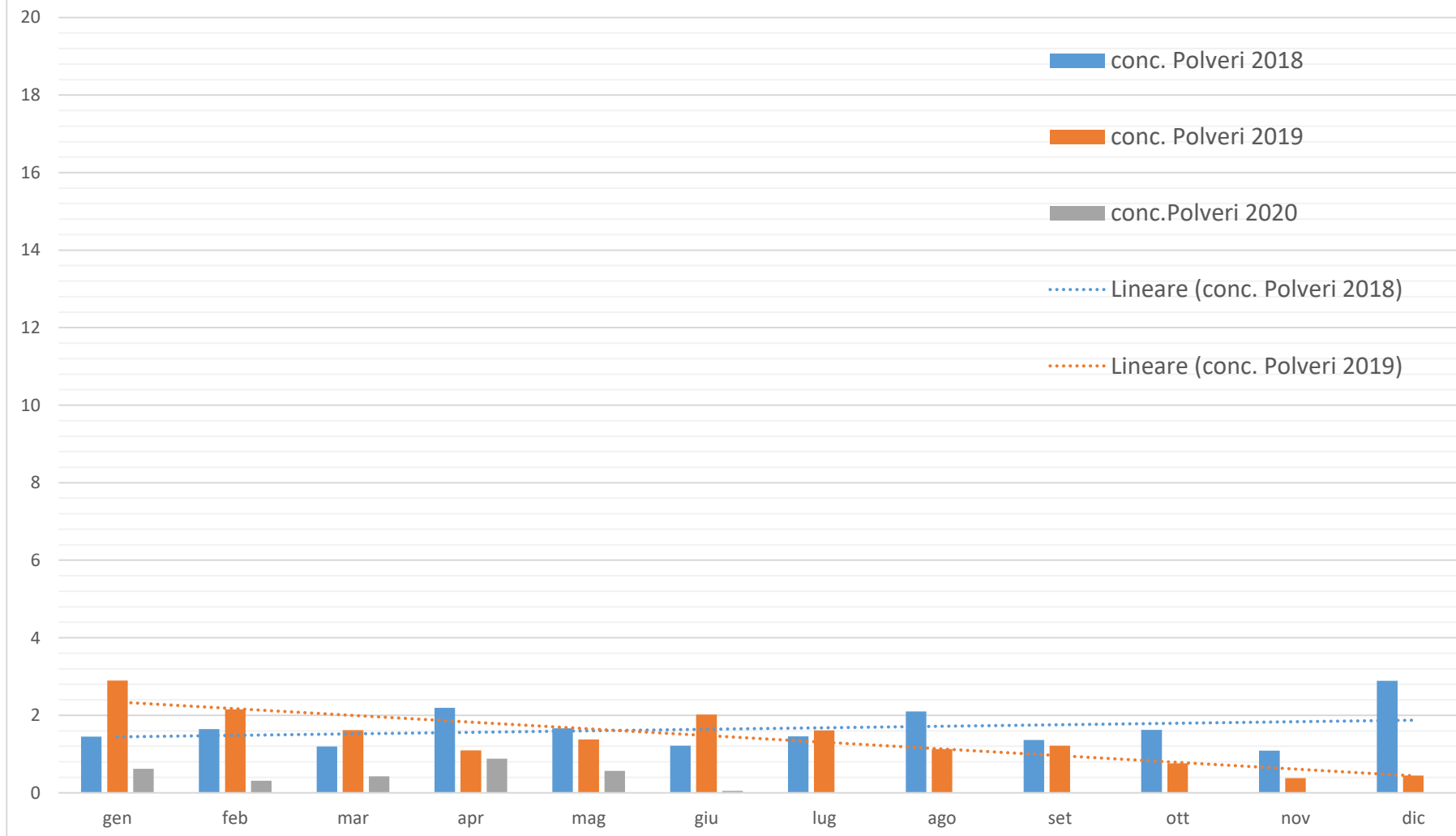
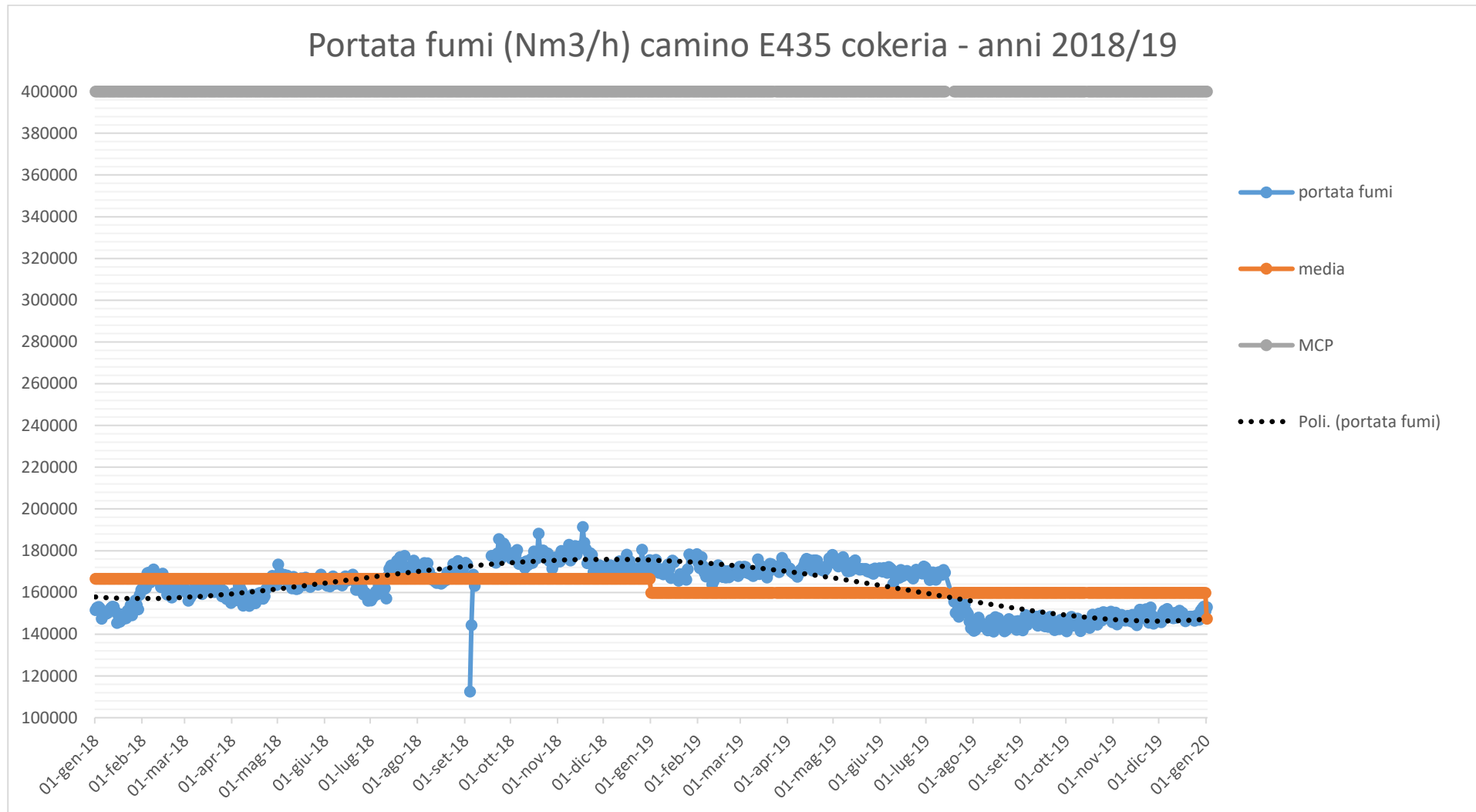
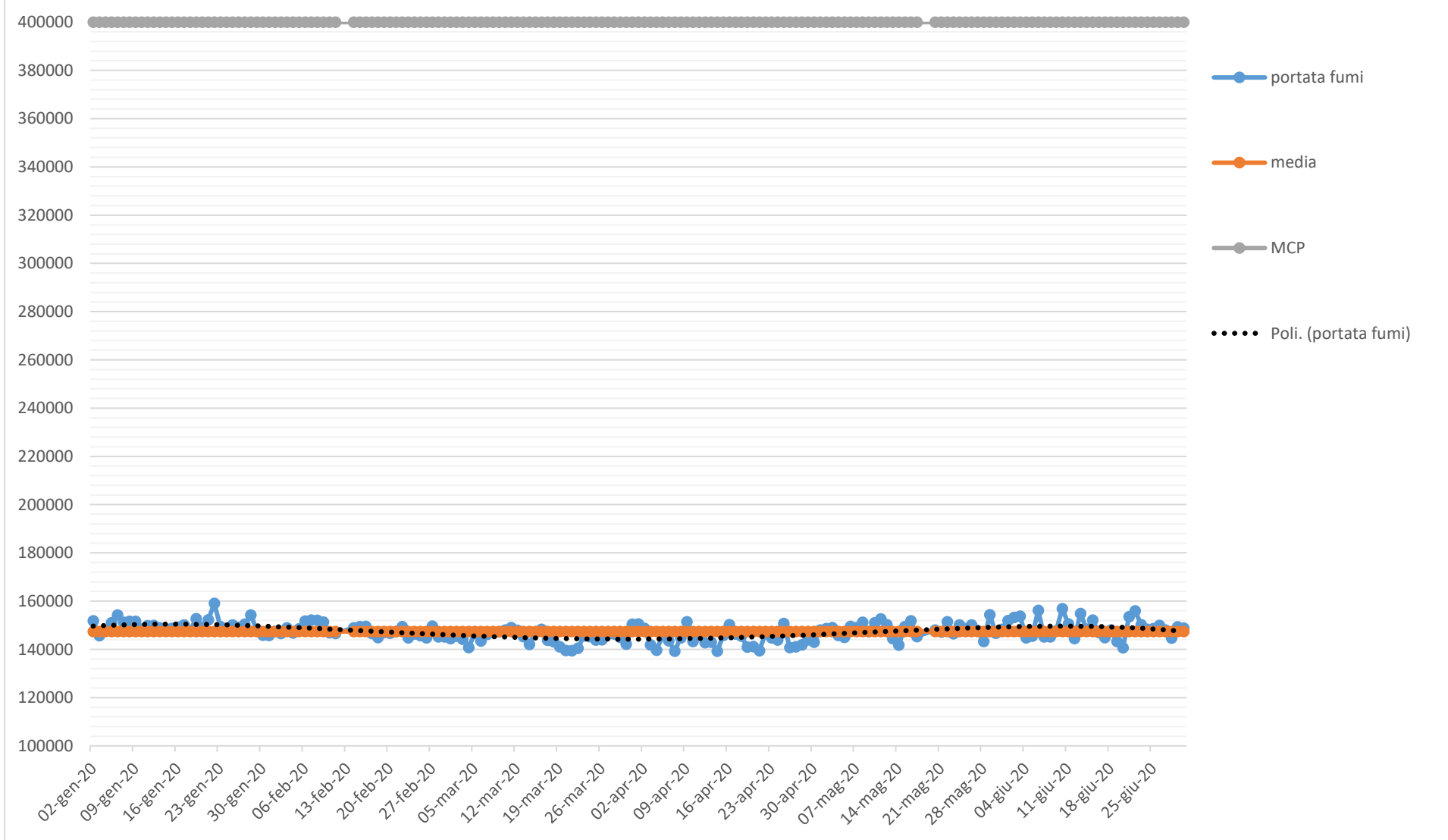


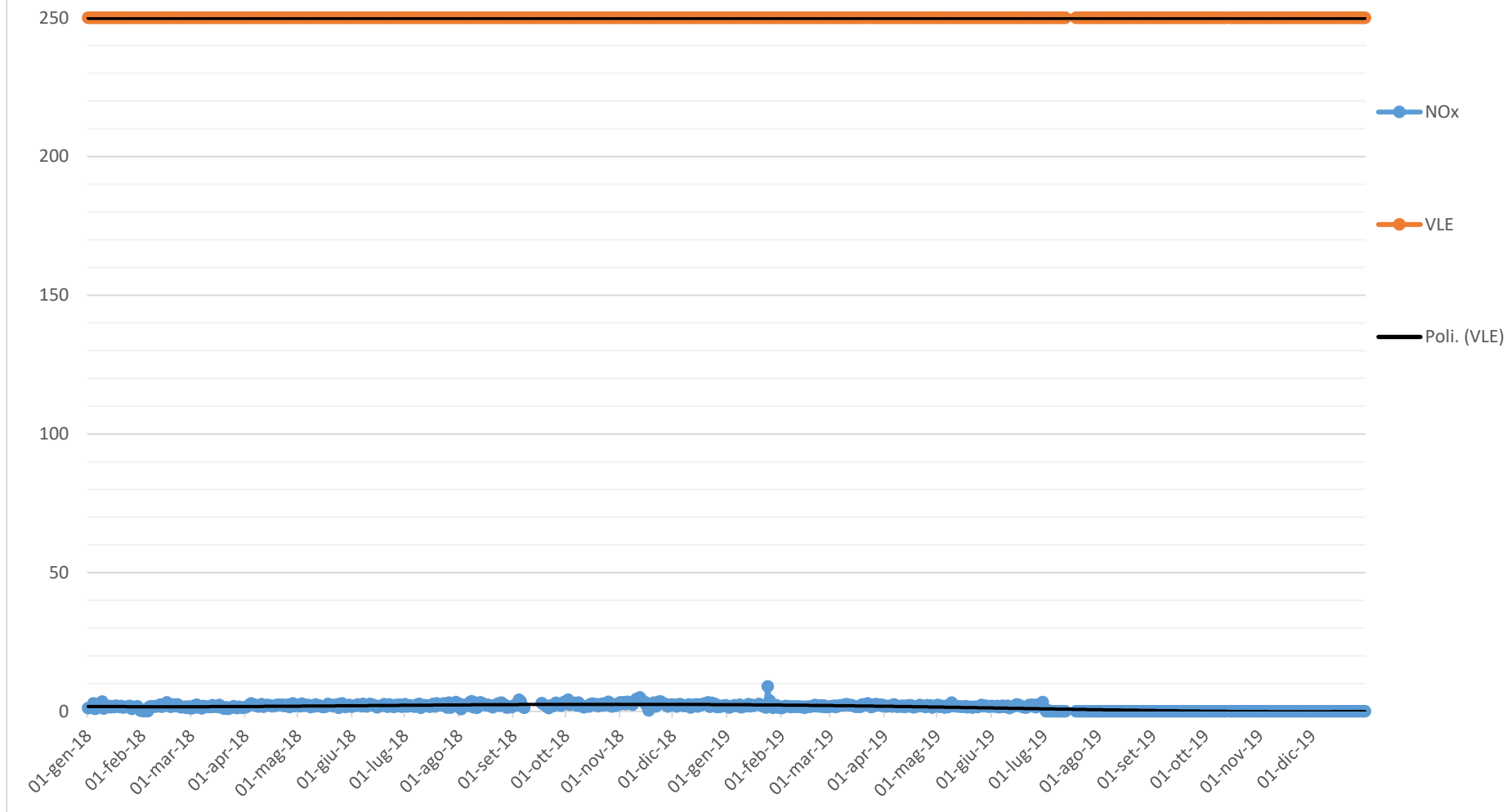
FIG. 3 – Camino E428 - COKEFAZIONE



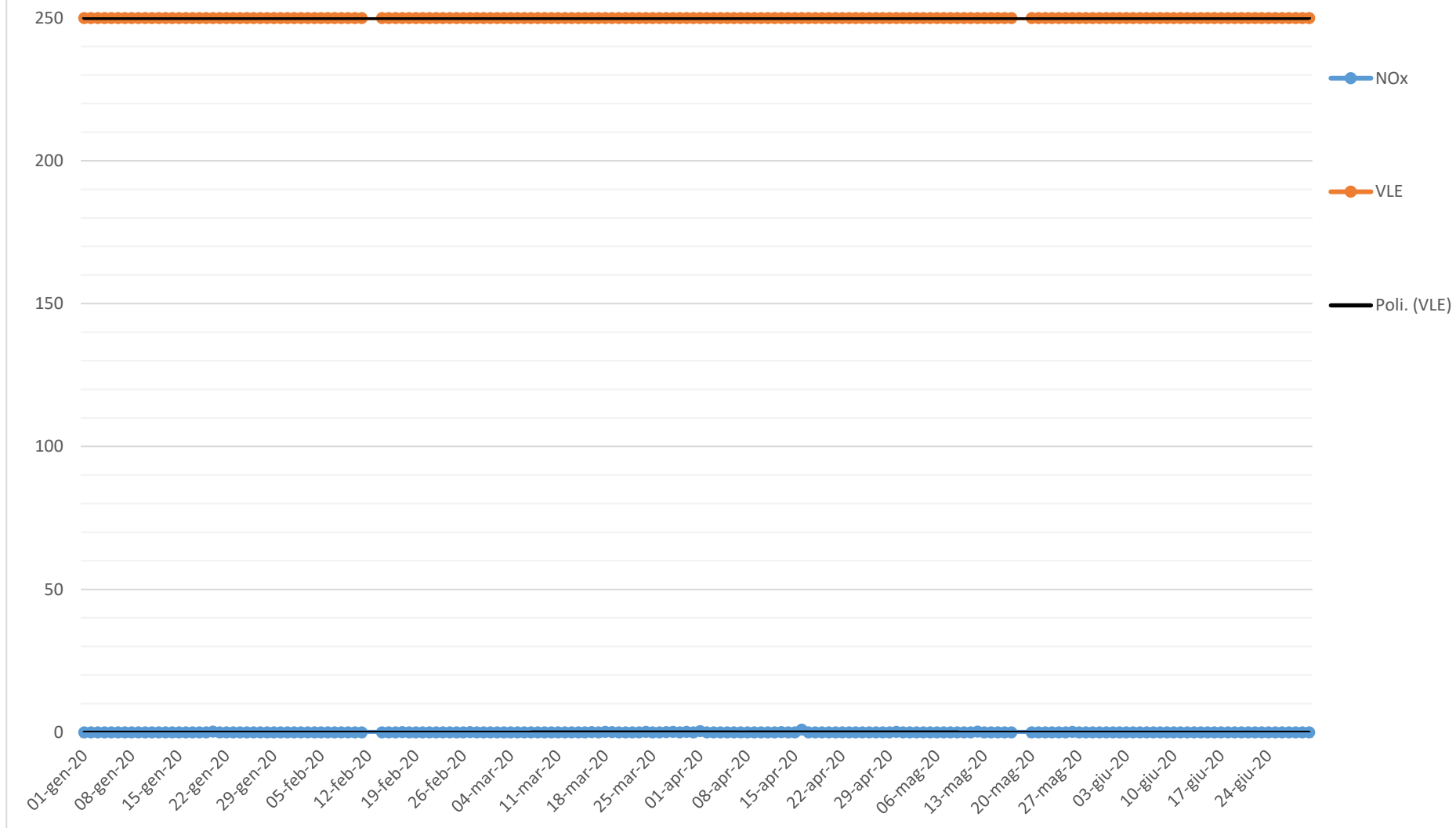
# Portata fumi (Nm3/h) camino E435 cokeria - anno 2020



### Concentrazione di NOx (mg/Nm3, media giornaliera) camino E435 cokeria - ANNI 2018/19

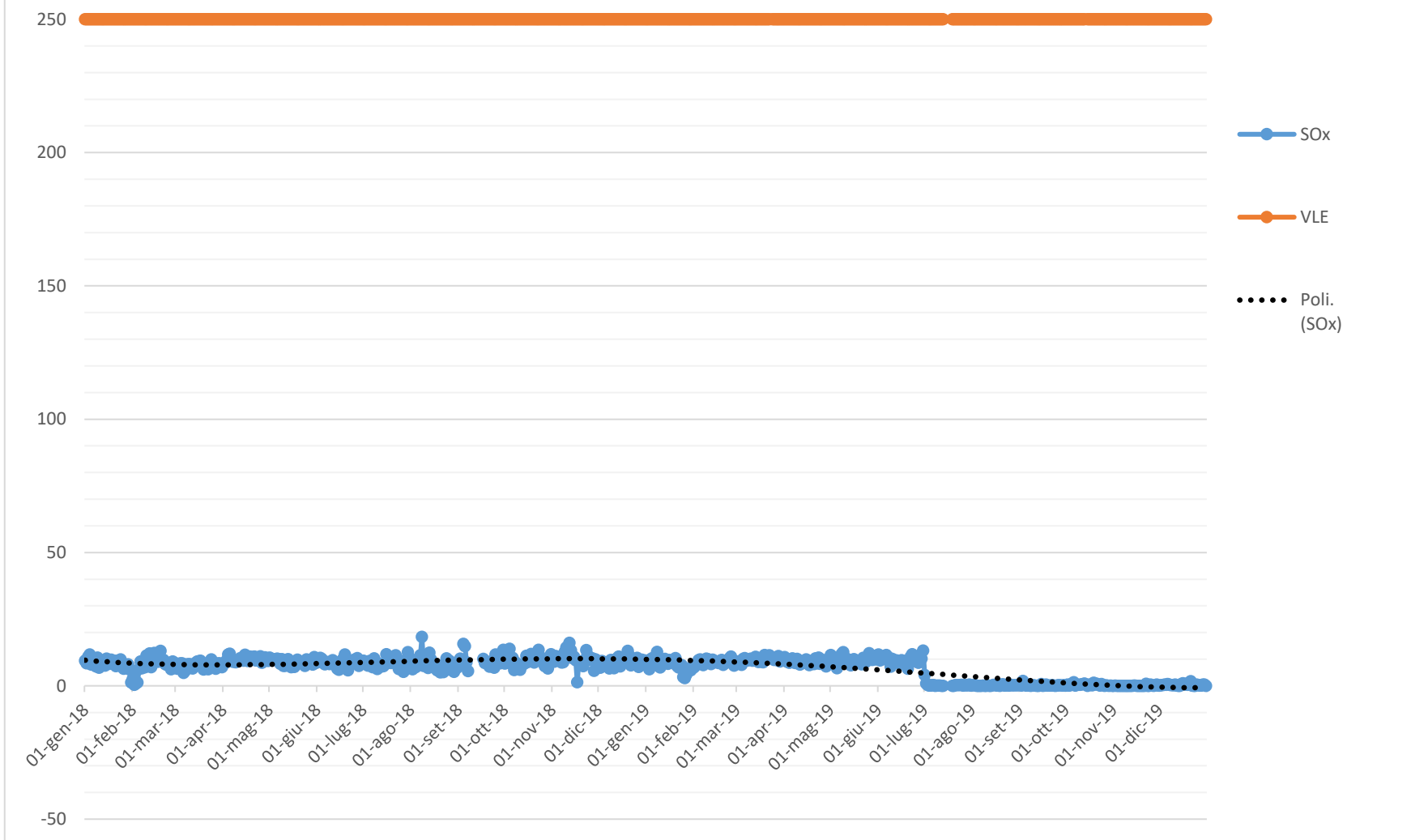


## Concentrazione di NOx (mg/Nm3, media giornaliera) camino E435 cokeria - ANNO 2020

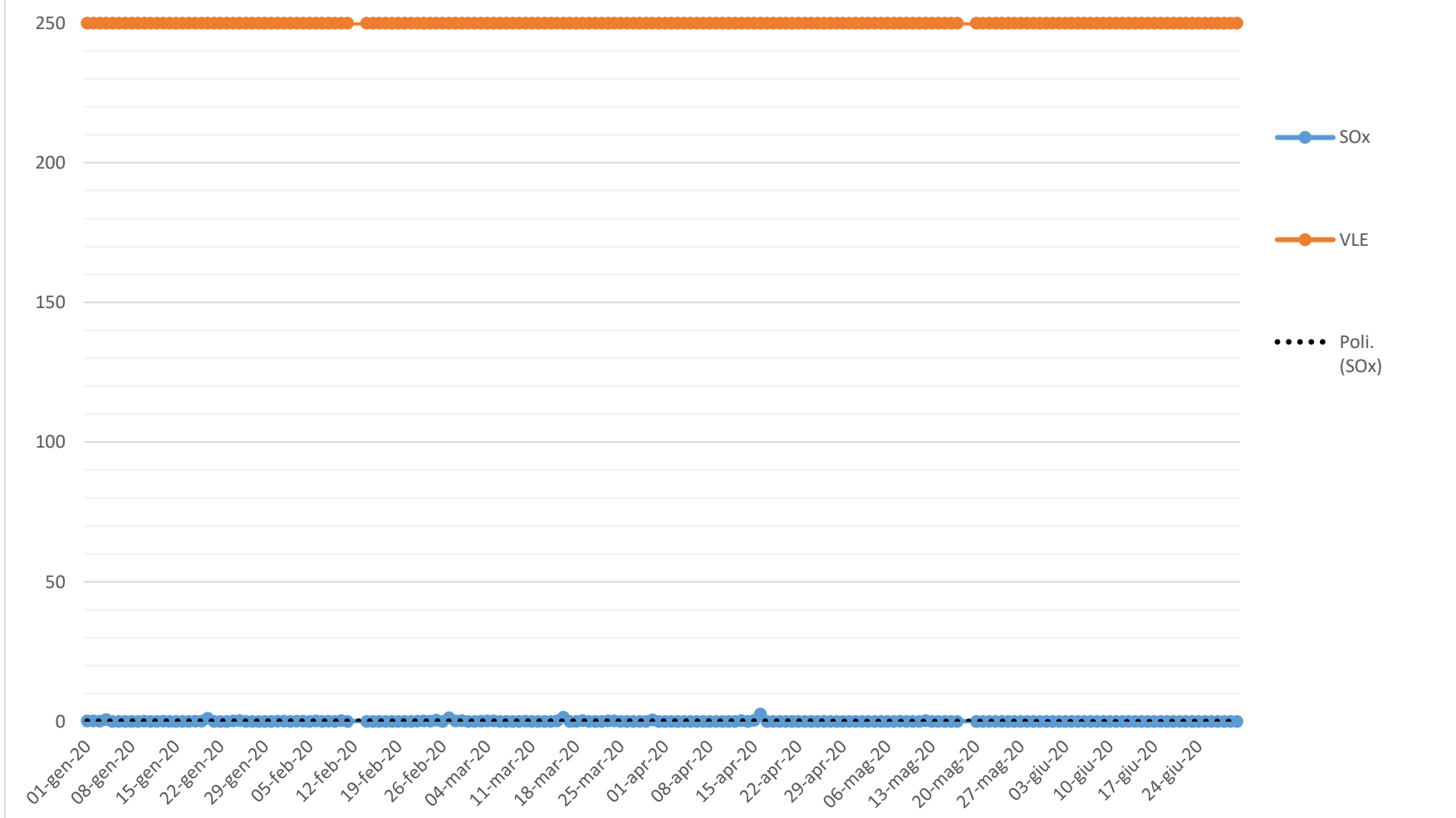




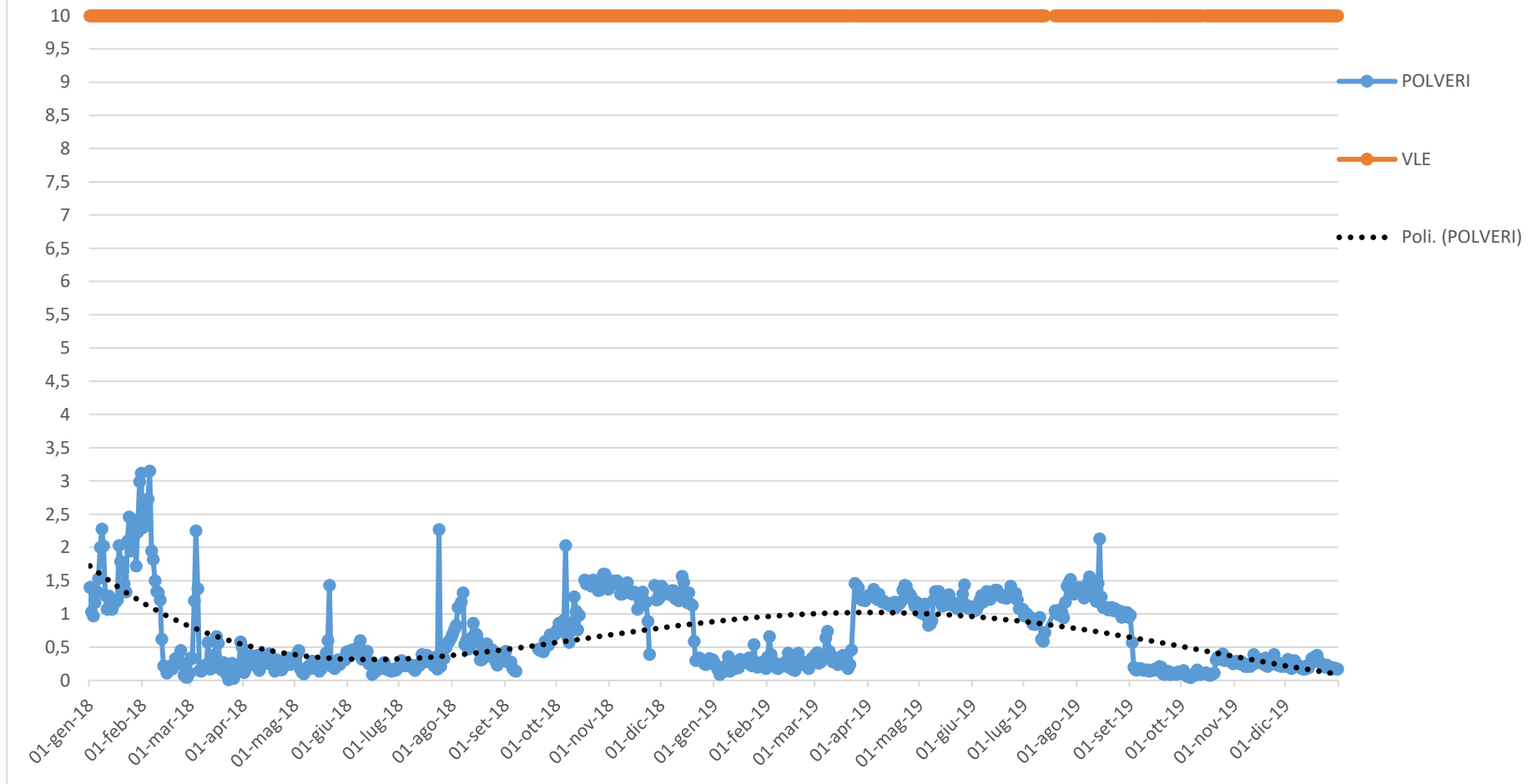
### Concentrazione SOx (mg/Nm3, media giornaliera) camino E435 - ANNI 2018/19

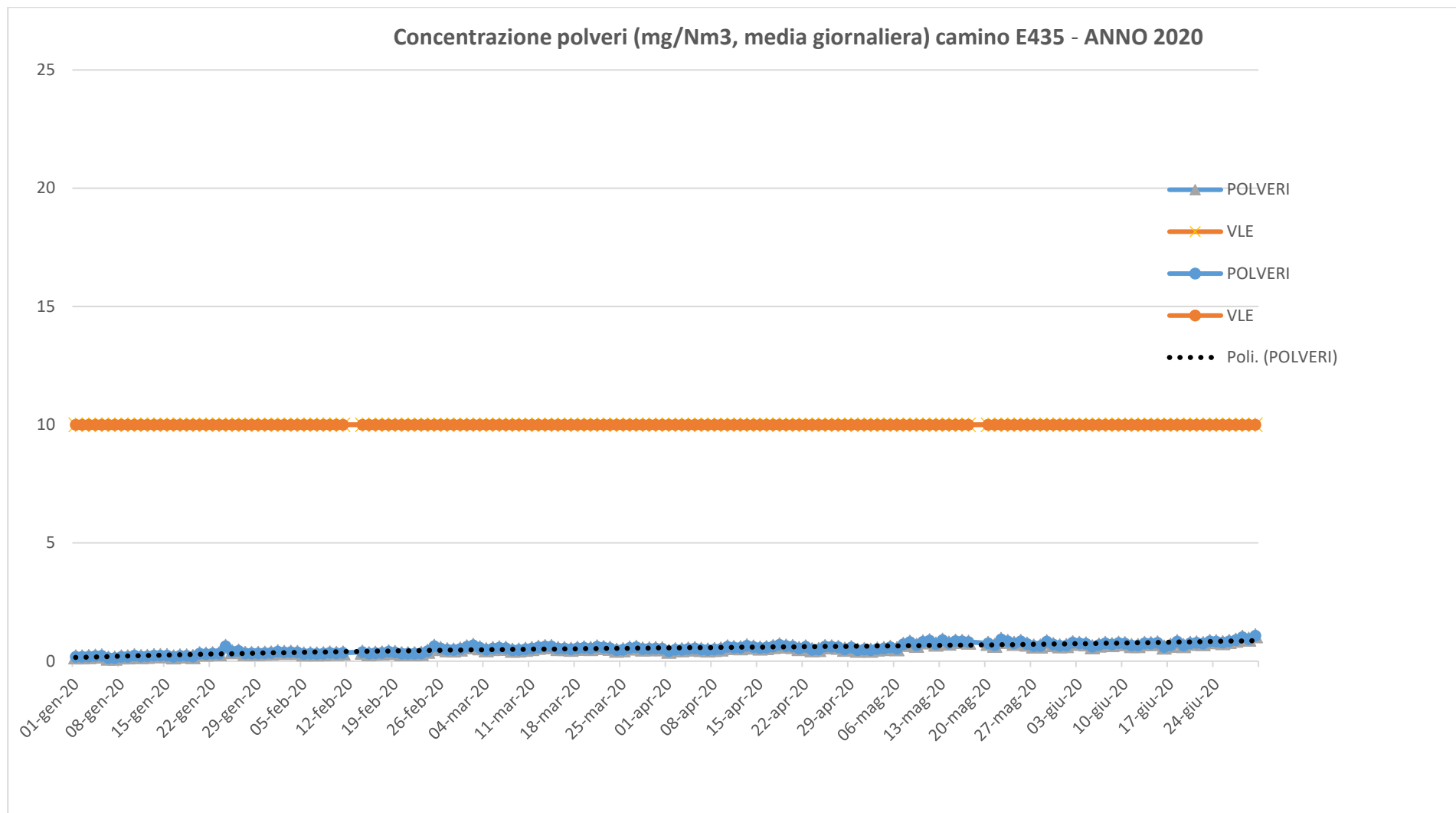


### Concentrazione SOx (mg/Nm3, media giornaliera) camino E435 - ANNO 2020



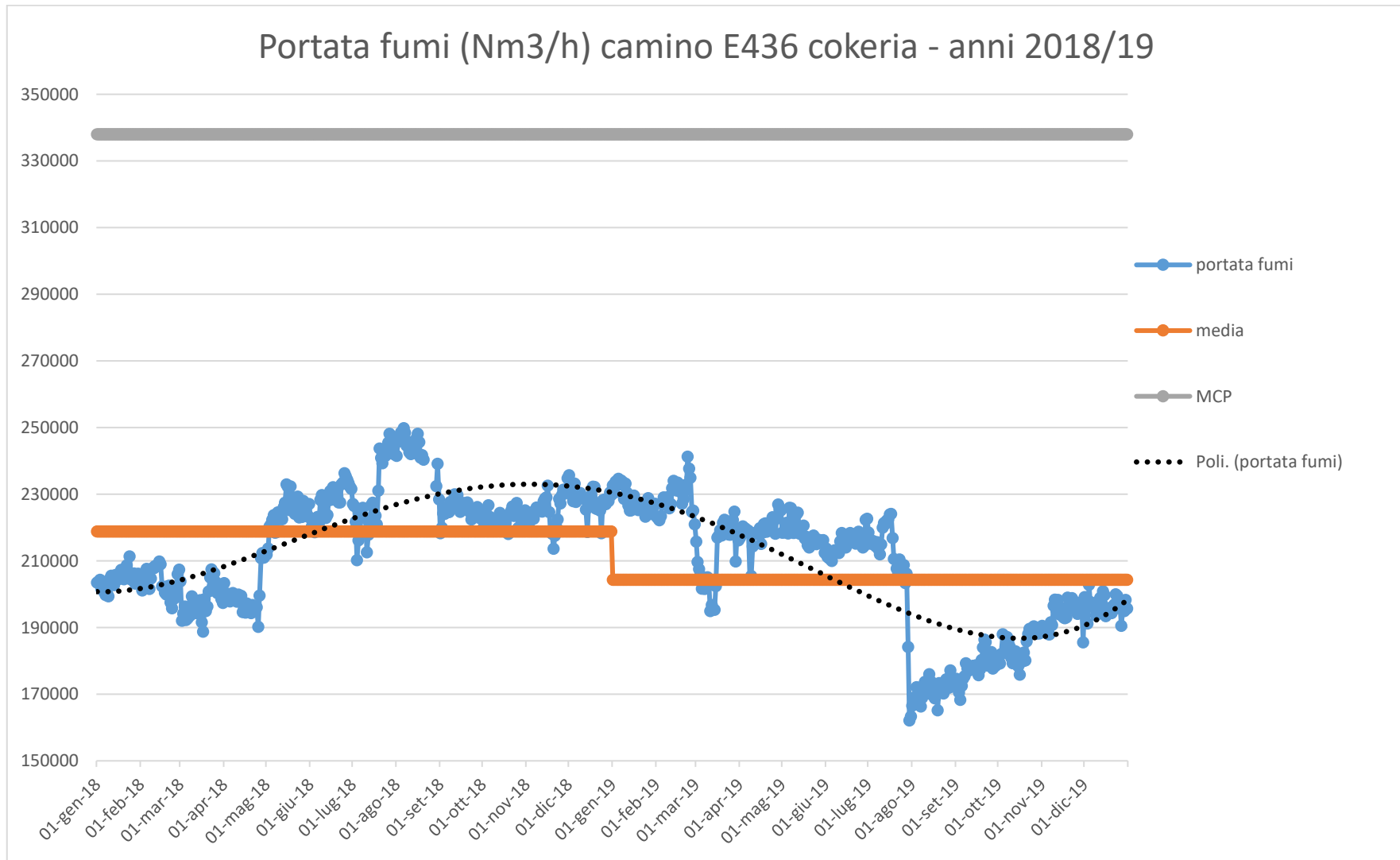
### Concentrazione polveri (mg/Nm<sup>3</sup>, media giornaliera) camino E435 - ANNI 2018/2019



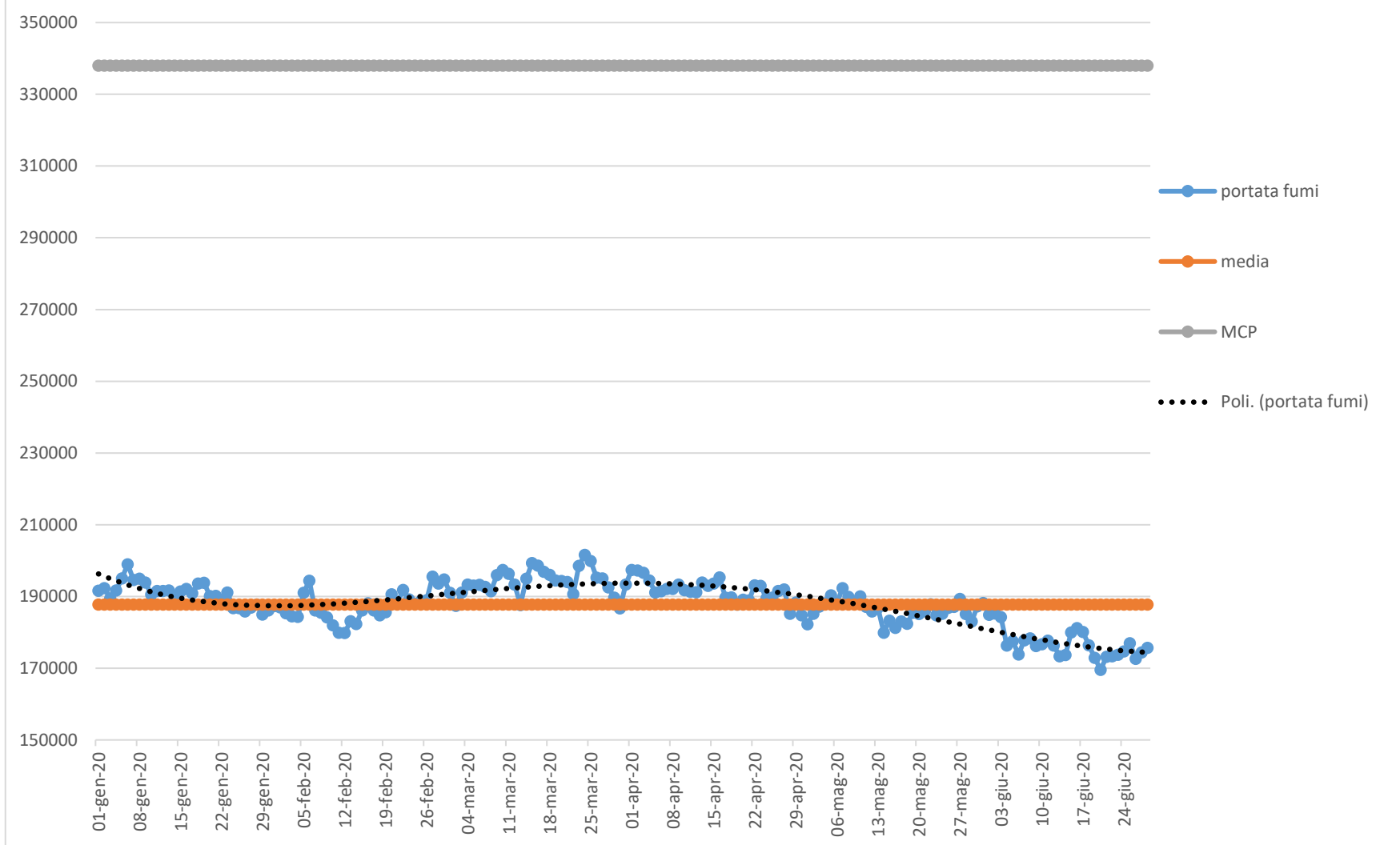


Il dato del 28 aprile 2020 è stato corretto sulla base dei comunicati DIR 294/2020 del 29 aprile 2020 e DIR 253/2020 del 28 maggio 2020.

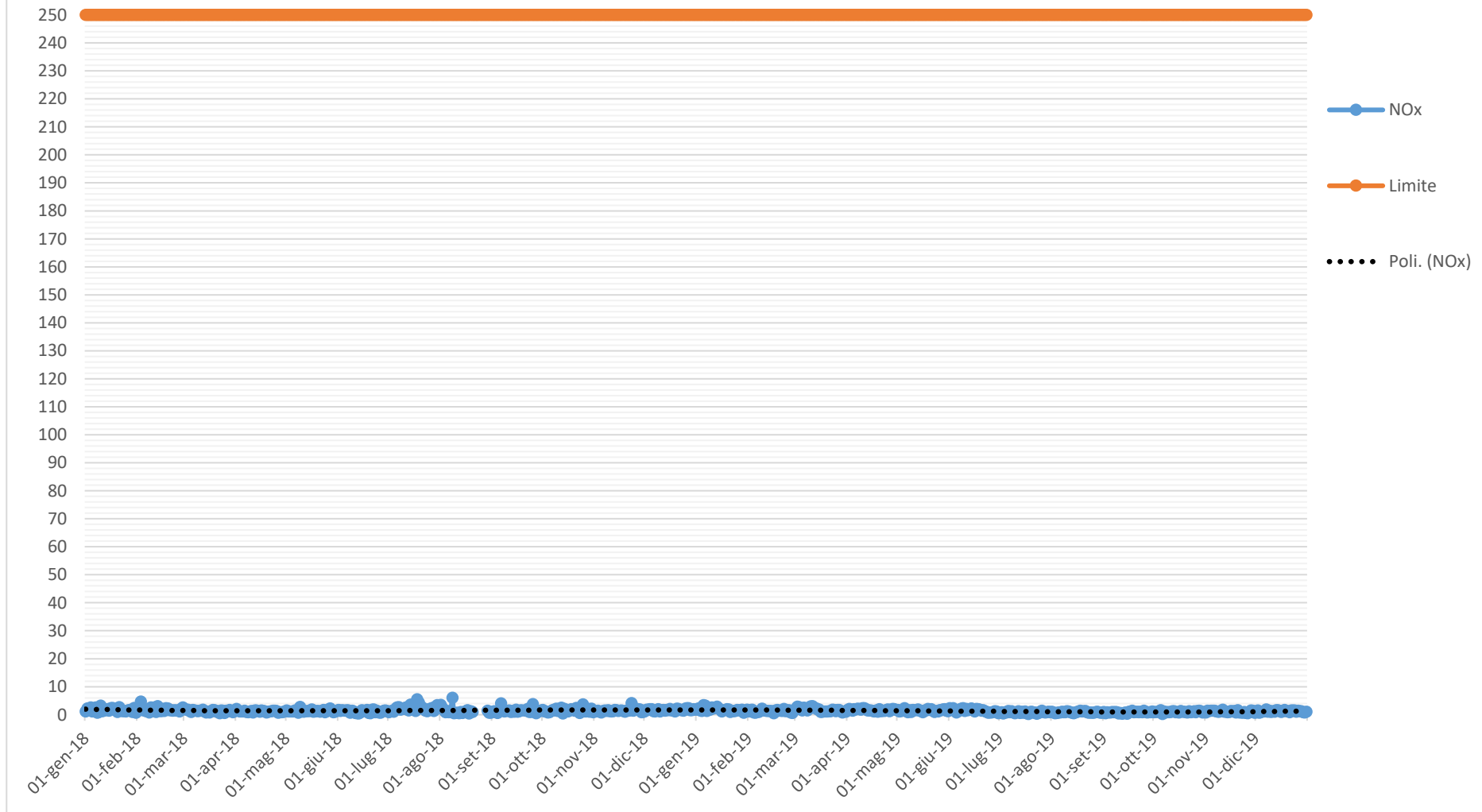
**FIG. 4 – Camino E435 – SFORNAMENTO COKE**



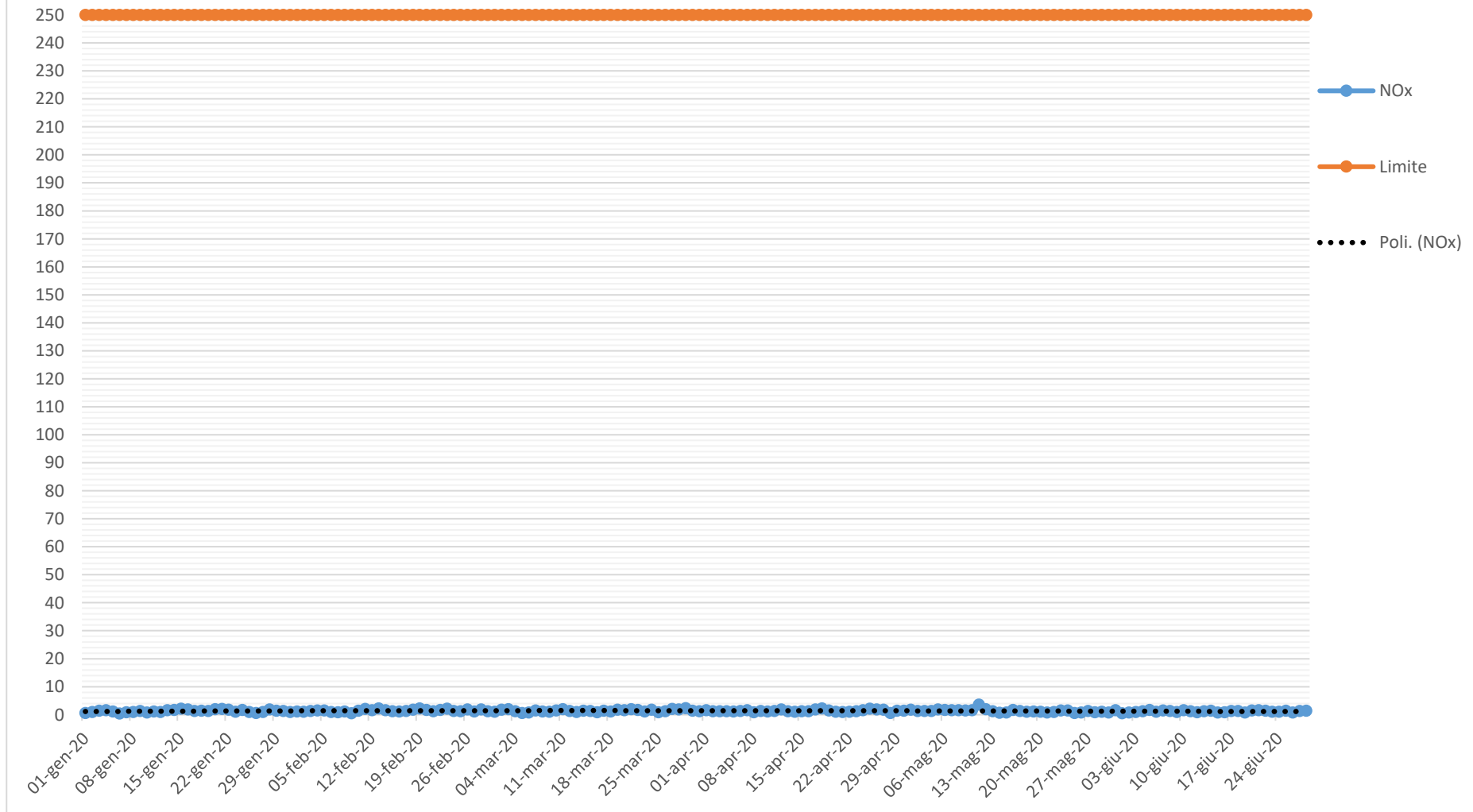
# Portata fumi (Nm3/h) camino E436 cokeria - anno 2020



## Concentrazione di NOx (mg/Nm3, media giornaliera) camino E436 cokeria - ANNI 2018/19

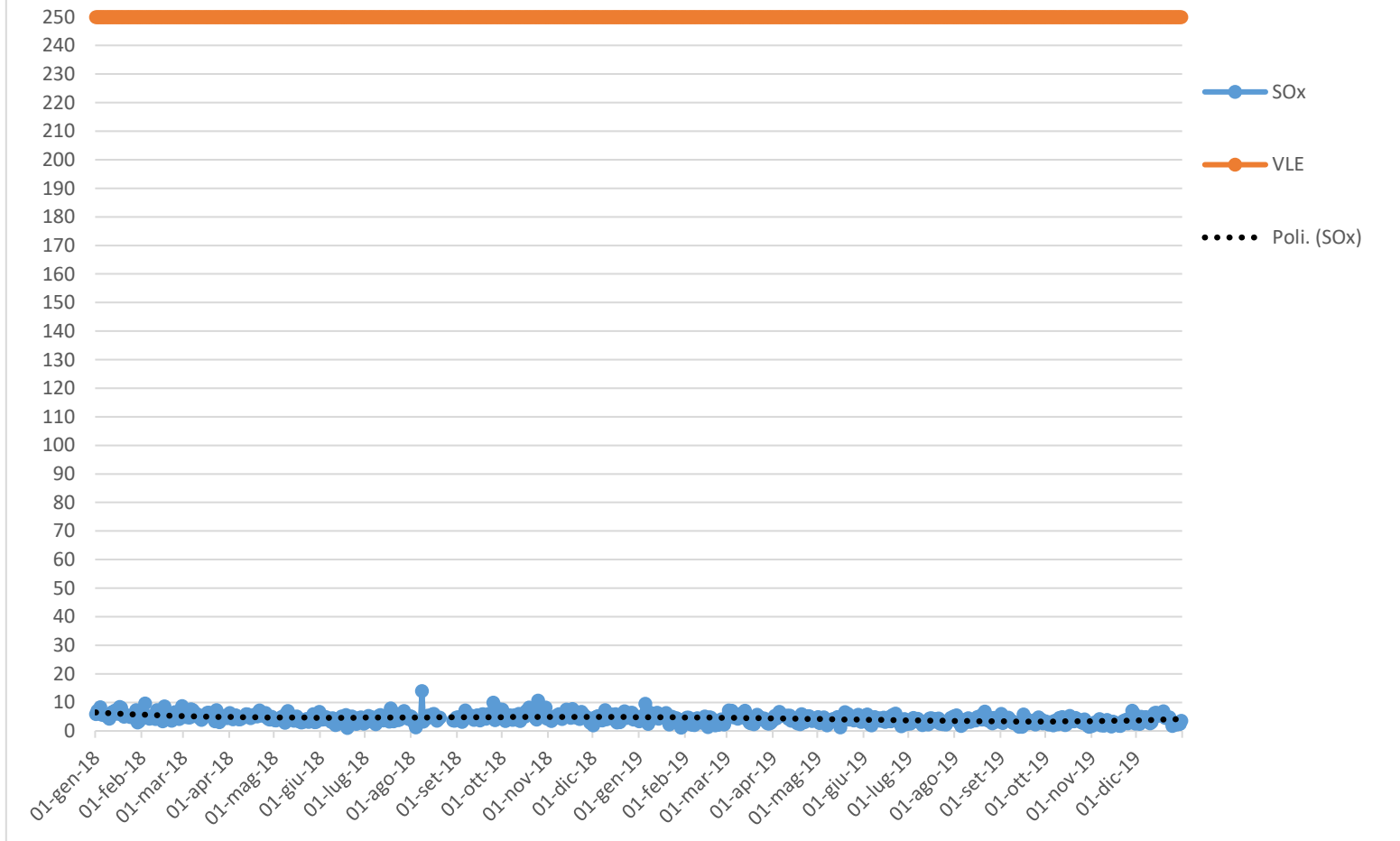


## Concentrazione di NOx (mg/Nm3, media giornaliera) camino E436 cokeria - ANNO 2020

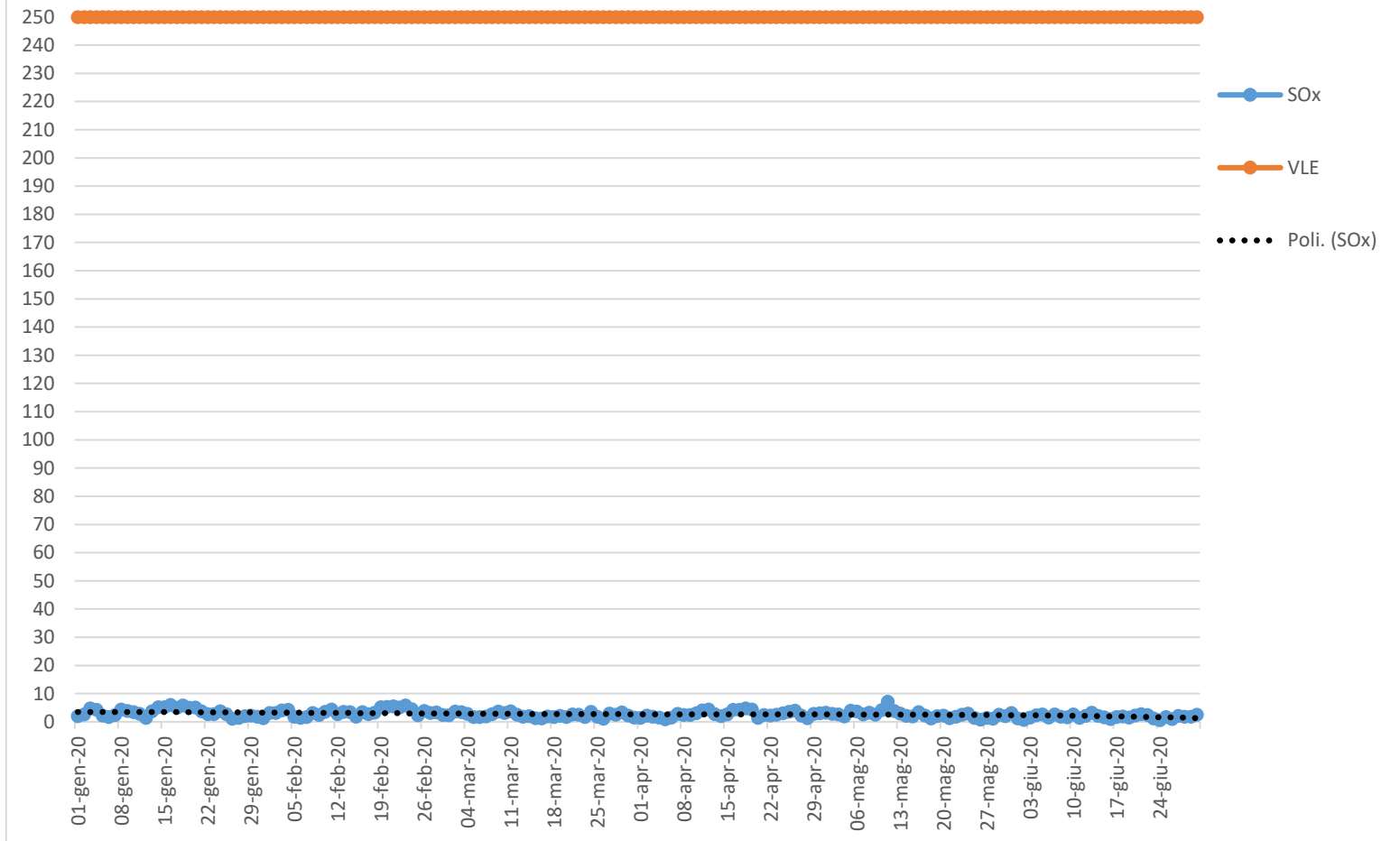




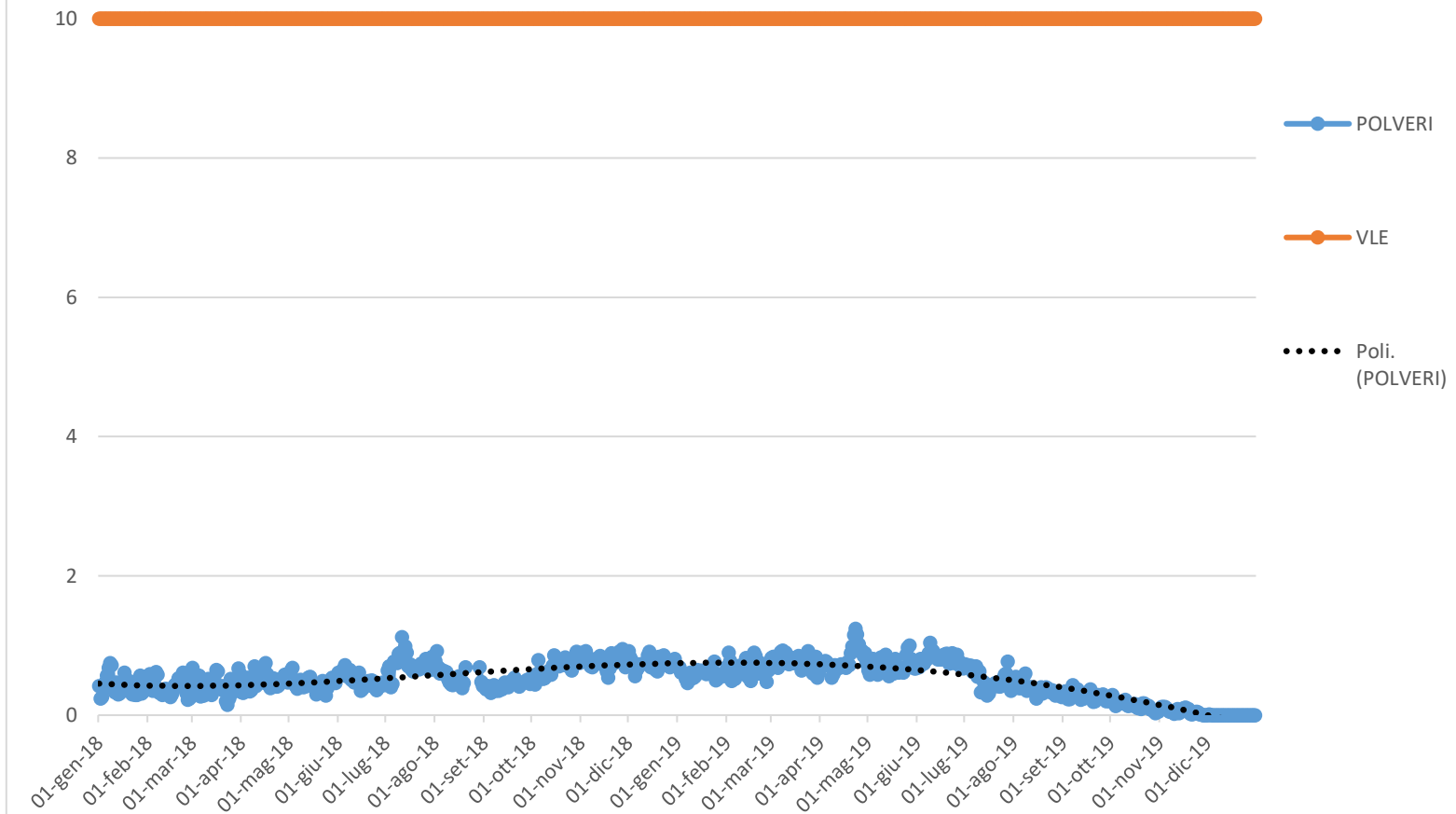
### Concentrazione SOx (mg/Nm3, media giornaliera) camino E436 - ANNI 2018/19

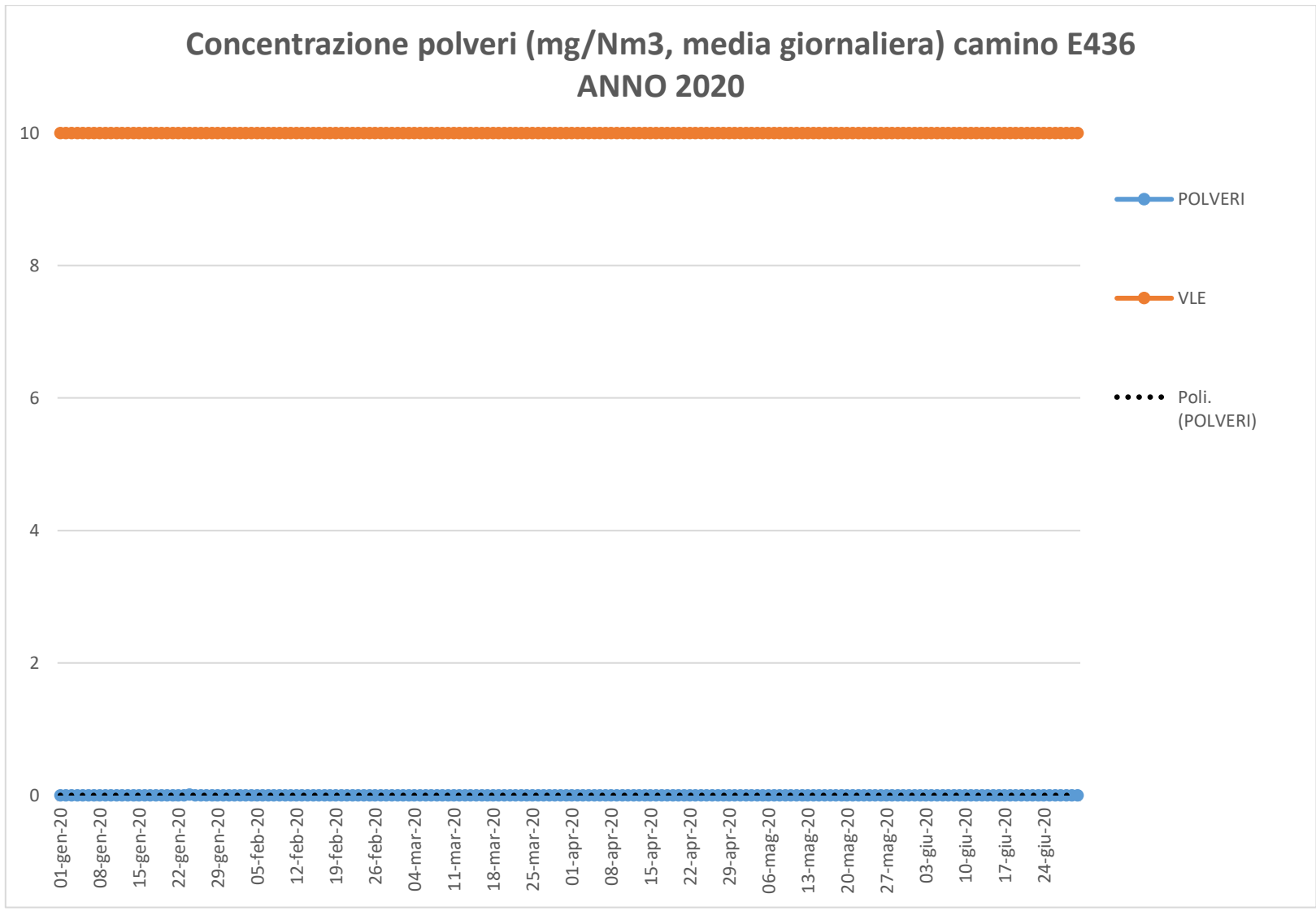


### Concentrazione SOx (mg/Nm3, media giornaliera) camino E436 - ANNO 2020



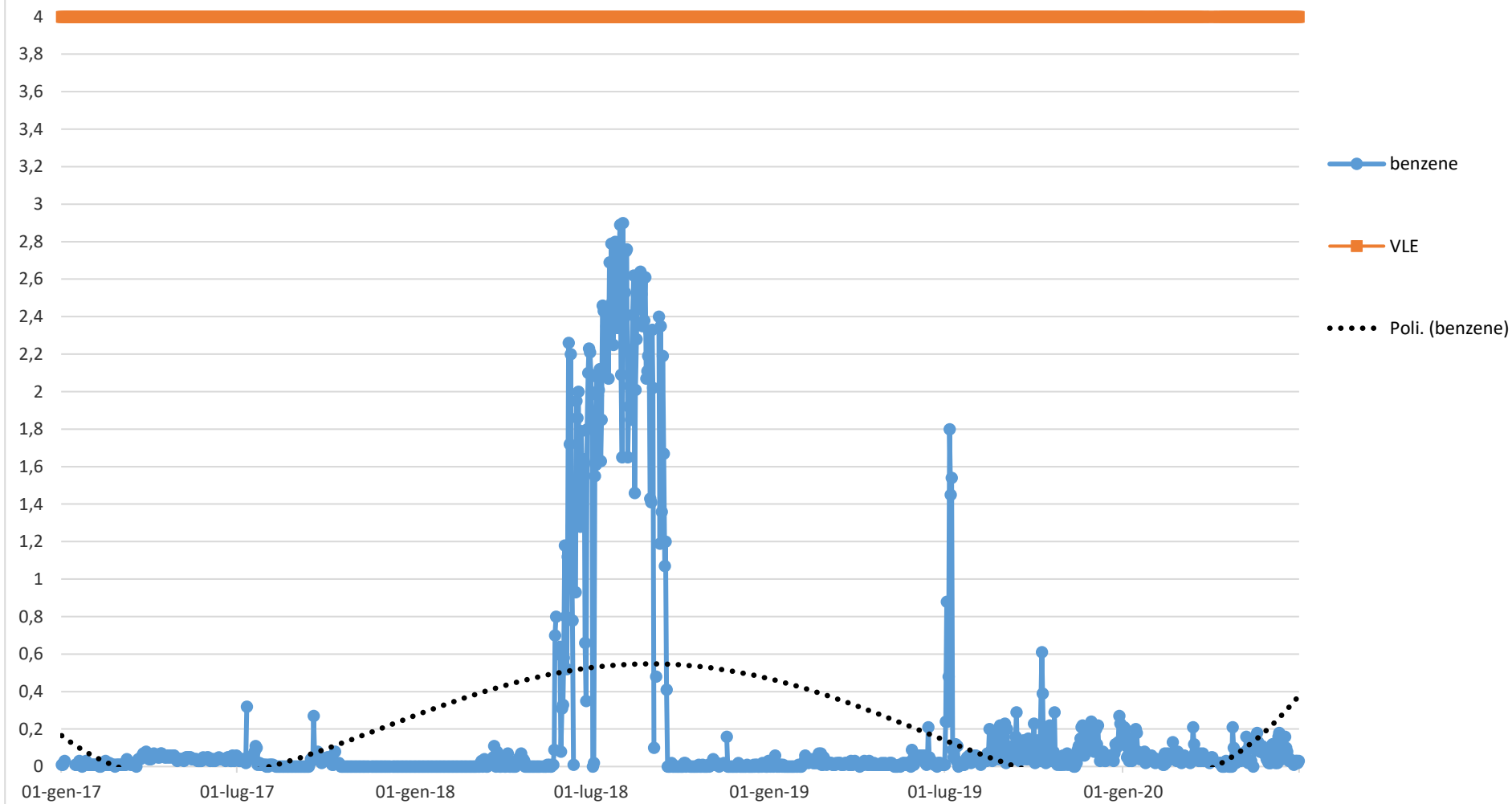
### Concentrazione polveri (mg/Nm<sup>3</sup>, media giornaliera) camino E436 - ANNI 2018/2019



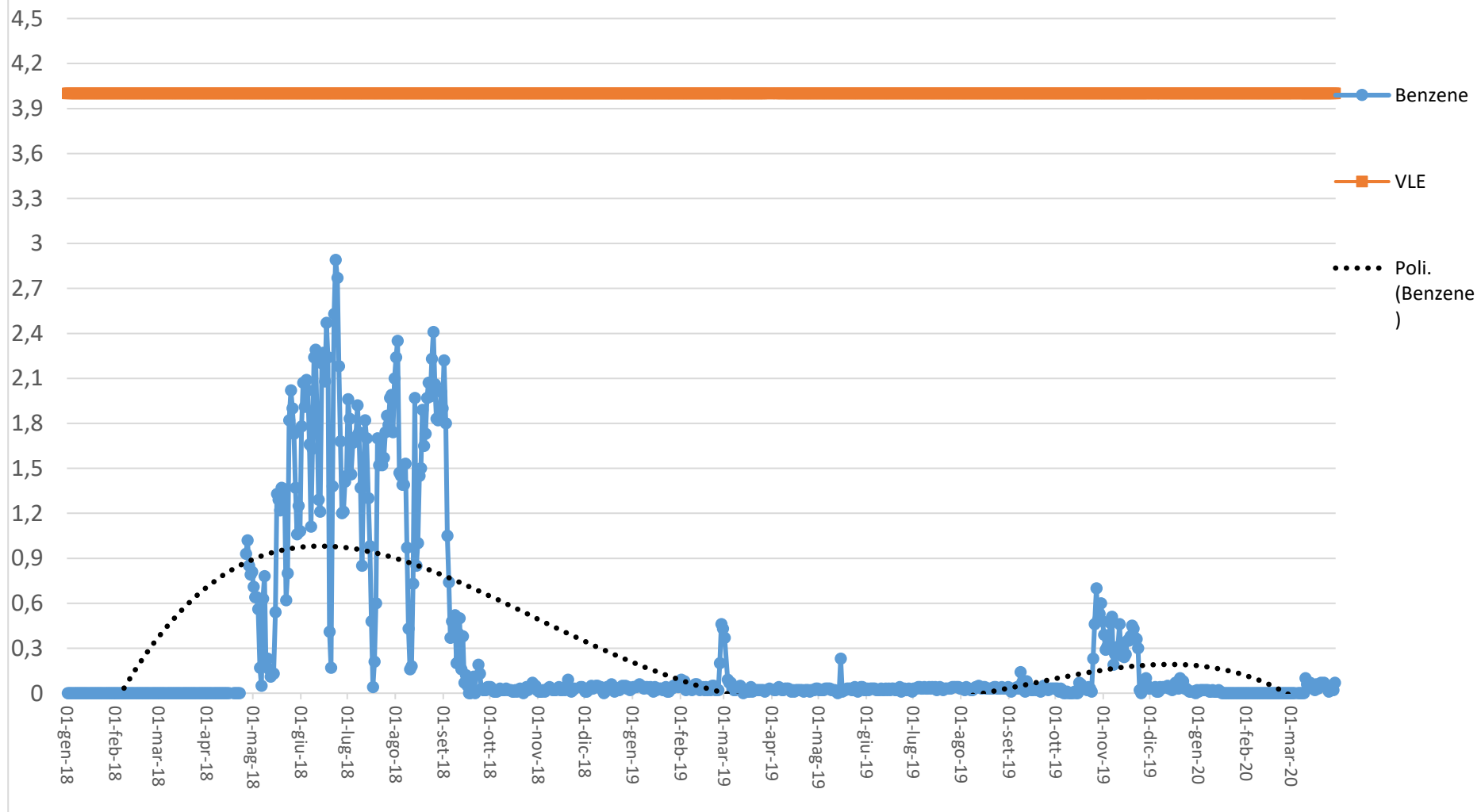


**FIG. 5 – Camino E436 – SFORNAMENTO COKE**

### Concentrazione Benzene (mg/Nm3, media giornaliera) camino E424 ANNI 2017 - 2018 - 2019 -2020



### Concentrazione Benzene (mg/Nm3, media giornaliera) camino E426 ANNI 2018-2019-2020



### Concentrazione Benzene (mg/Nm3, media giornaliera) camino E428 - ANNI 2018-2019-2020

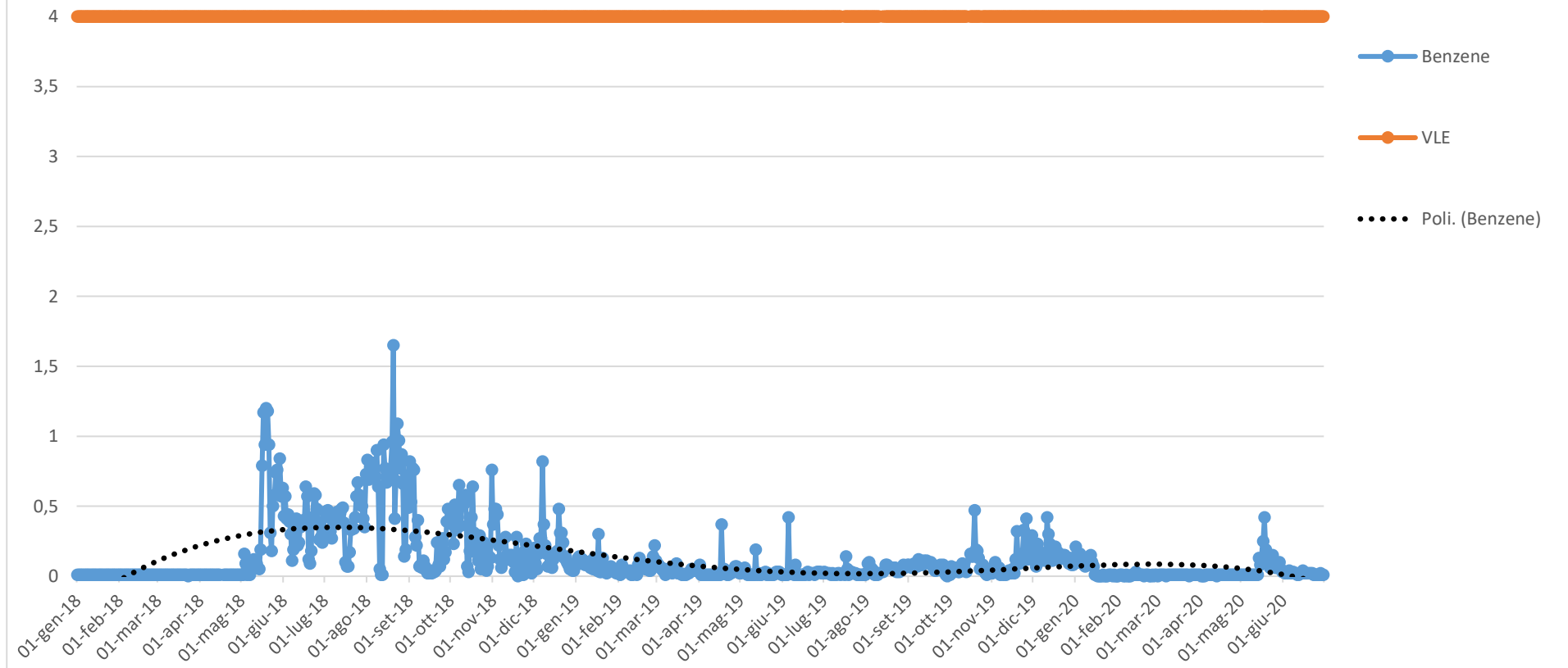
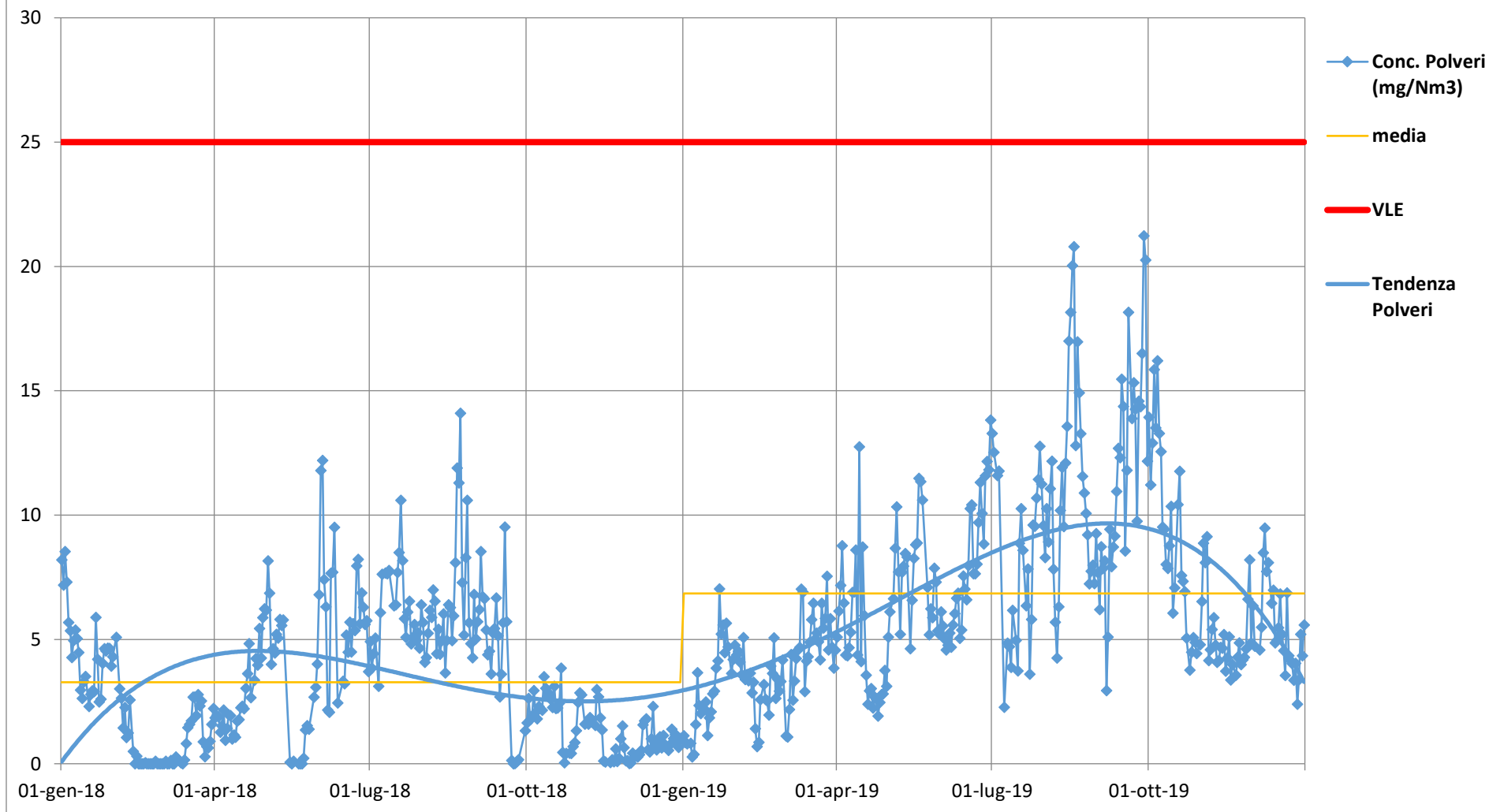


FIG. 7 – Trend Benzene camini cokefazione

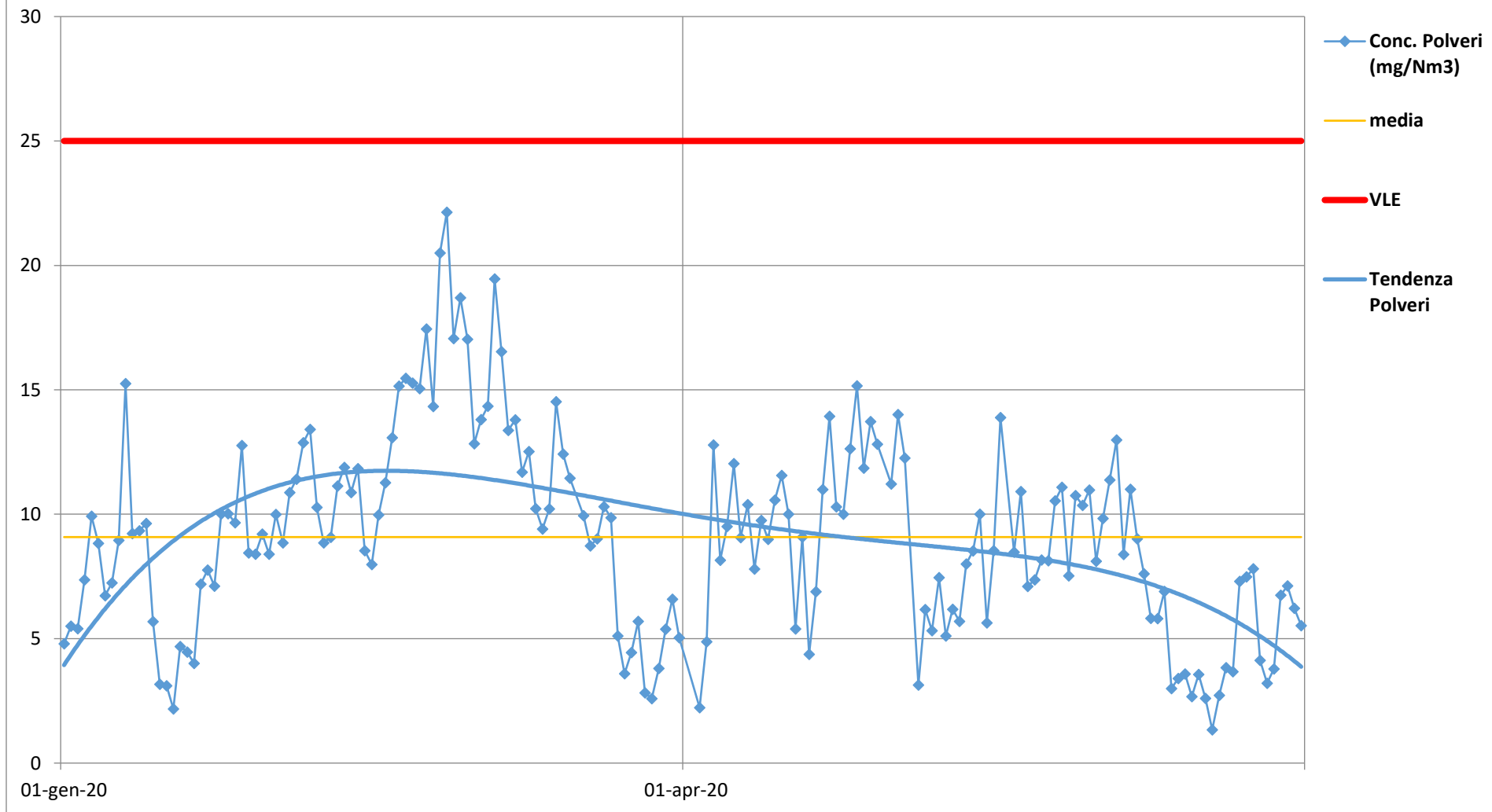
**TAVOLA 2 Camini area agglomerato**  
**(E312, E314b, E315b, E324 e E325)**



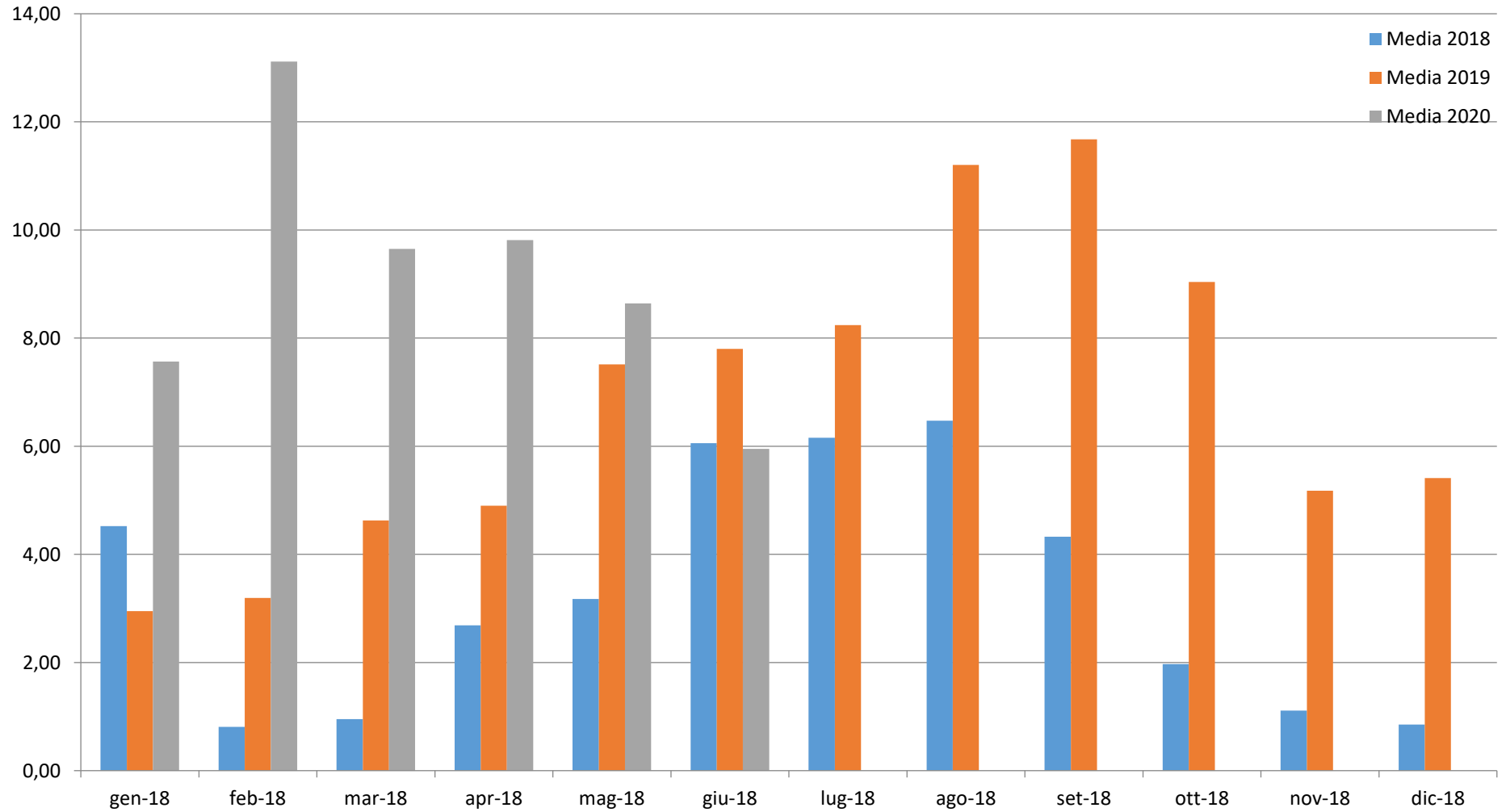
### Concentrazione polveri (mg/Nm3) camino E312 - Anni 2018-2019



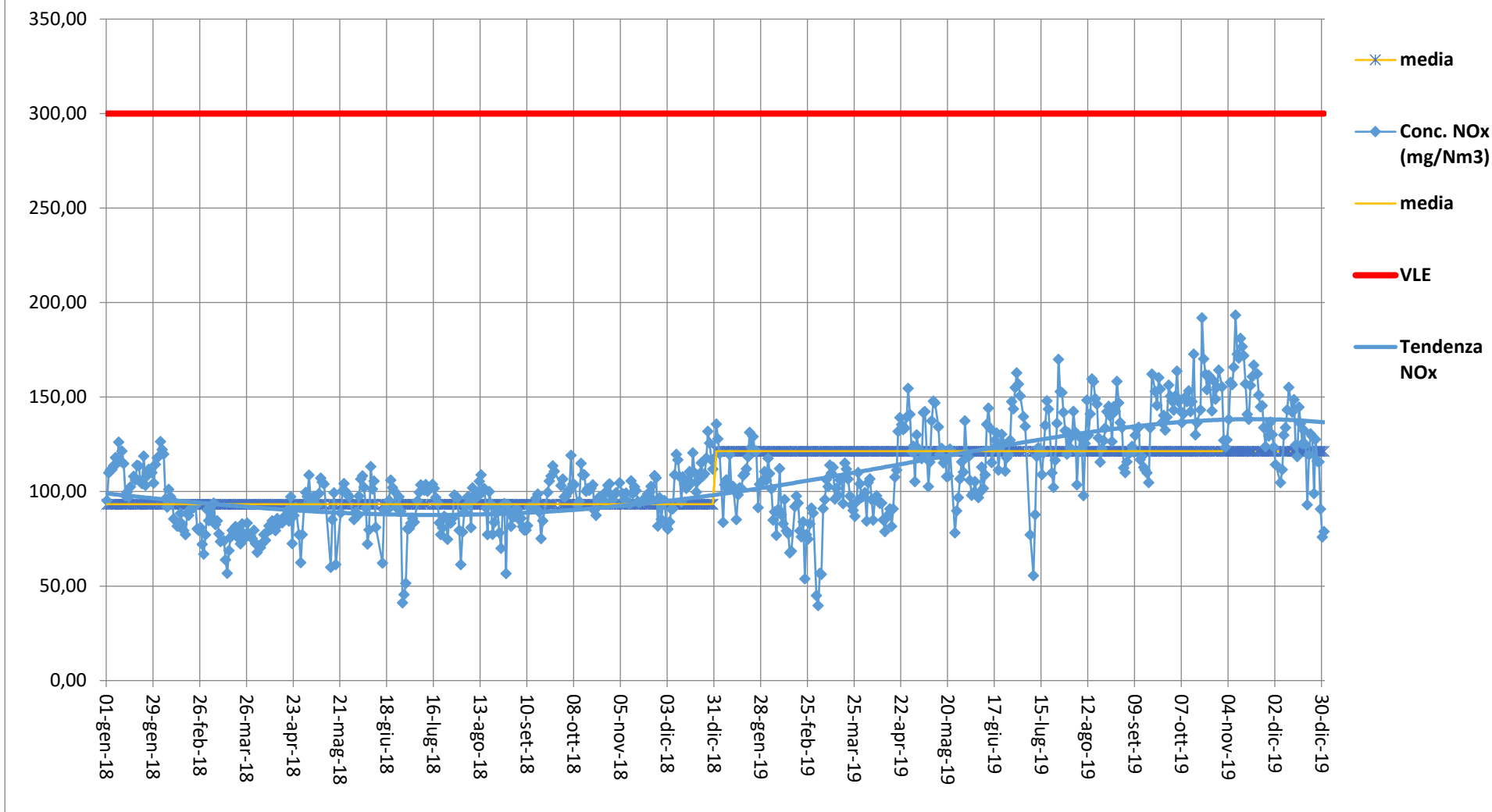
### Concentrazione polveri (mg/Nm3) camino E312 - Anno 2020



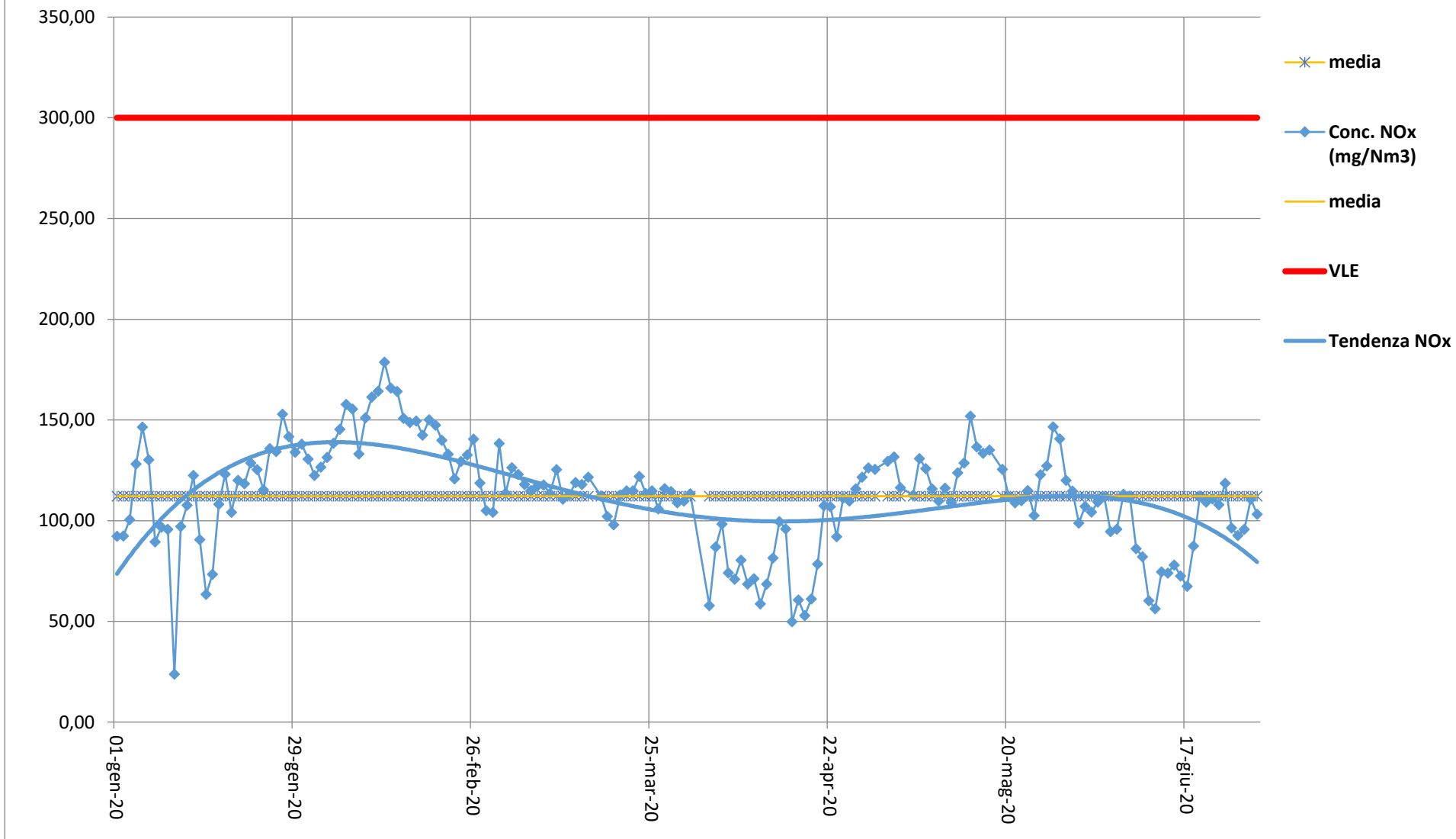
### Concentrazione polveri (mg/Nm<sup>3</sup>) camino E312 medie mensili



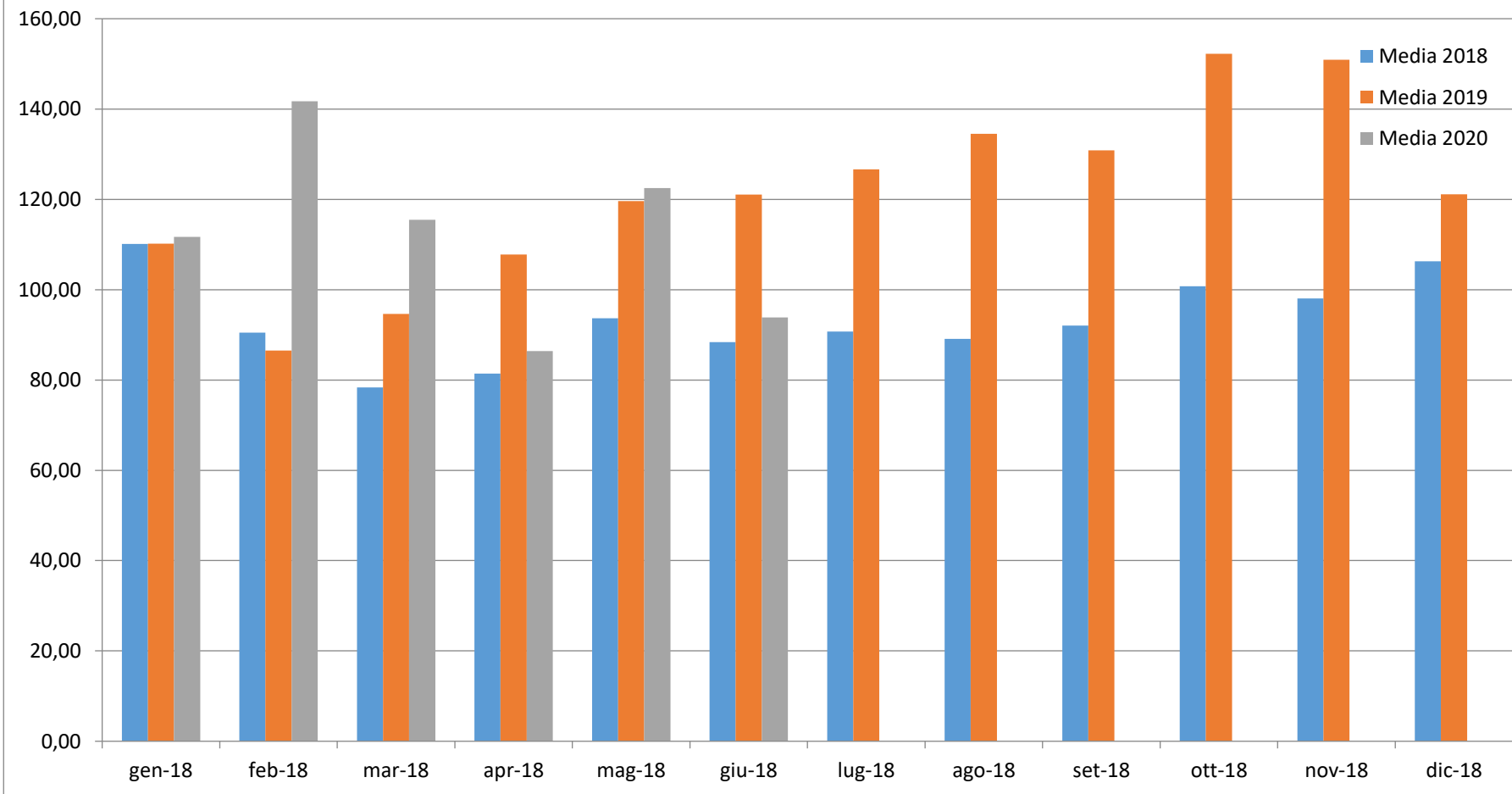
### Concentrazione NOx (mg/Nm3) - camino E312 - Anni 2018 - 2019



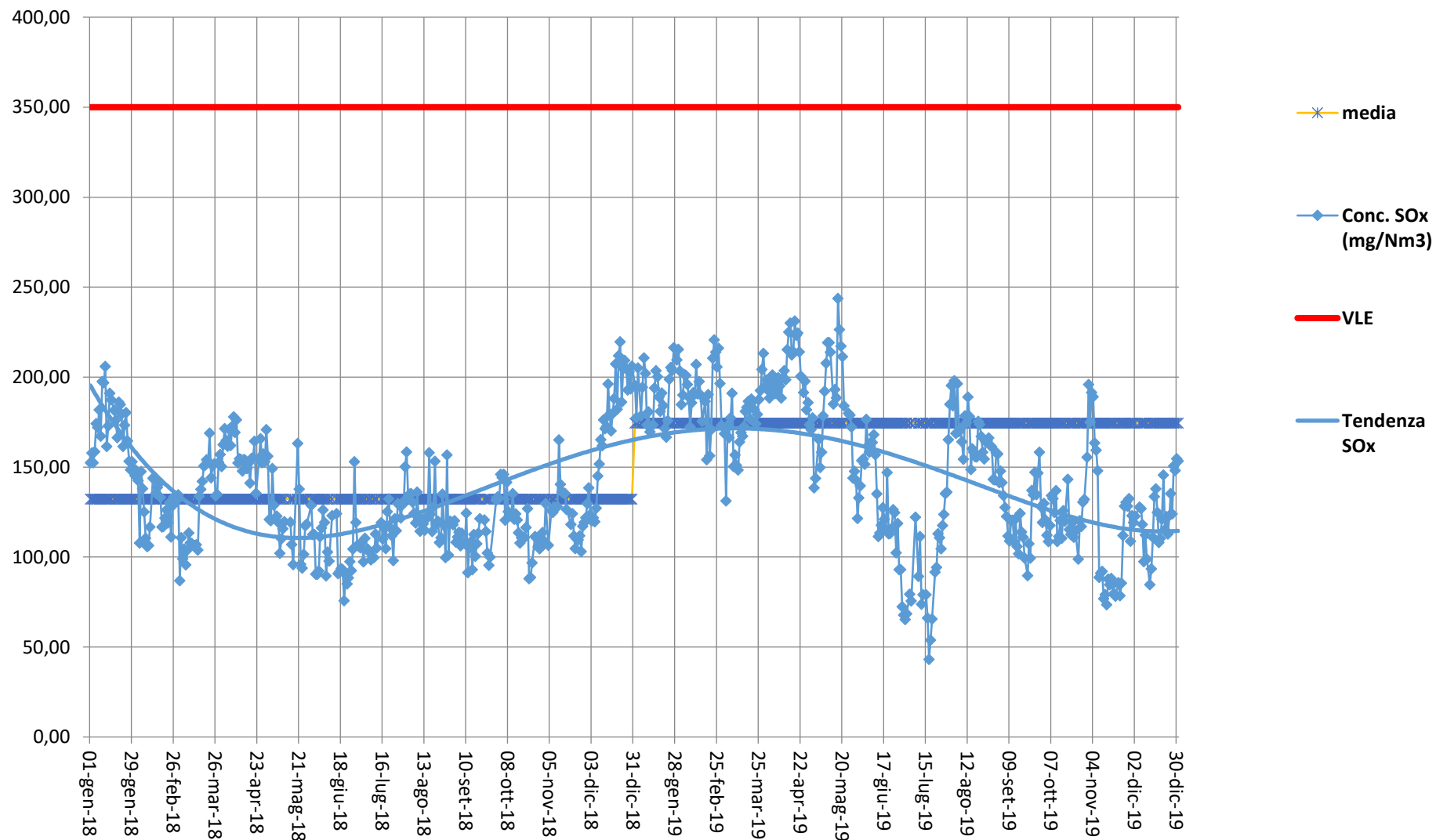
### Concentrazione NOx (mg/Nm3) - camino E312 - Anno 2020



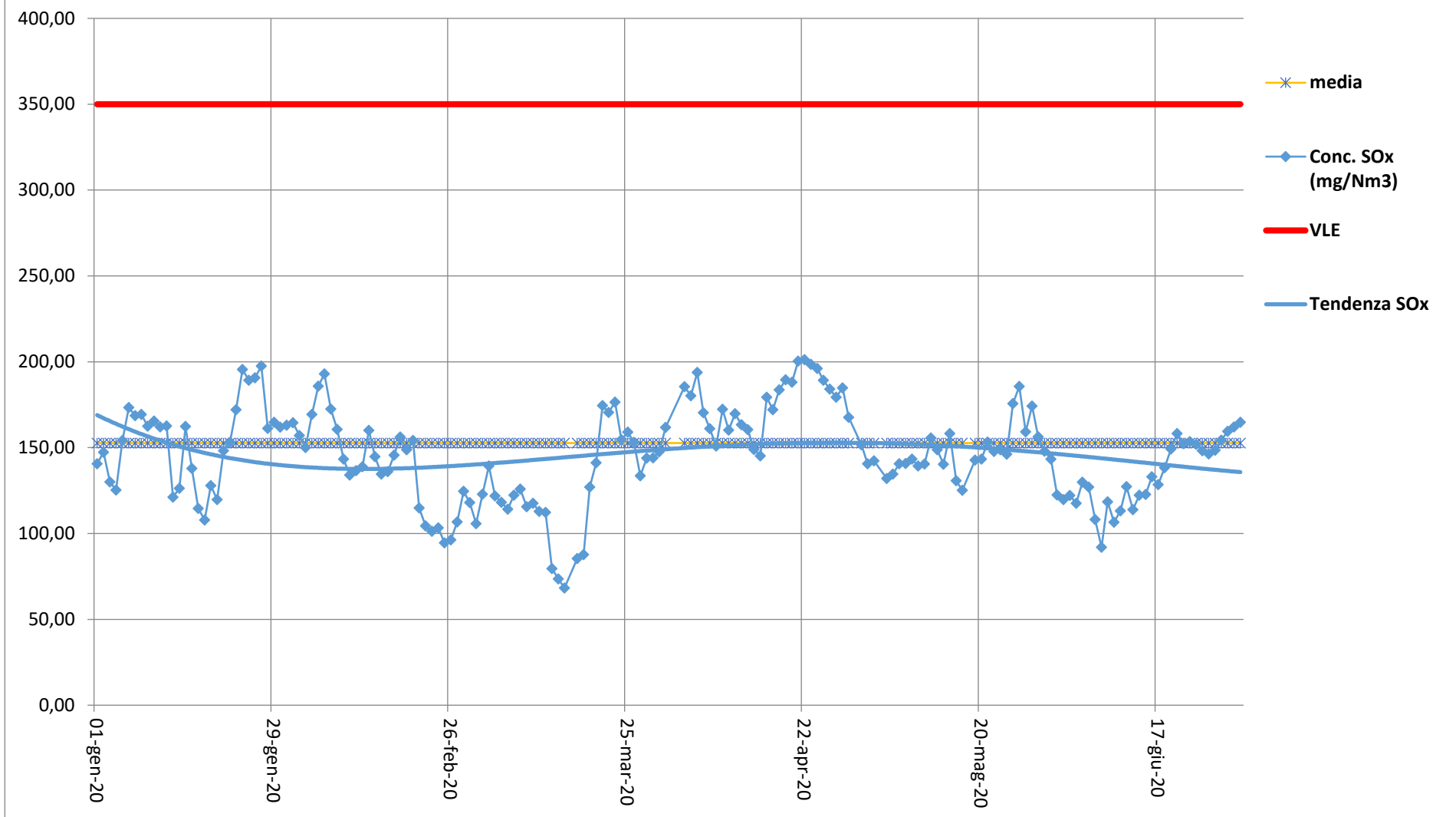
## Concentrazione NOx (mg/Nm<sup>3</sup>) camino E312 medie mensili



### Concentrazione SOx (mg/Nm3) - Camino E312 - Anni 2018 - 2019

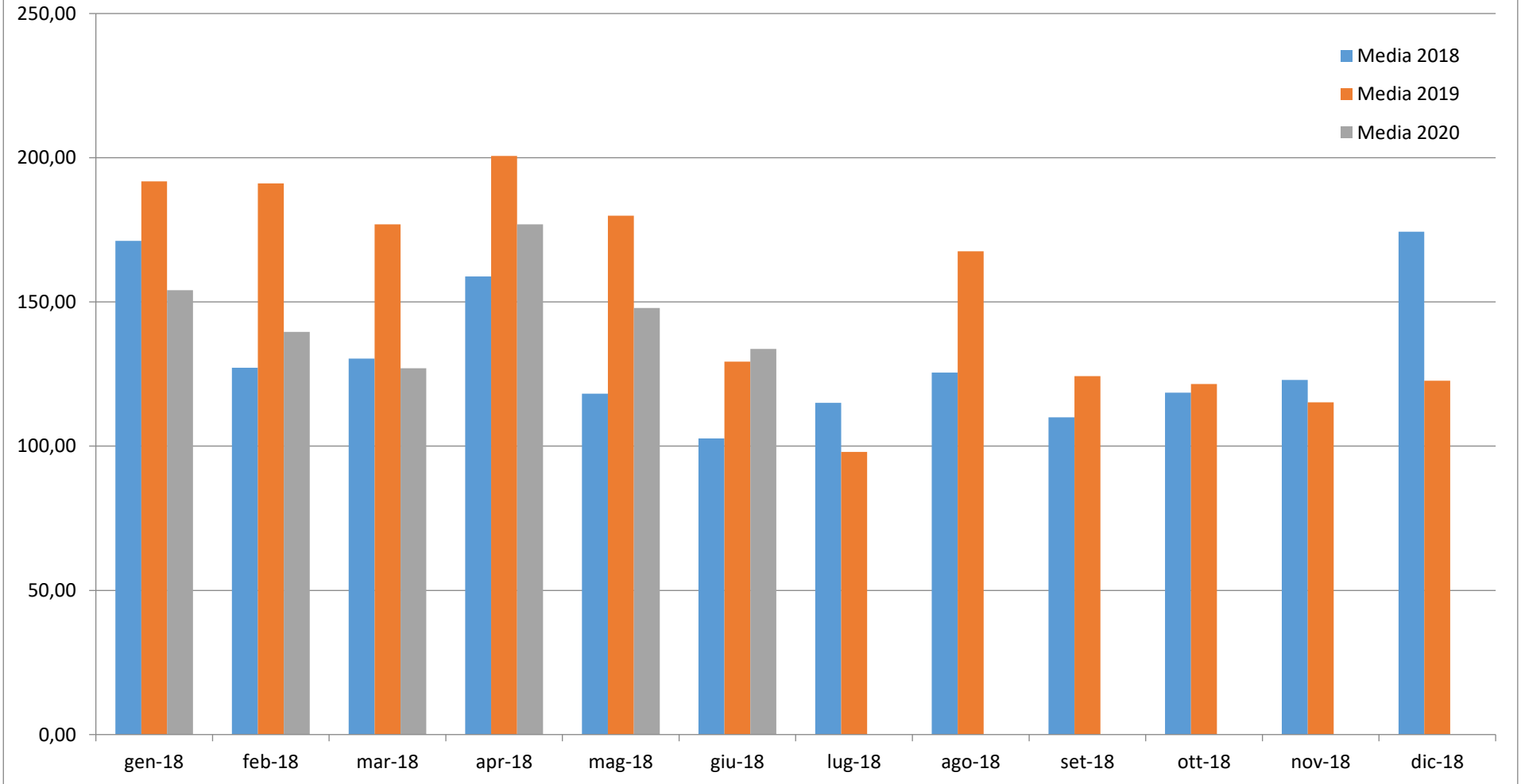


### Concentrazione SOx (mg/Nm3) - Camino E312 - Anno 2020

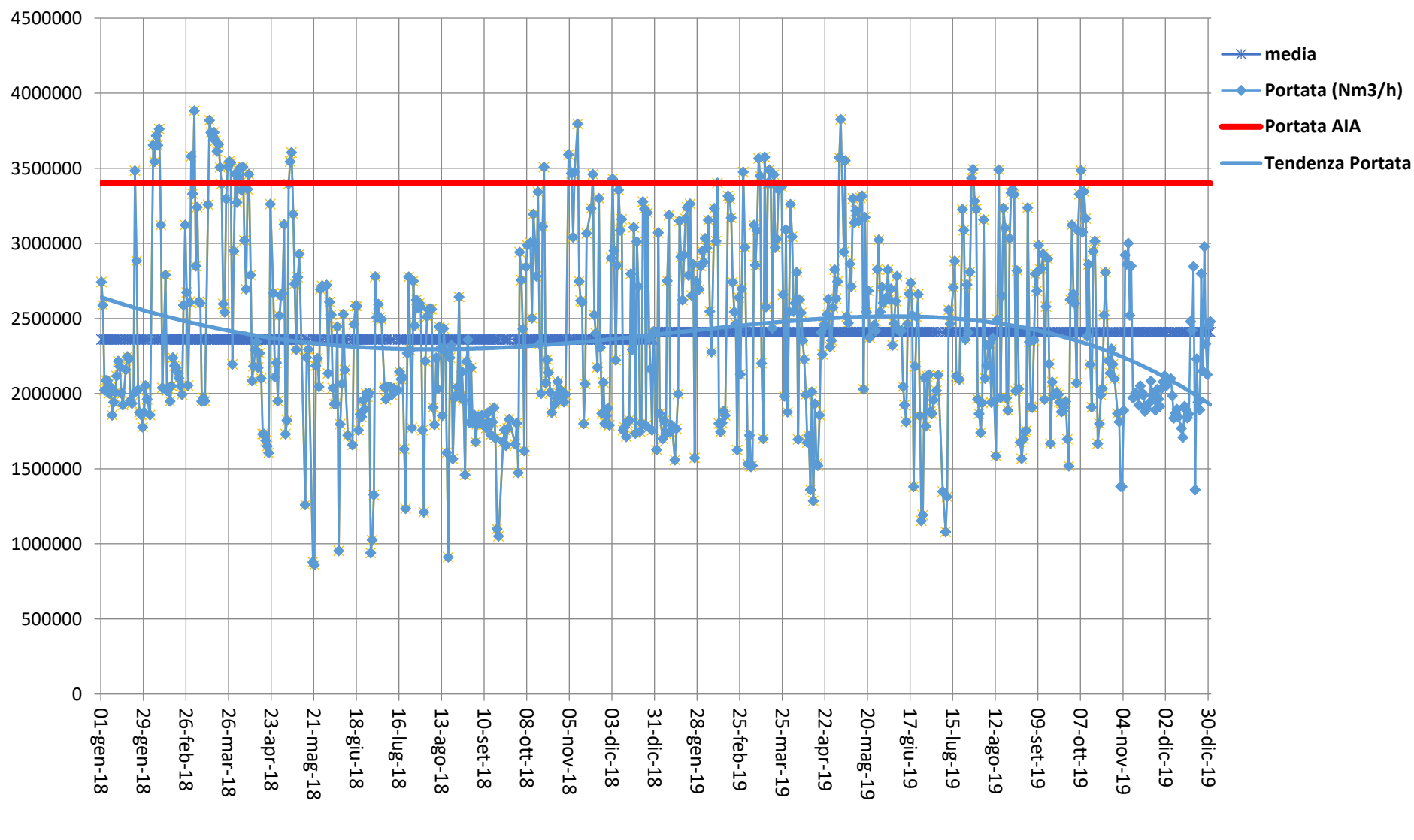


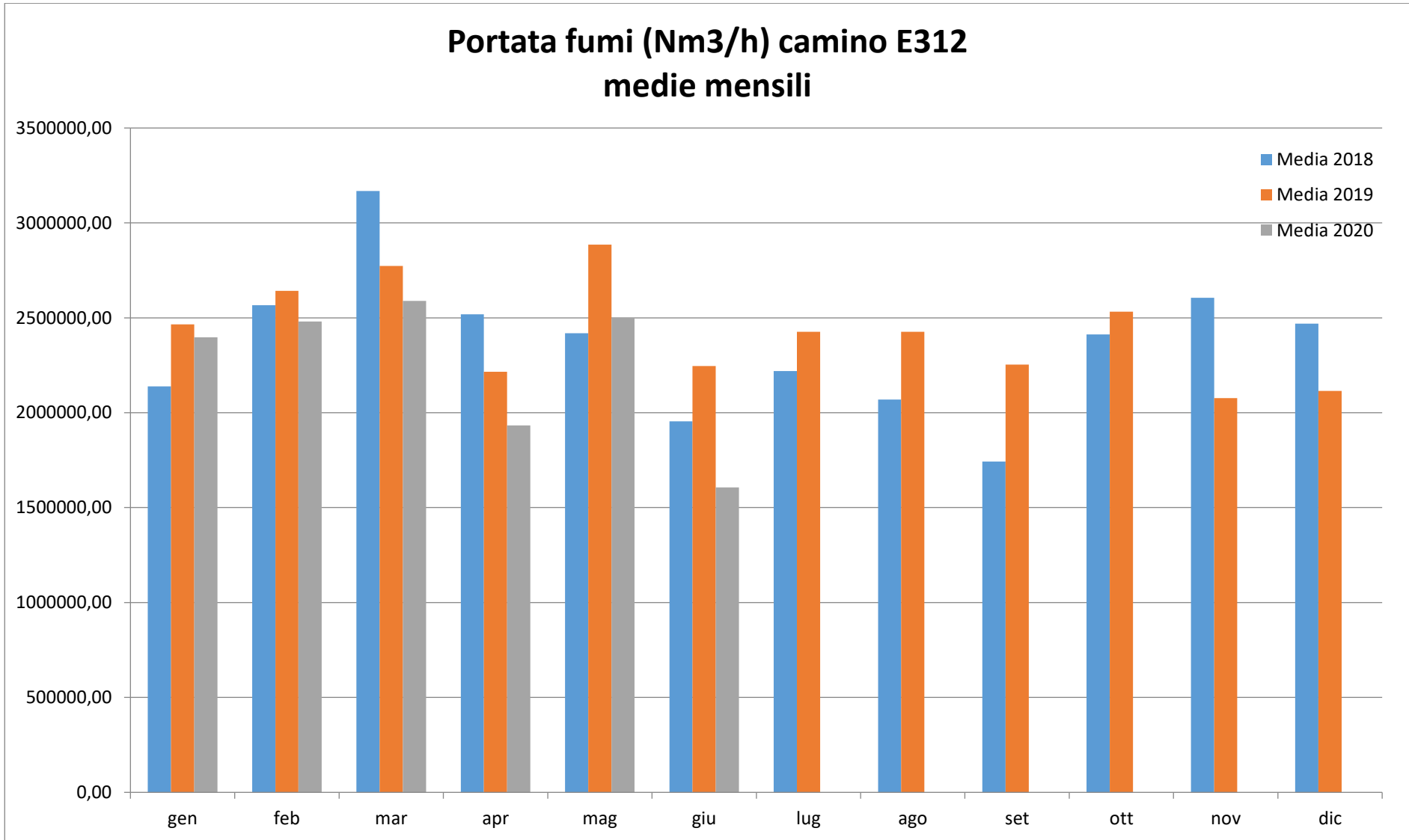


### Concentrazione SOx (mg/Nm3) camino E312 medie mensili



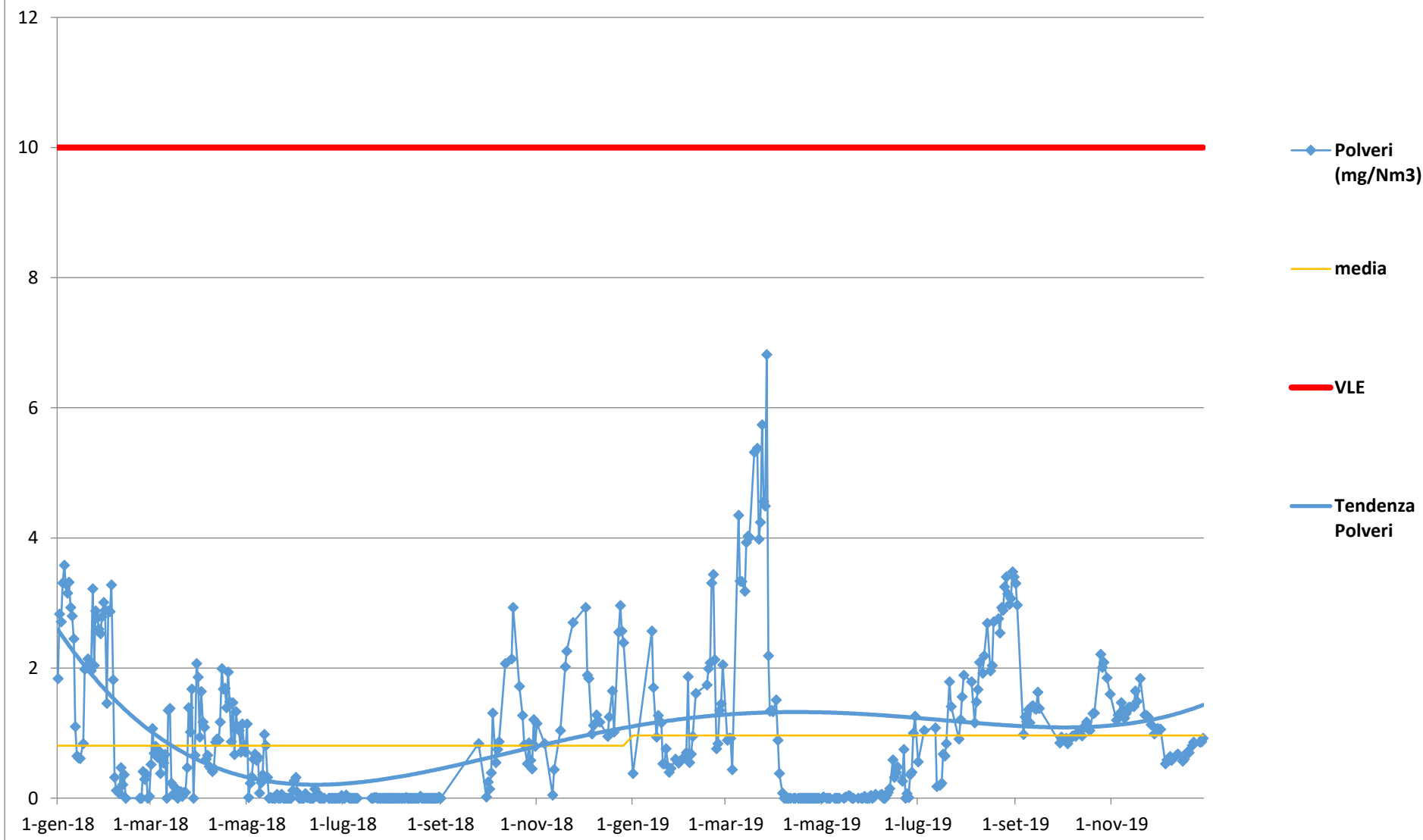
### Portata fumi (Nm3/h) - Camino E312 - Anni 2018 - 2019



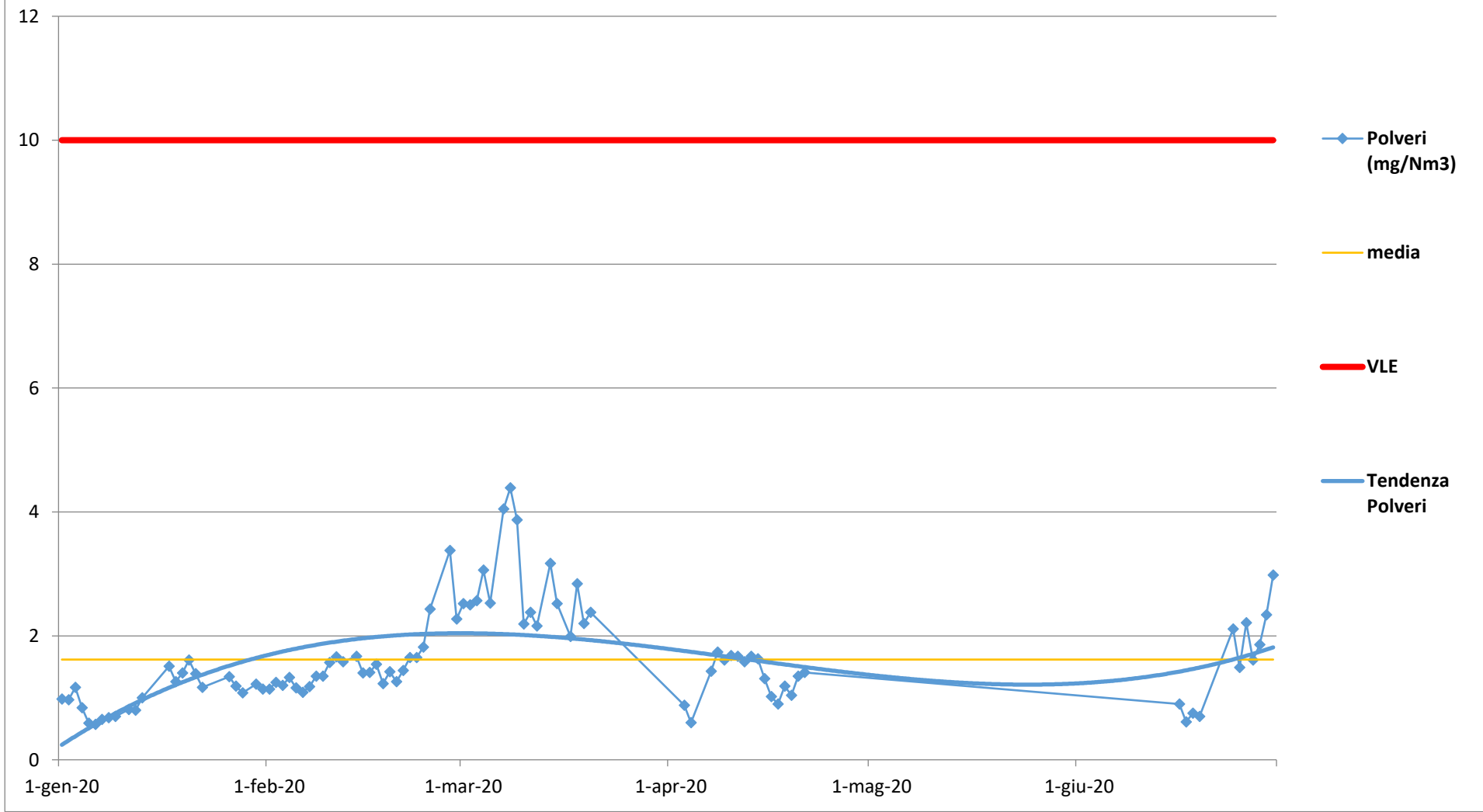


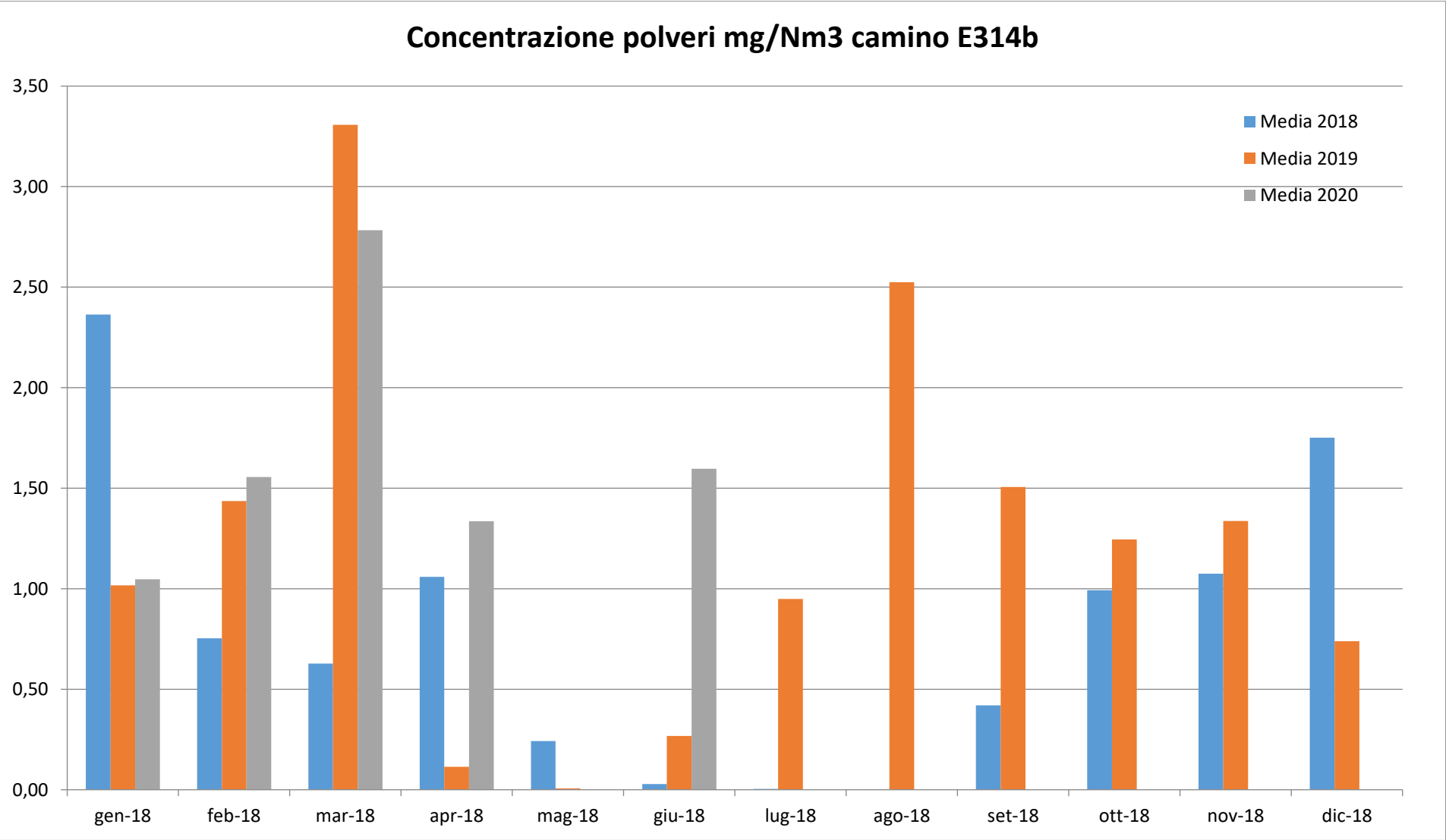
**Figura 8. Esercizio Camino E312 Area Agglomerato, periodo gennaio 2018 – giugno 2020**

### Concentrazione polveri mg/Nm3 camino E314b - Anni 2018-2019

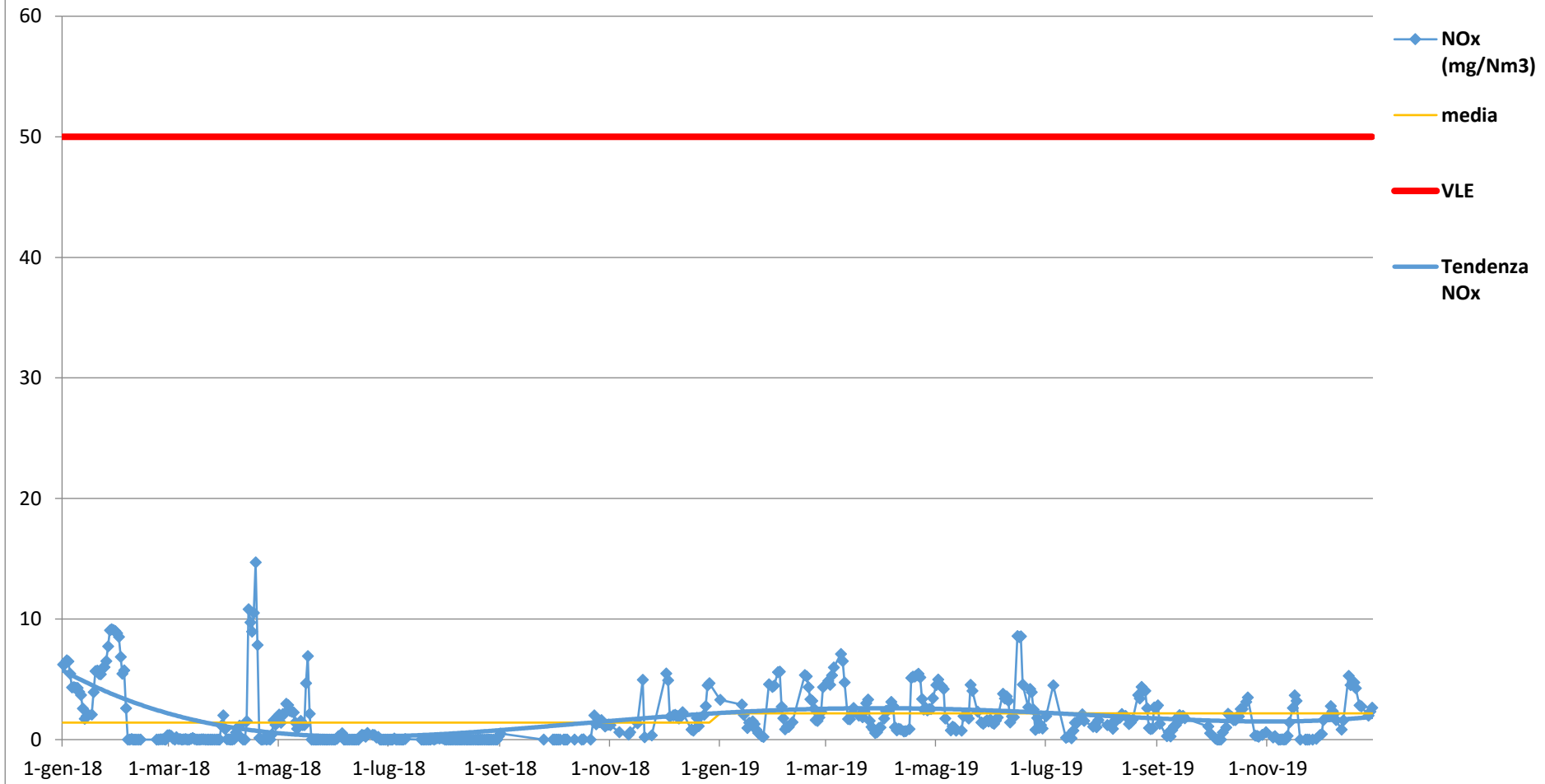


### Concentrazione polveri mg/Nm3 camino E314b - Anno 2020

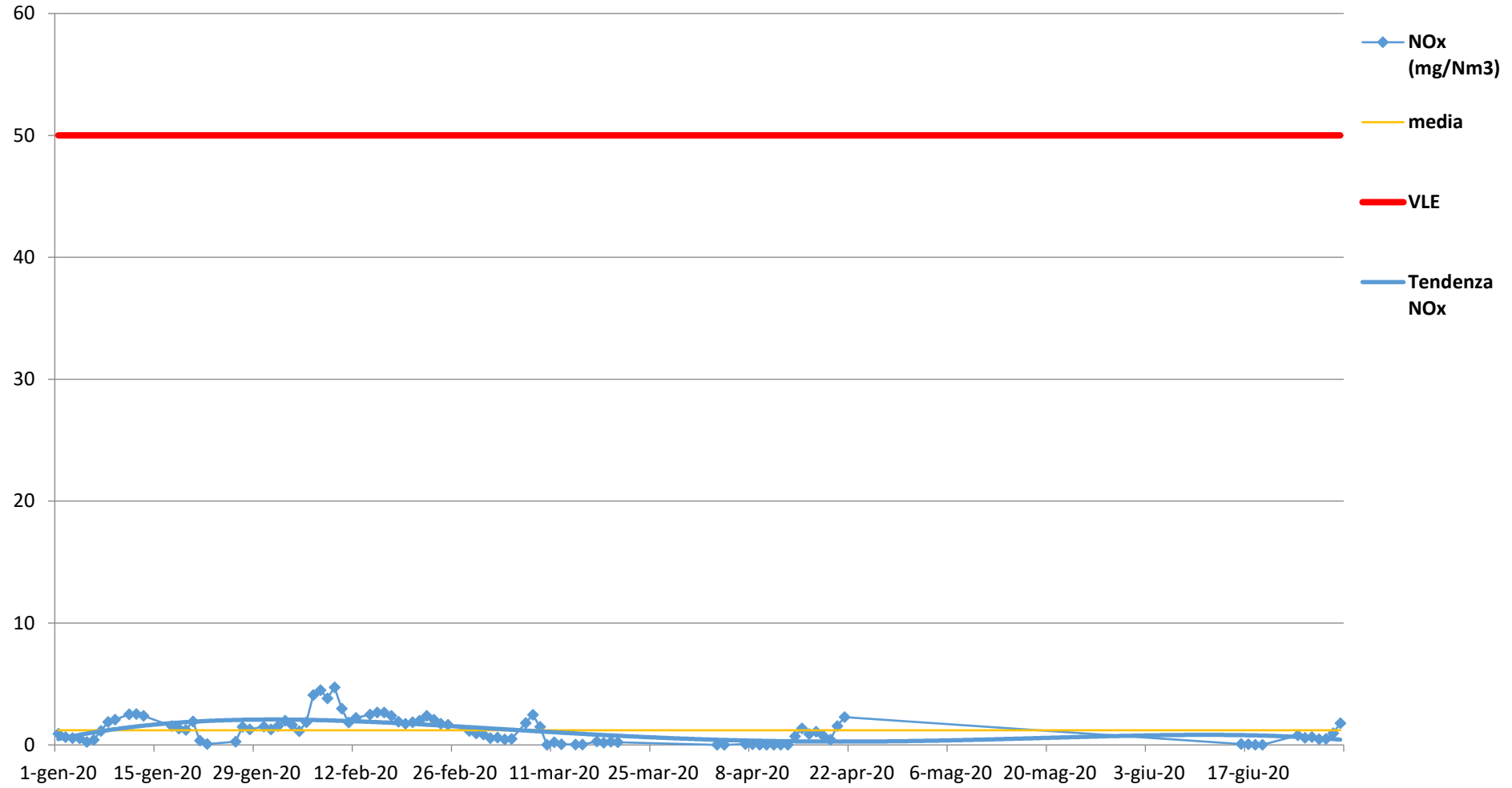




### Concentrazione NOx mg/Nm3 cammino E314b - Anni 2018-2019

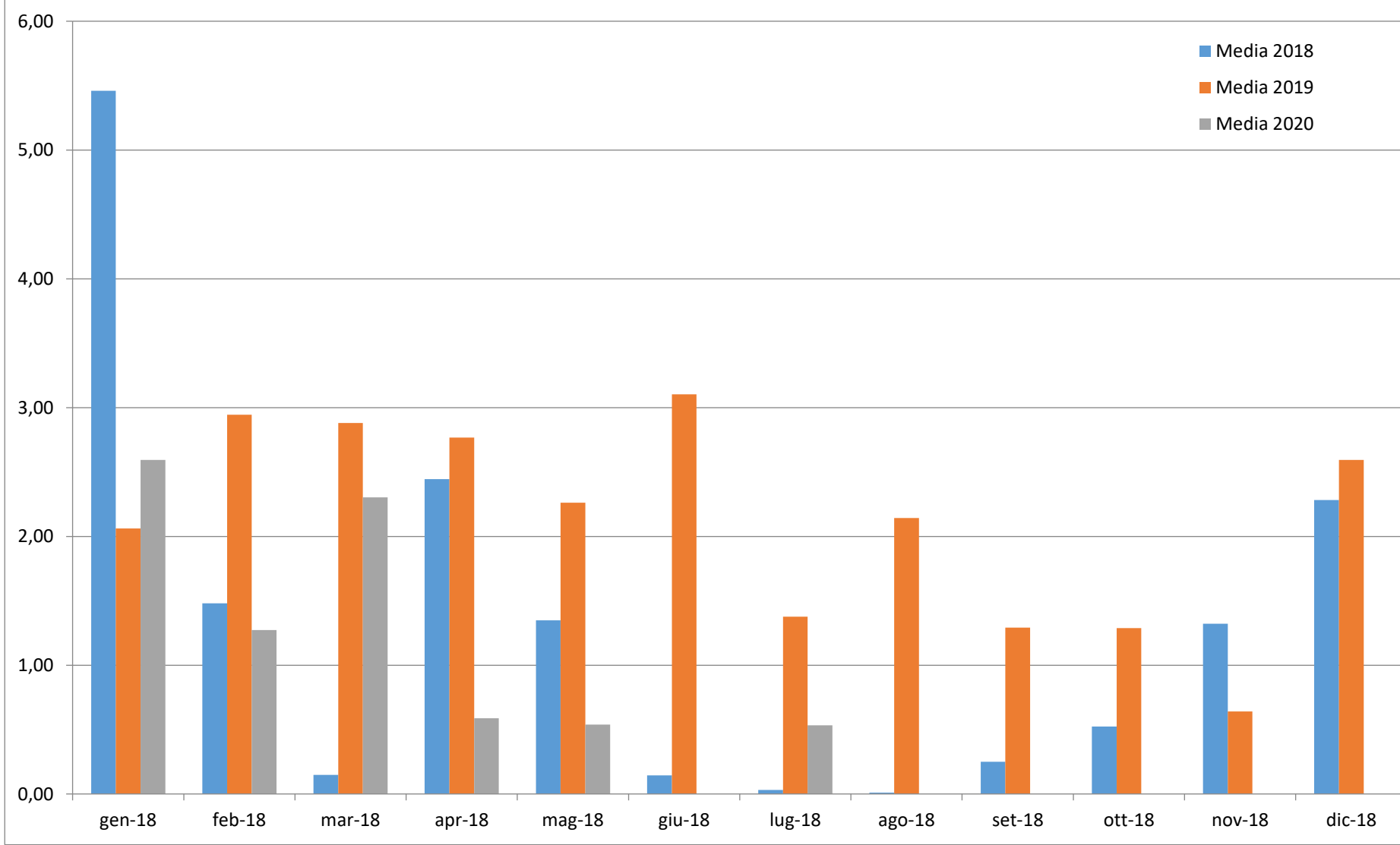


### Concentrazione NOx mg/Nm3 camino E314b - Anno 2020

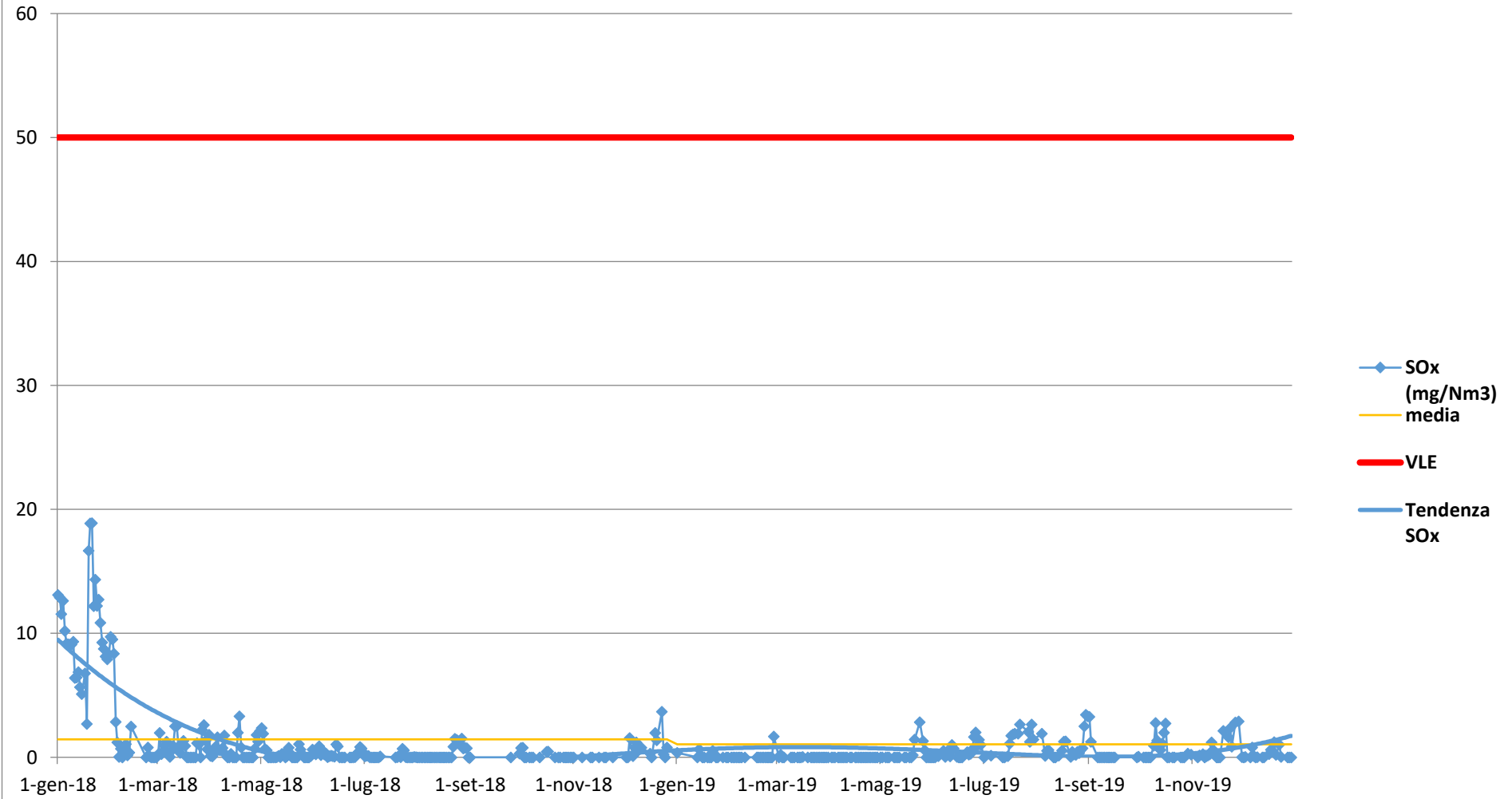




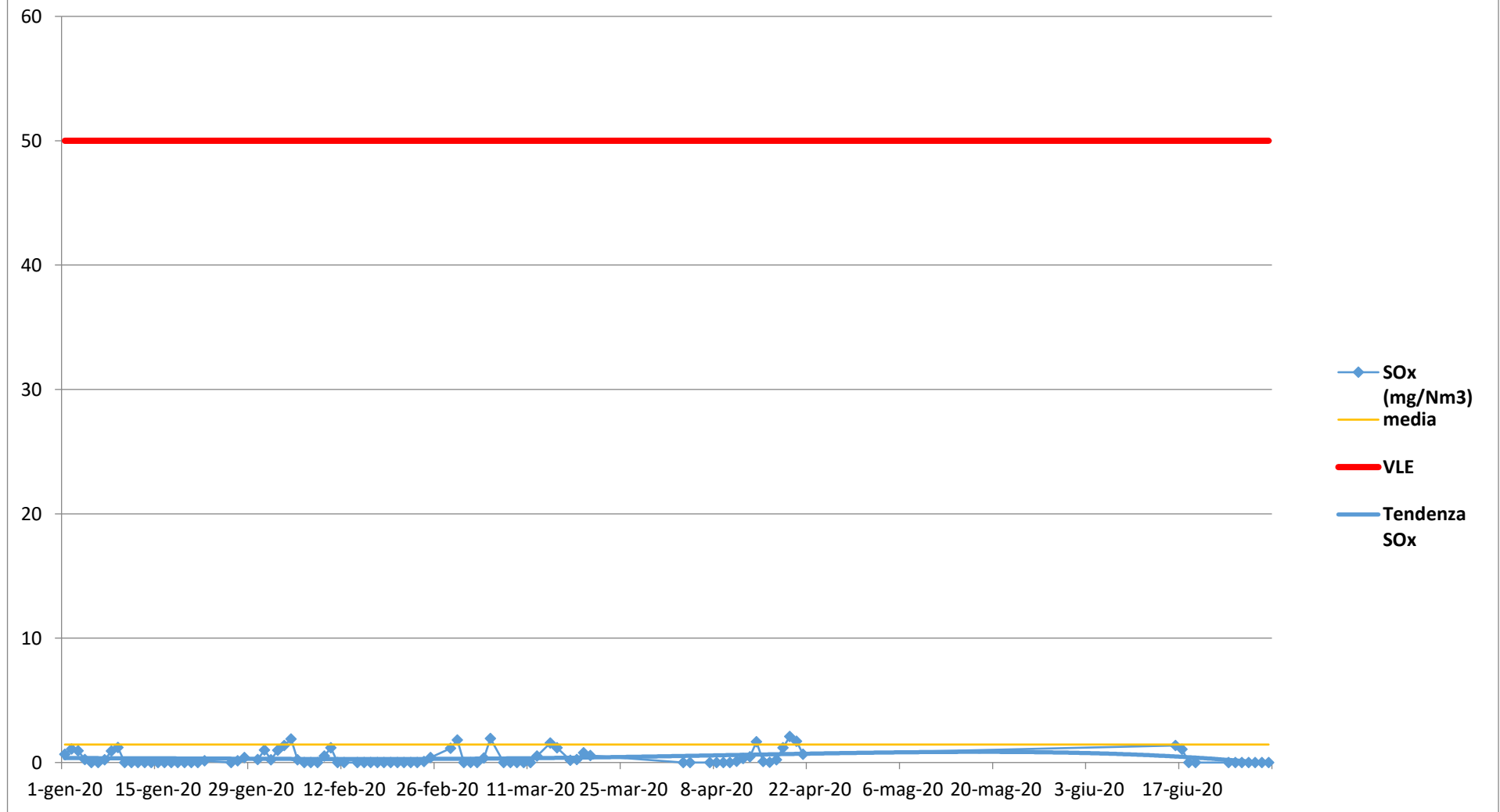
### Concentrazione NOx mg/Nm3 camino E314b



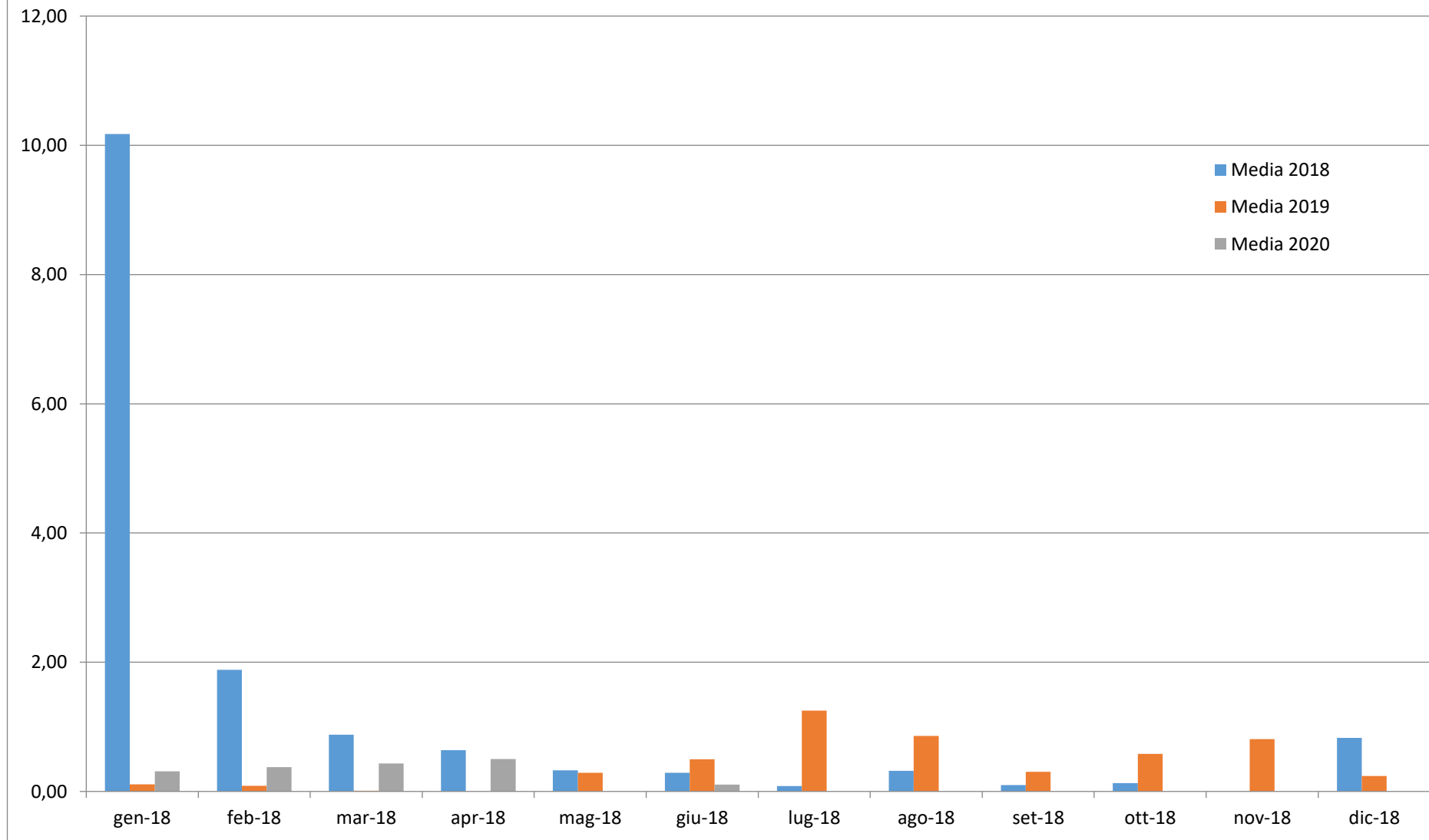
### Concentrazione SOx mg/Nm3 cammino E314b - Anni 2018-2019



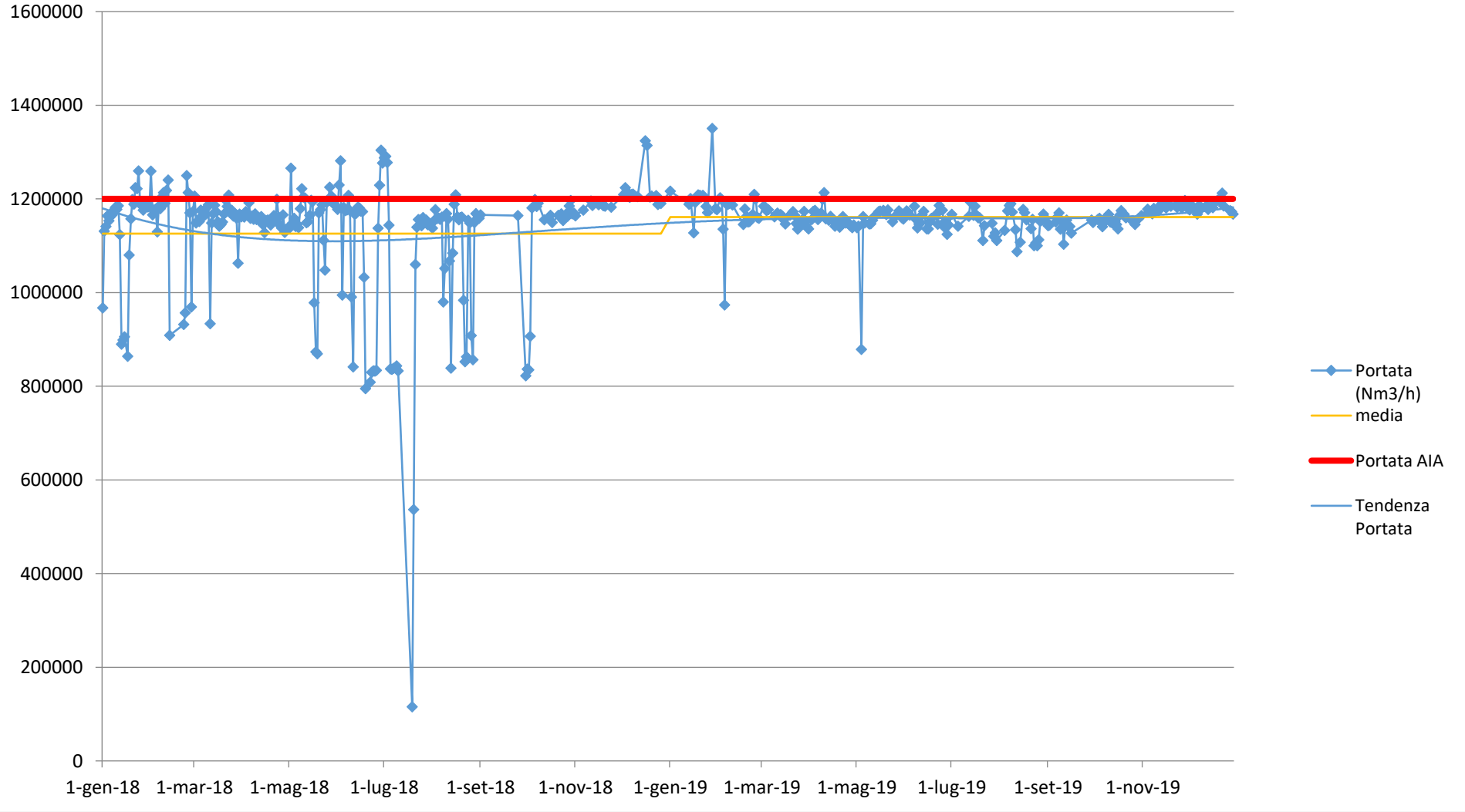
### Concentrazione SOx mg/Nm3 camino E314b - Anno 2020



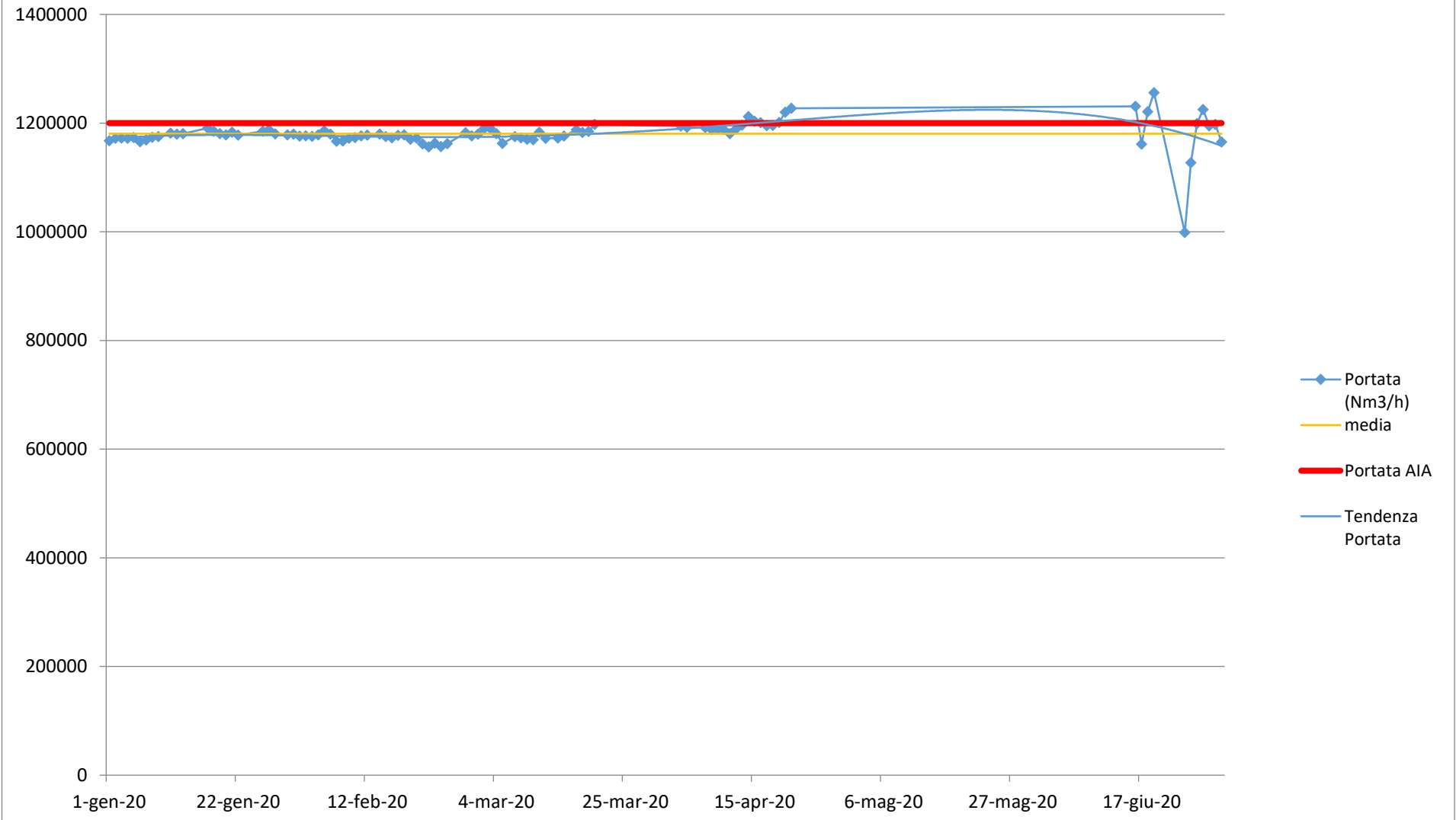
### Concentrazione SOx mg/Nm3 camino E314b

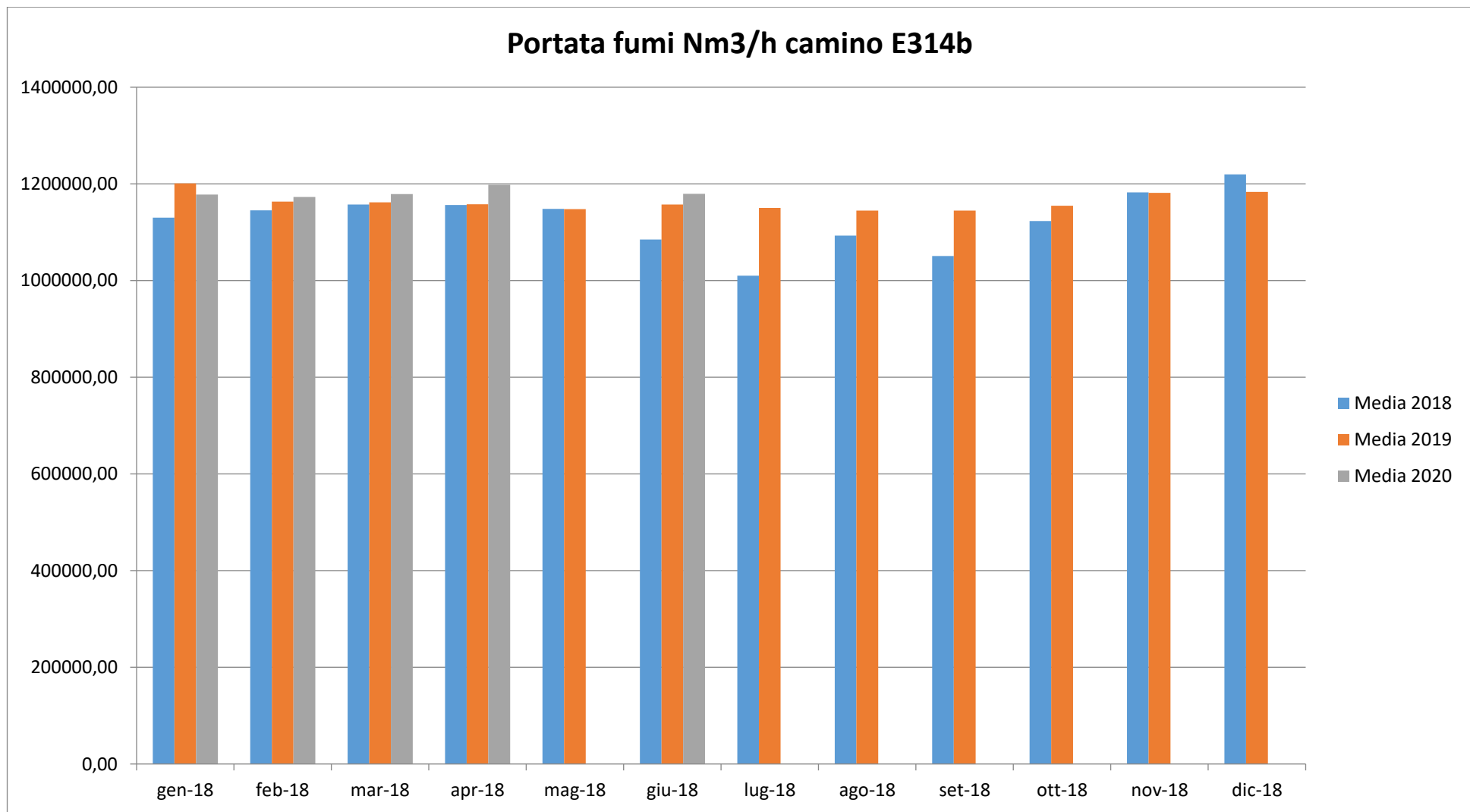


### Portata fumi Nm3/h camino E314b - Anni 2018-2019



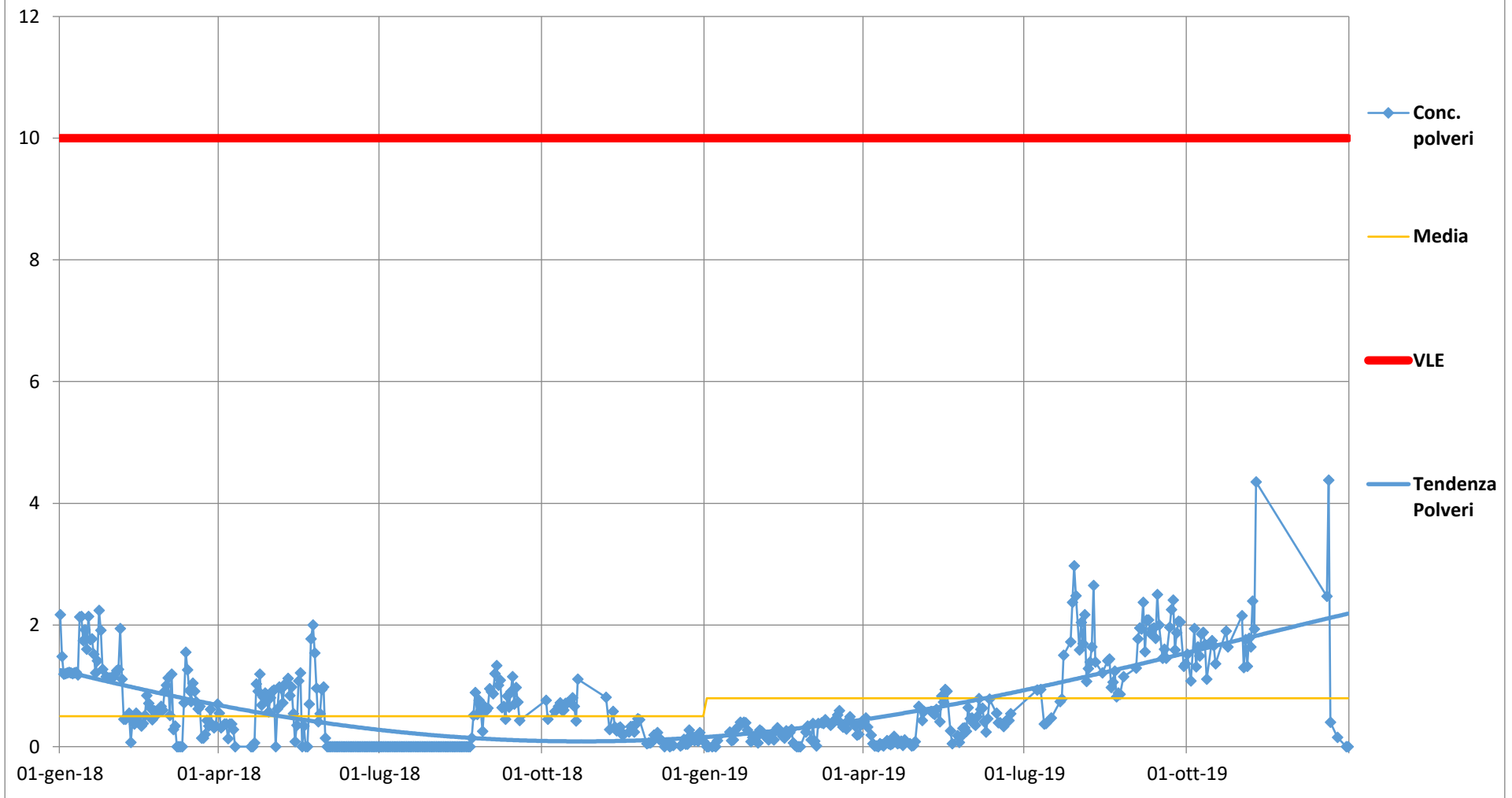
### Portata fumi Nm3/h camino E314b - Anno 2020





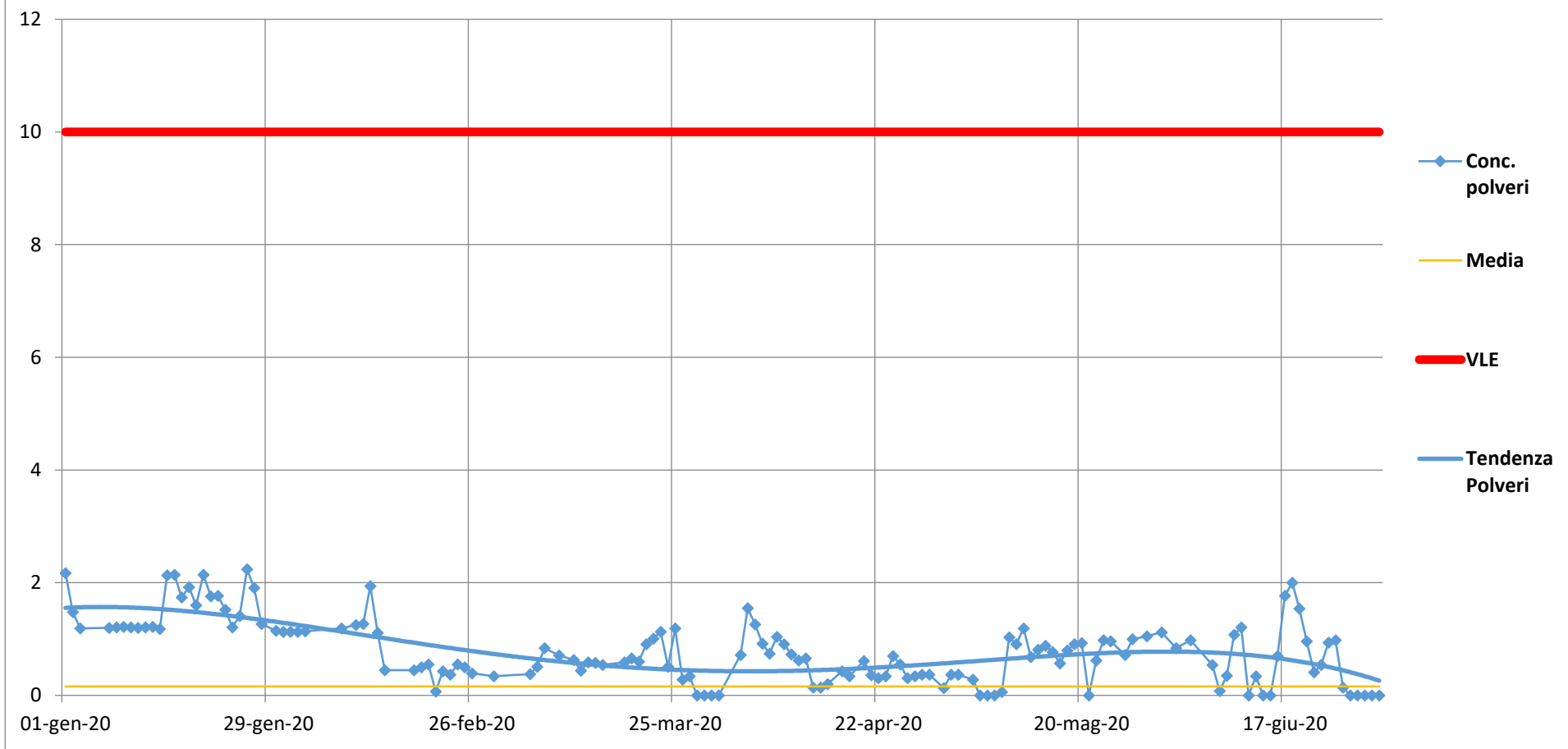
**Figura 9. Esercizio Camino E314b Area Agglomerato, periodo gennaio 2018 – giugno 2020**

### Concentrazione polveri (mg/Nm3) camino E315b - Anni 2018-2019

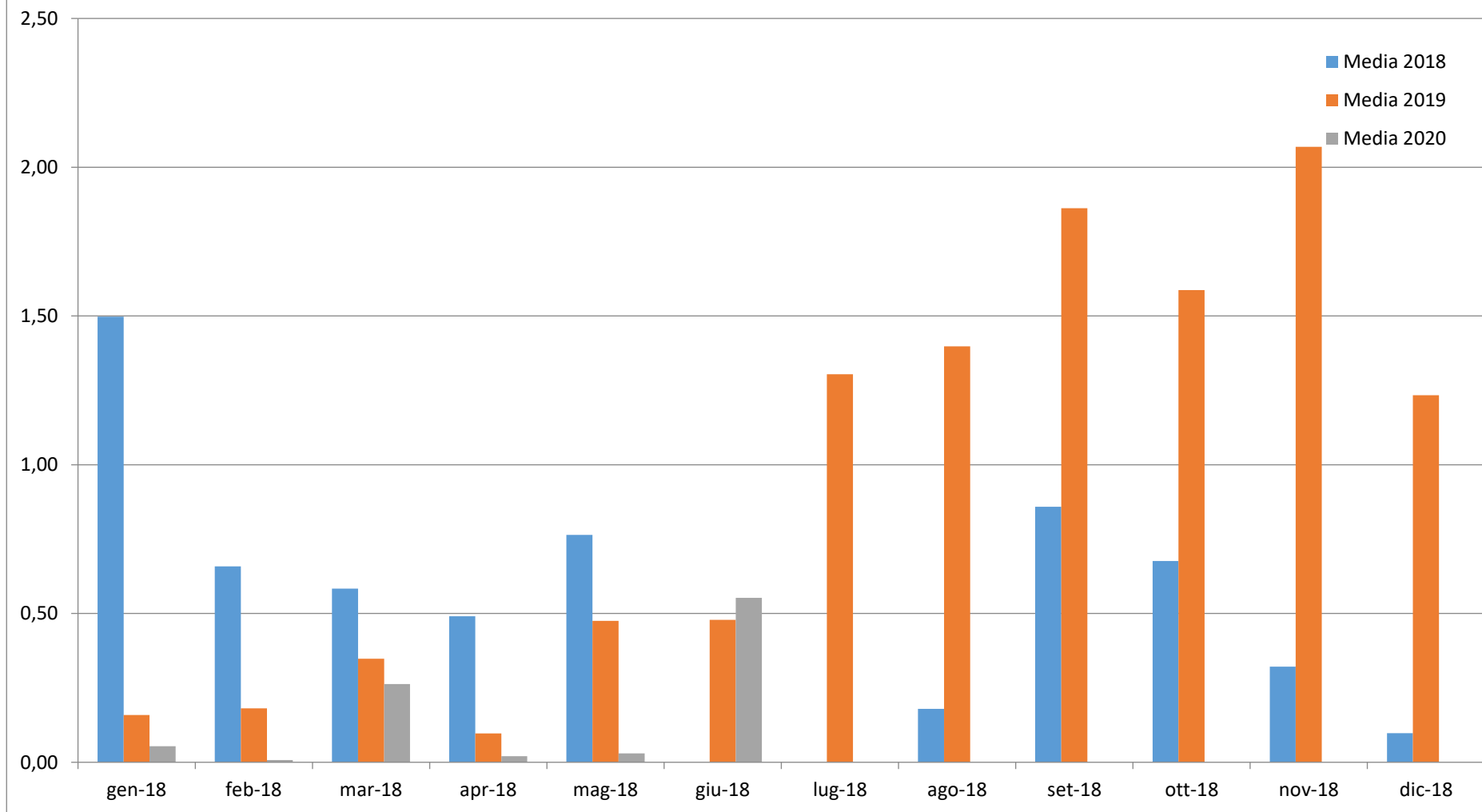




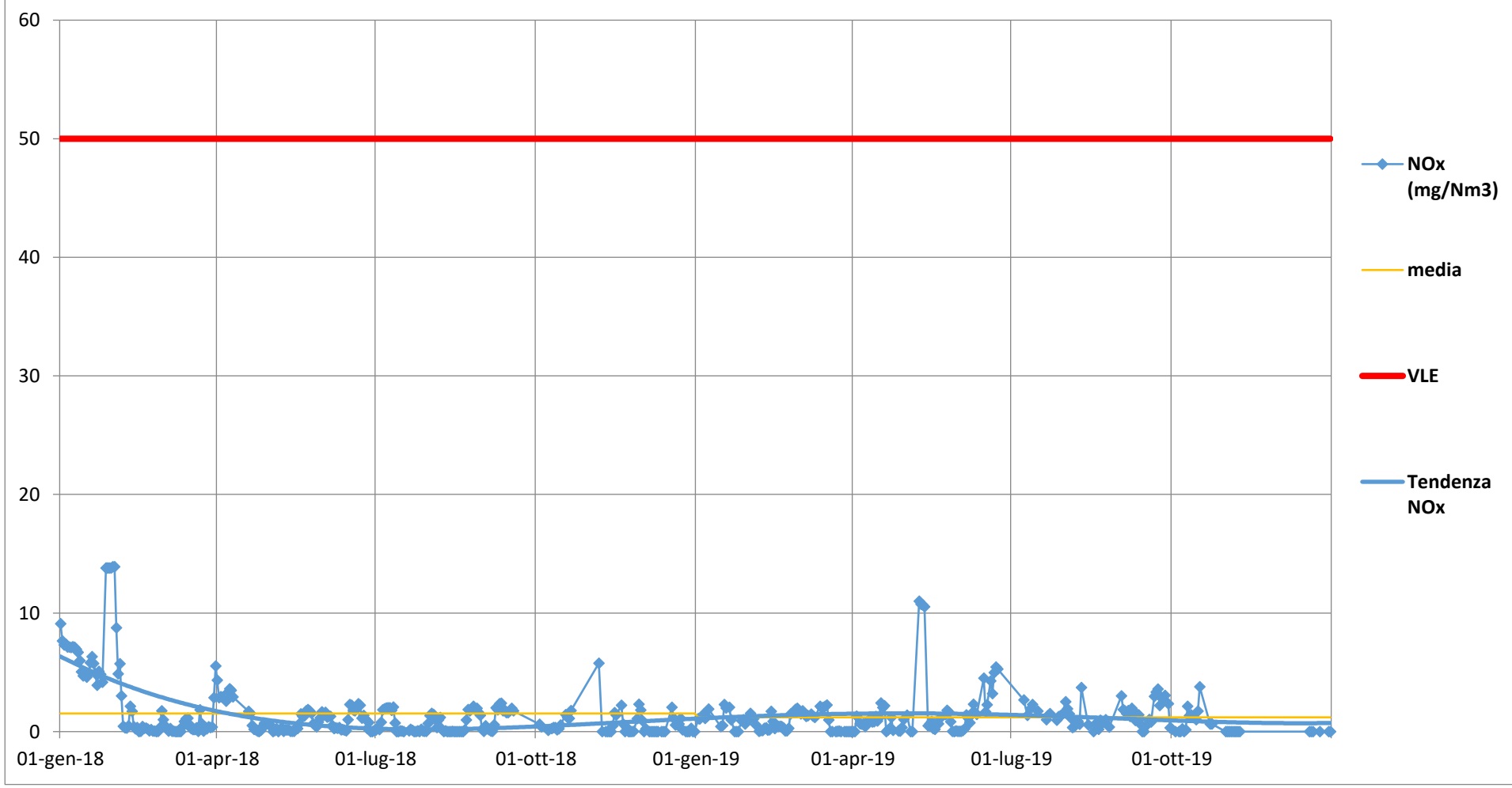
### Concentrazione polveri (mg/Nm3) camino E315b - Anno 2020



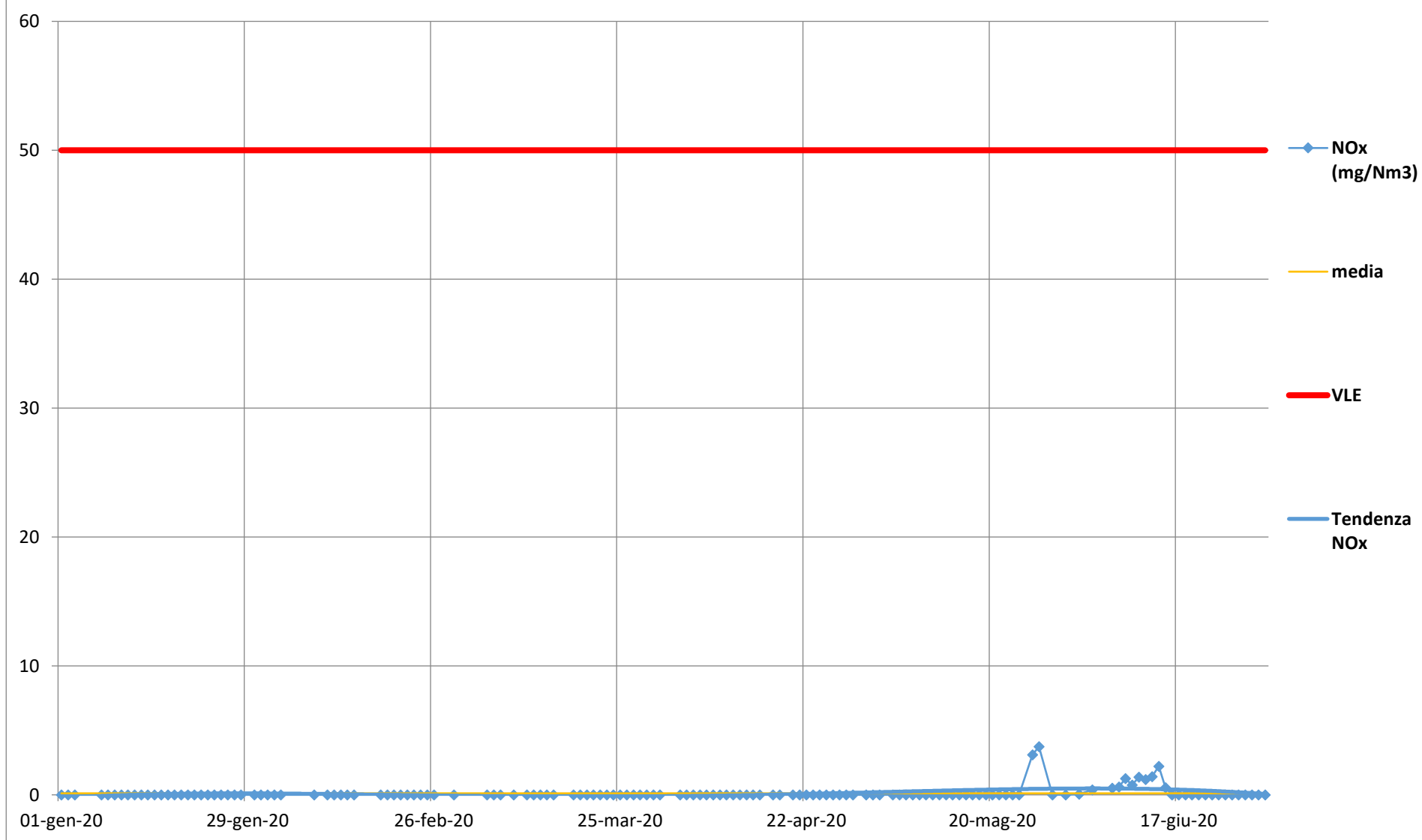
### Concentrazione polveri (mg/Nm<sup>3</sup>) camino E315b medie mensili



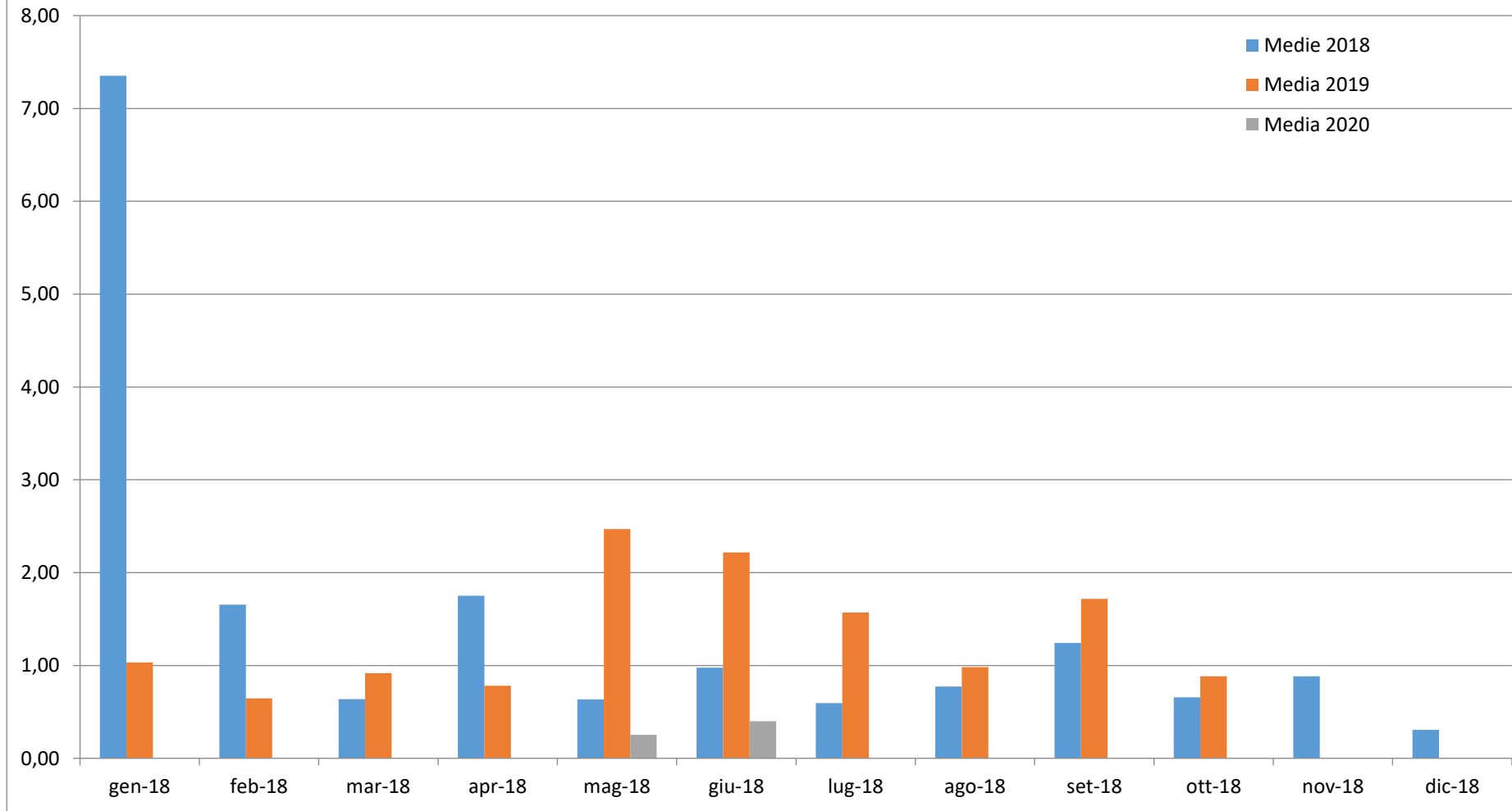
### Concentrazione NOx (mg/Nm3) camino E315b - Anni 2018-2019



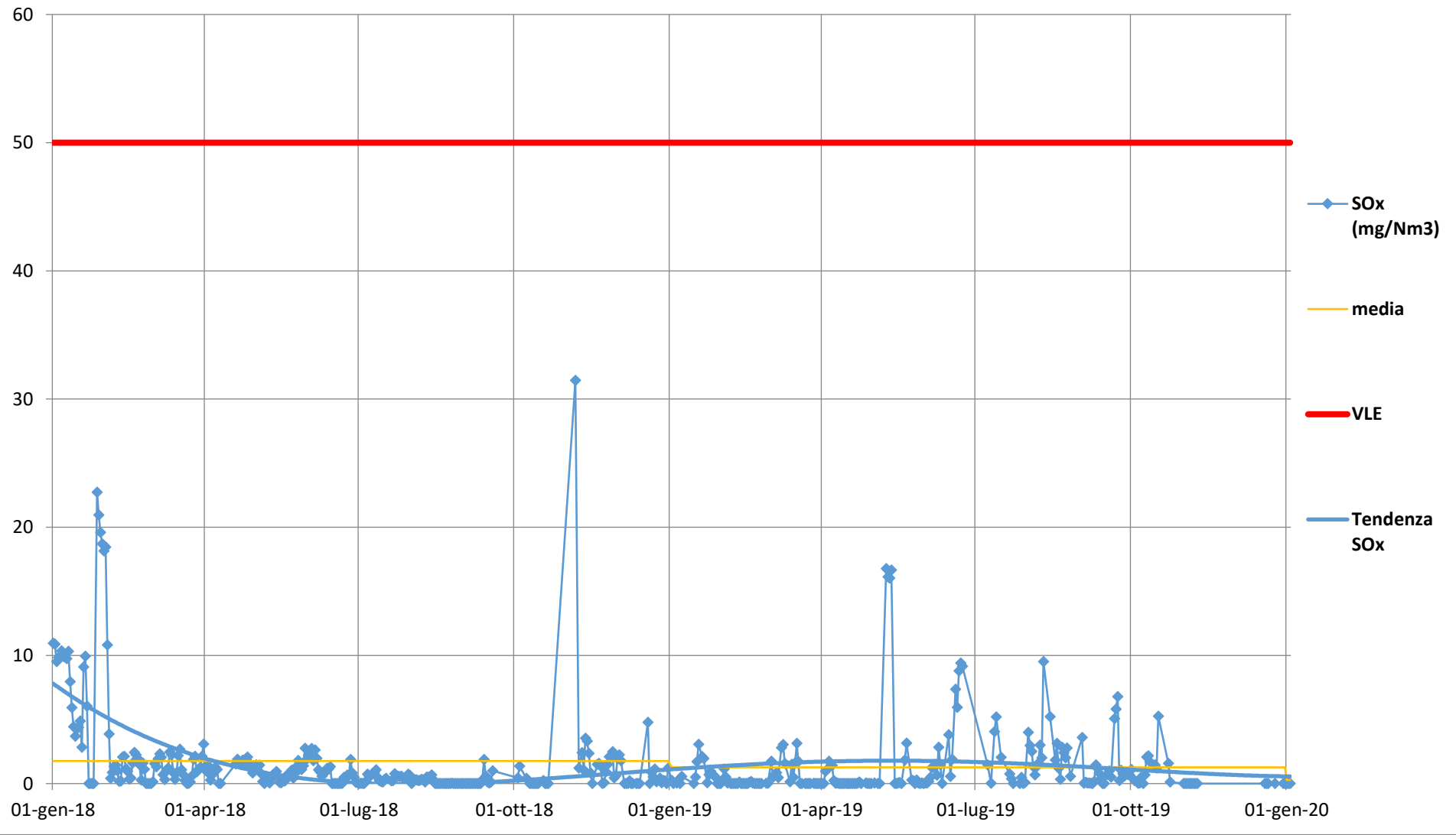
## Concentrazione NOx (mg/Nm3) camino E315b - Anno 2020



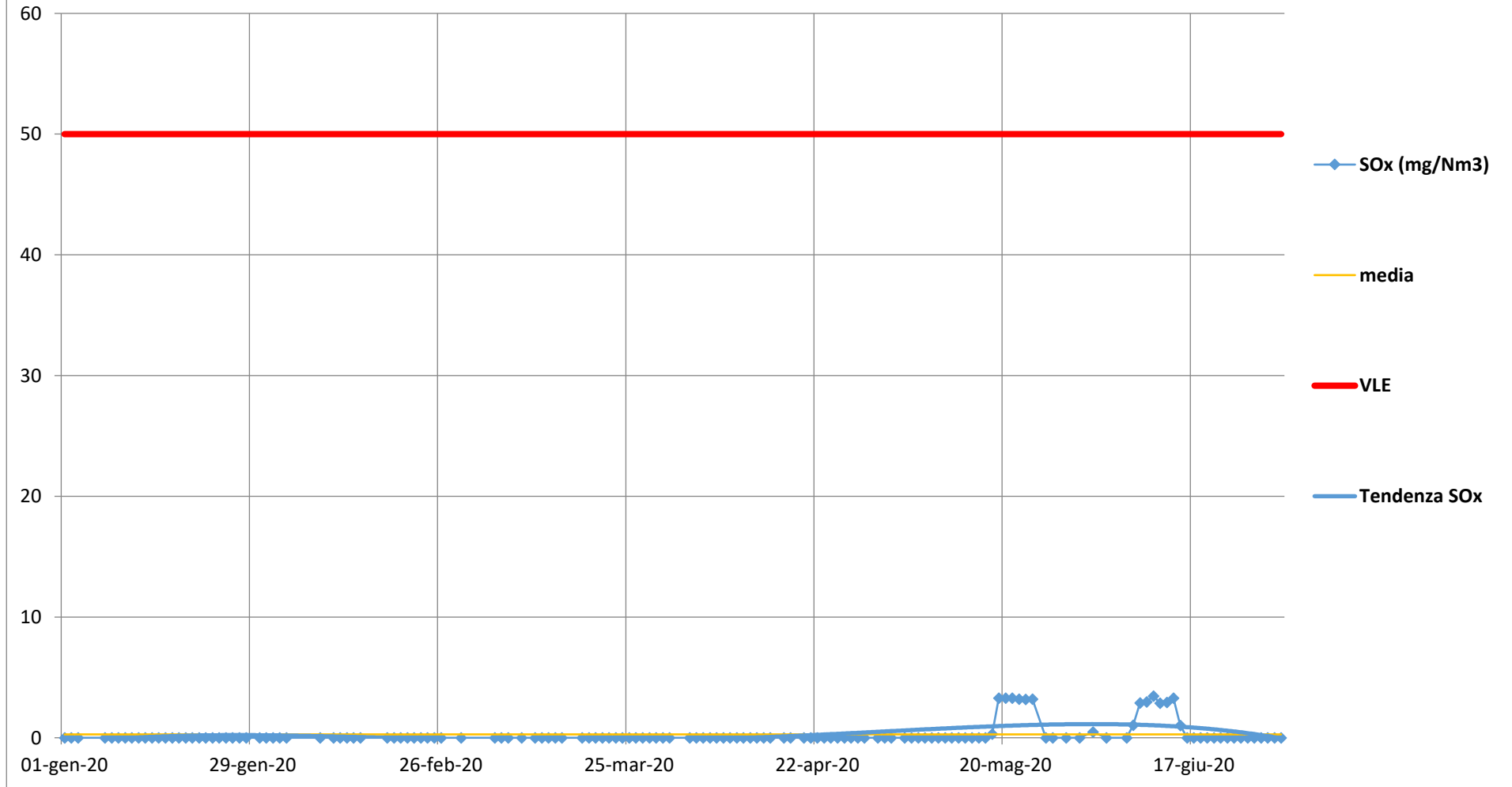
### Concentrazione NOx (mg/Nm3) camino E315b medie mensili



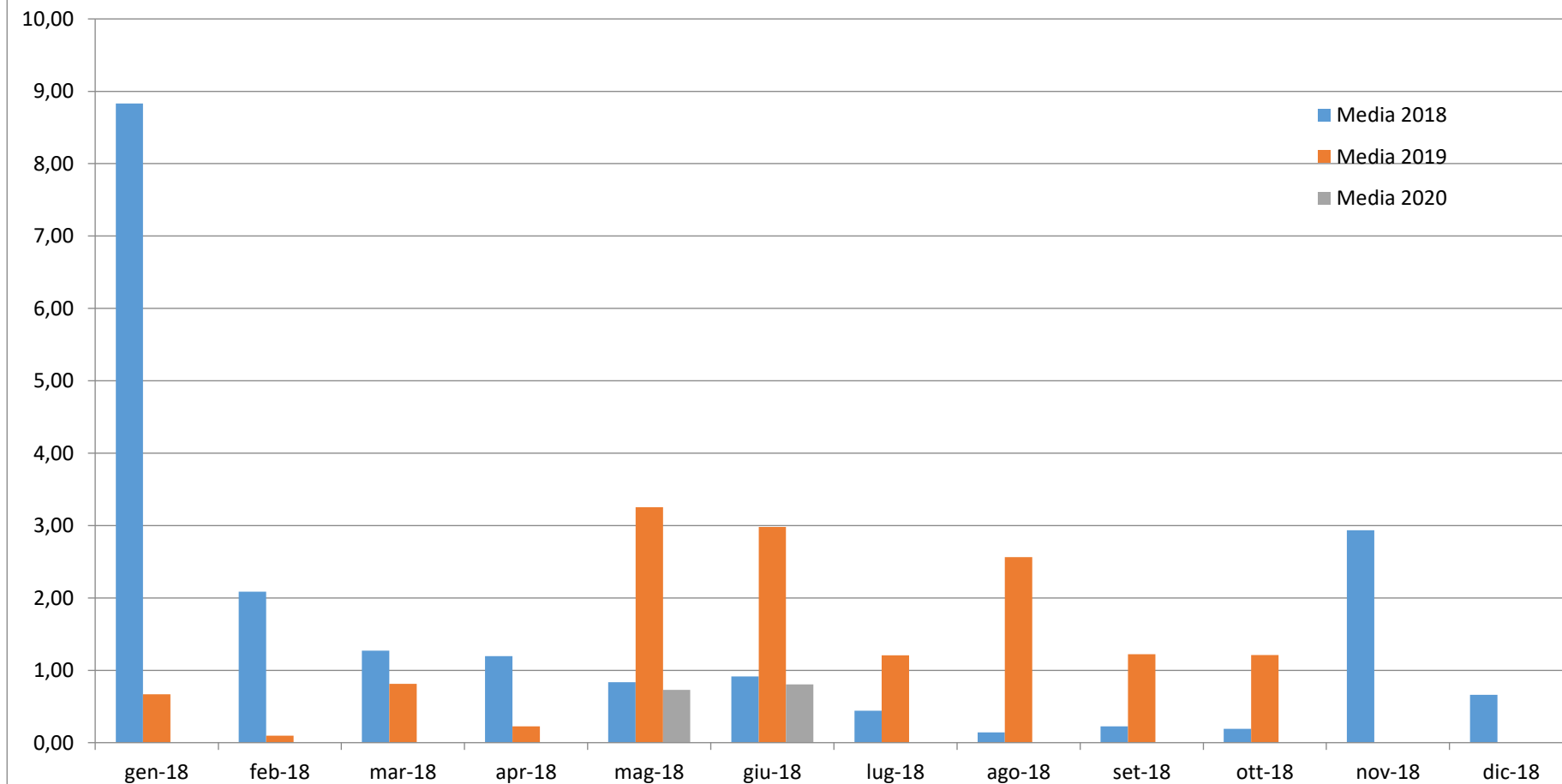
### Concentrazione SOx (mg/Nm3) camino E315b - Anni 2018-2019



### Concentrazione SOx (mg/Nm3) camino E315b - Anno 2020

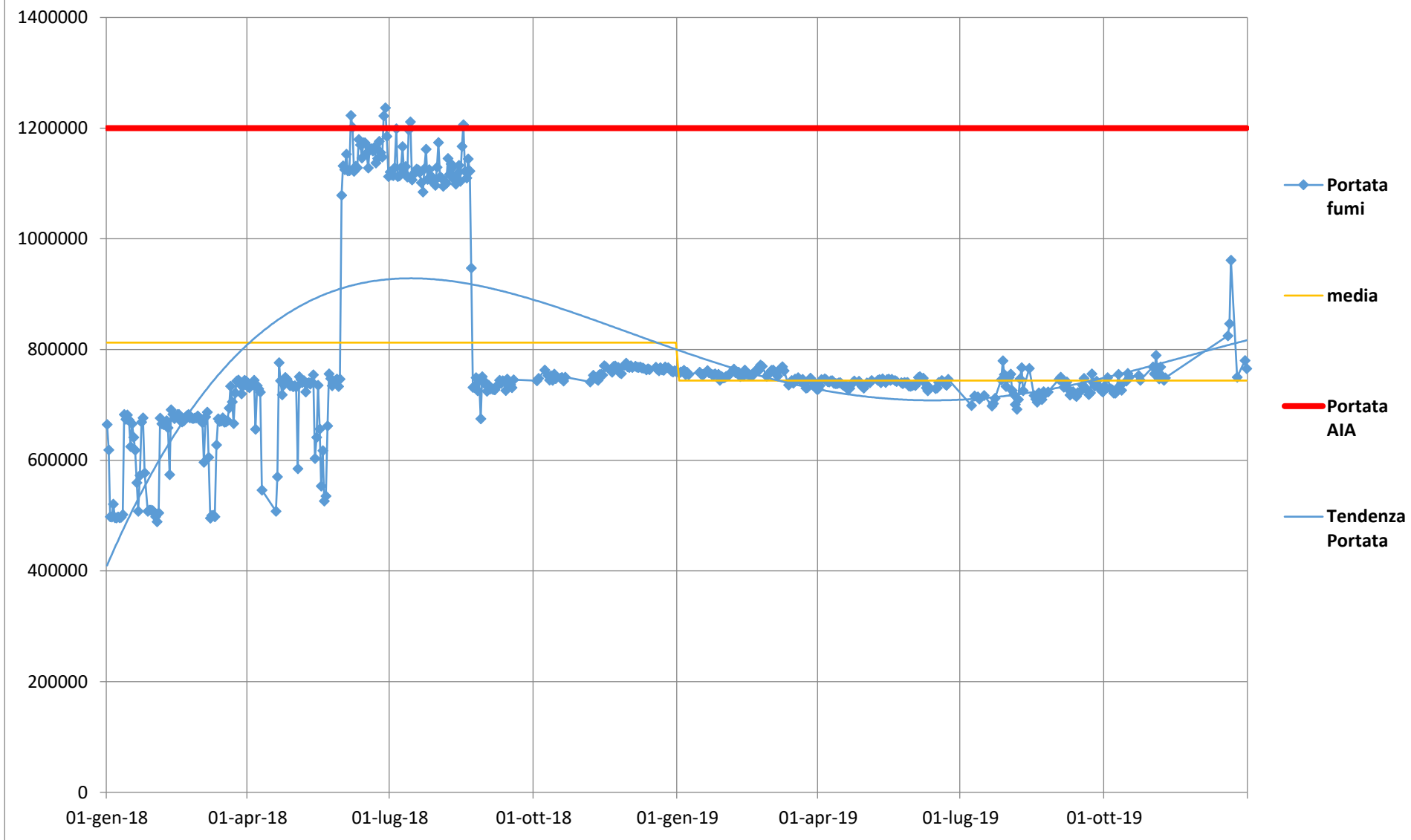


### Concentrazione SOx (mg/Nm<sup>3</sup>) camino E315b medie mensili

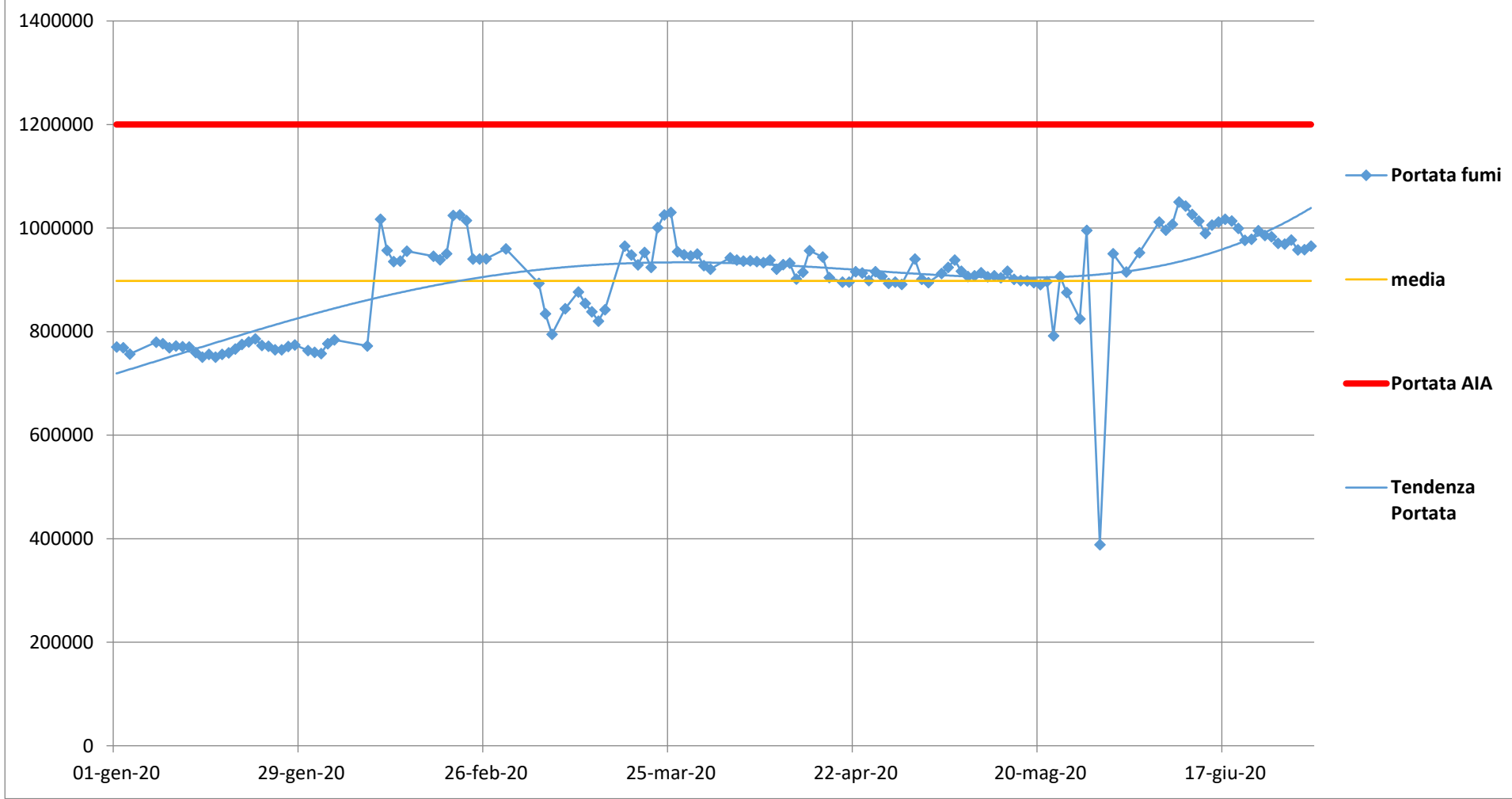


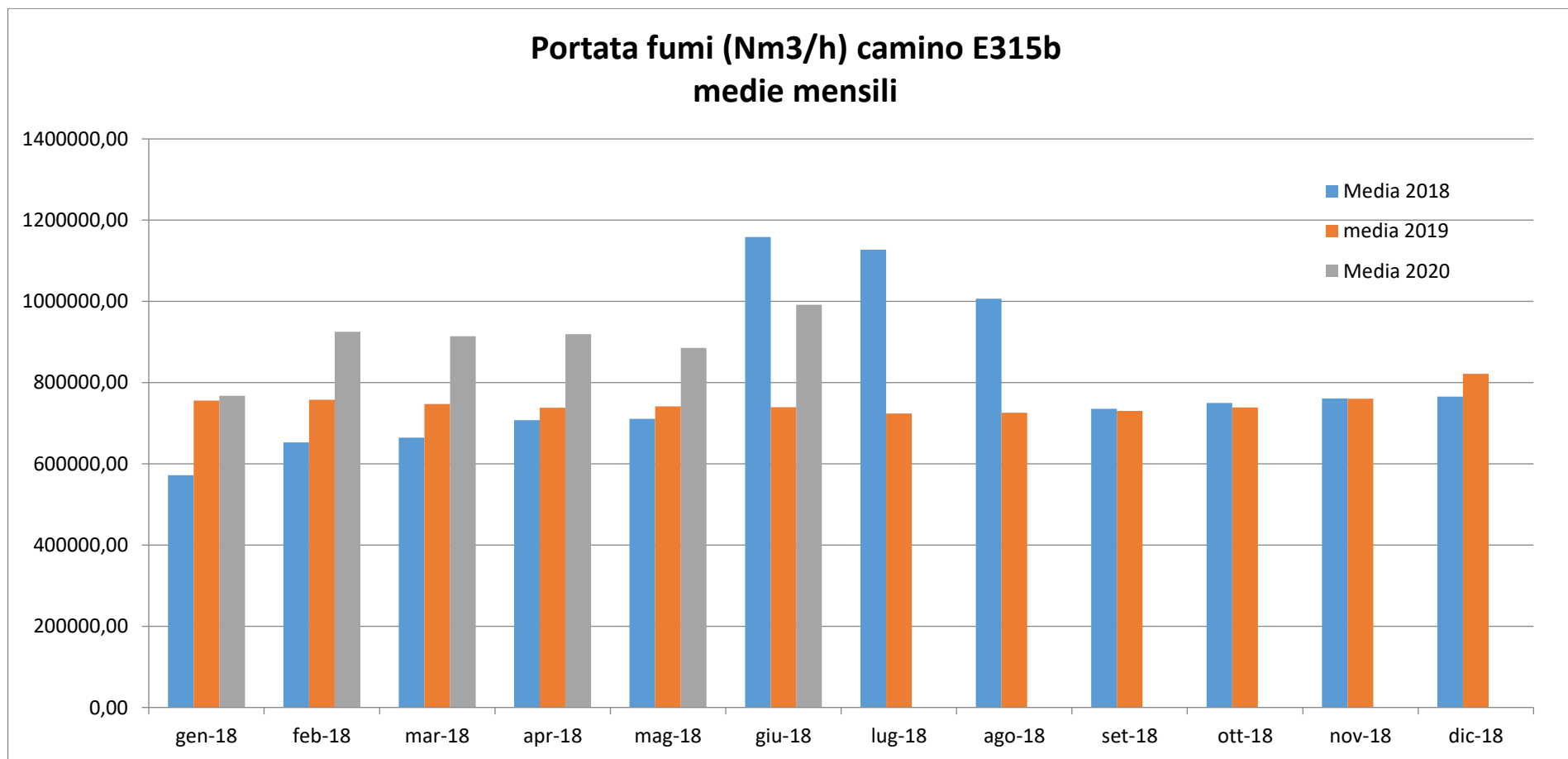


### Portata fumi (Nm3/h) camino E315b - Anni 2018-2019



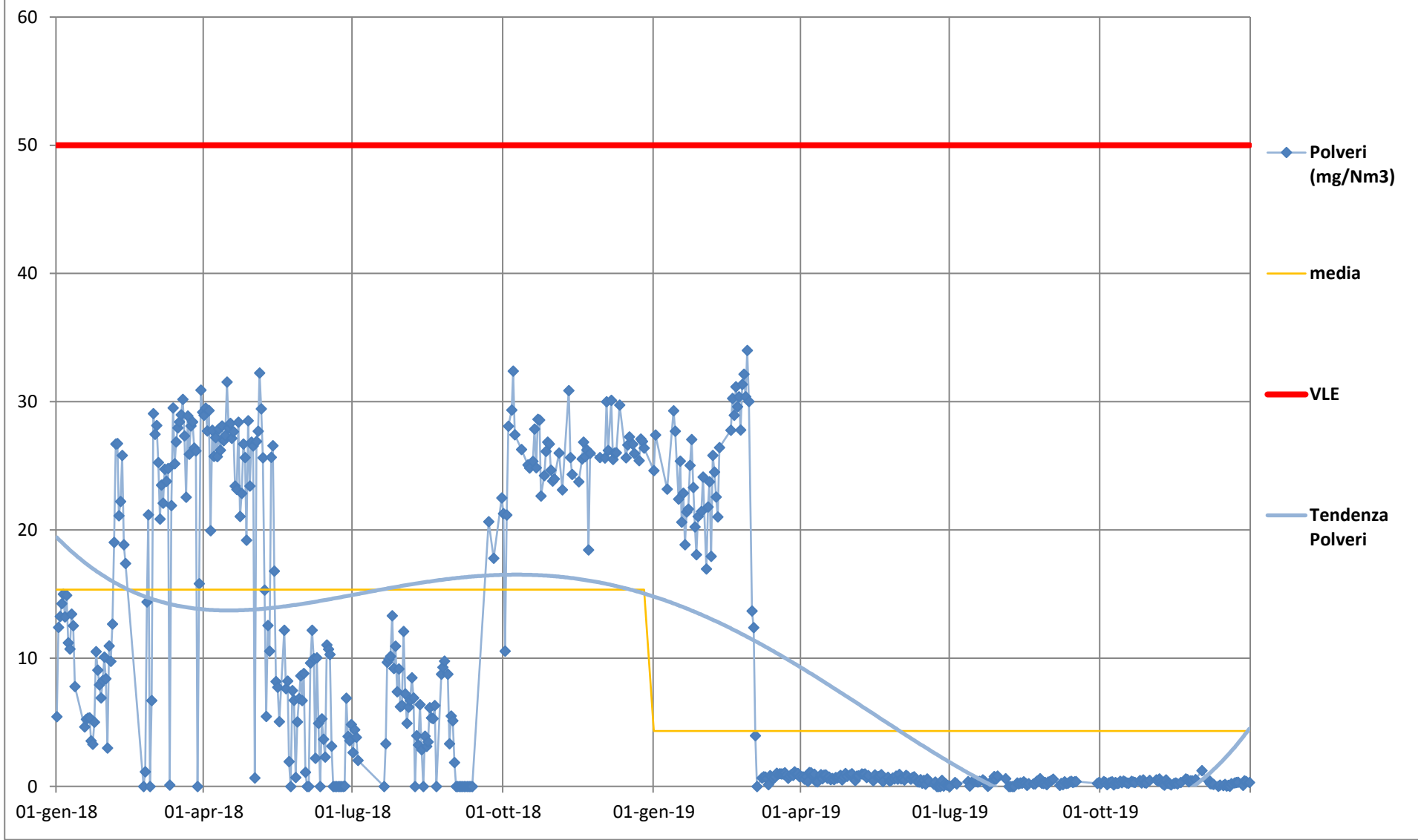
### Portata fumi (Nm<sup>3</sup>/h) camino E315b - Anno 2020



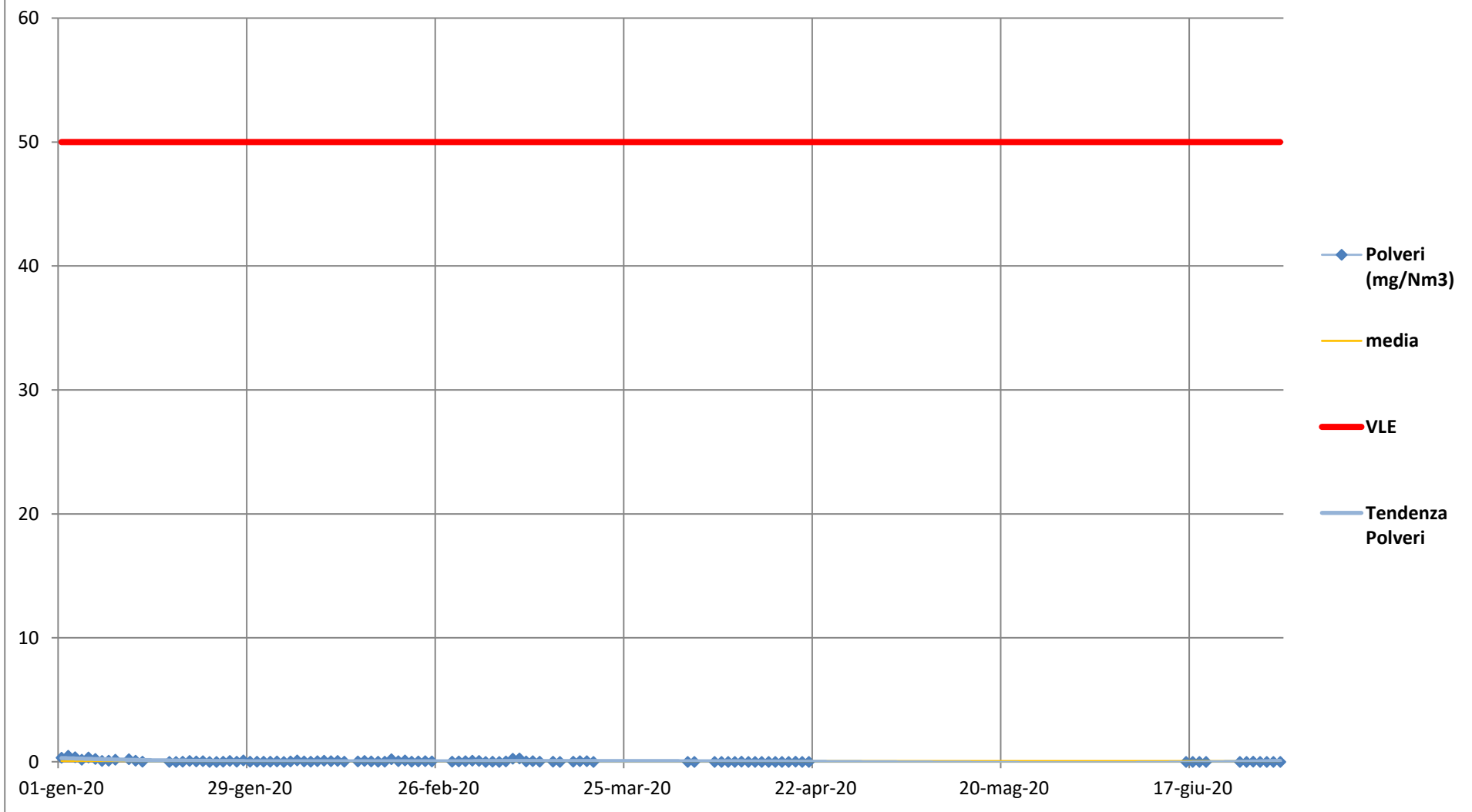


**Figura 10. Esercizio Camino E315b Area Agglomerato, periodo gennaio 2018 – giugno 2020**

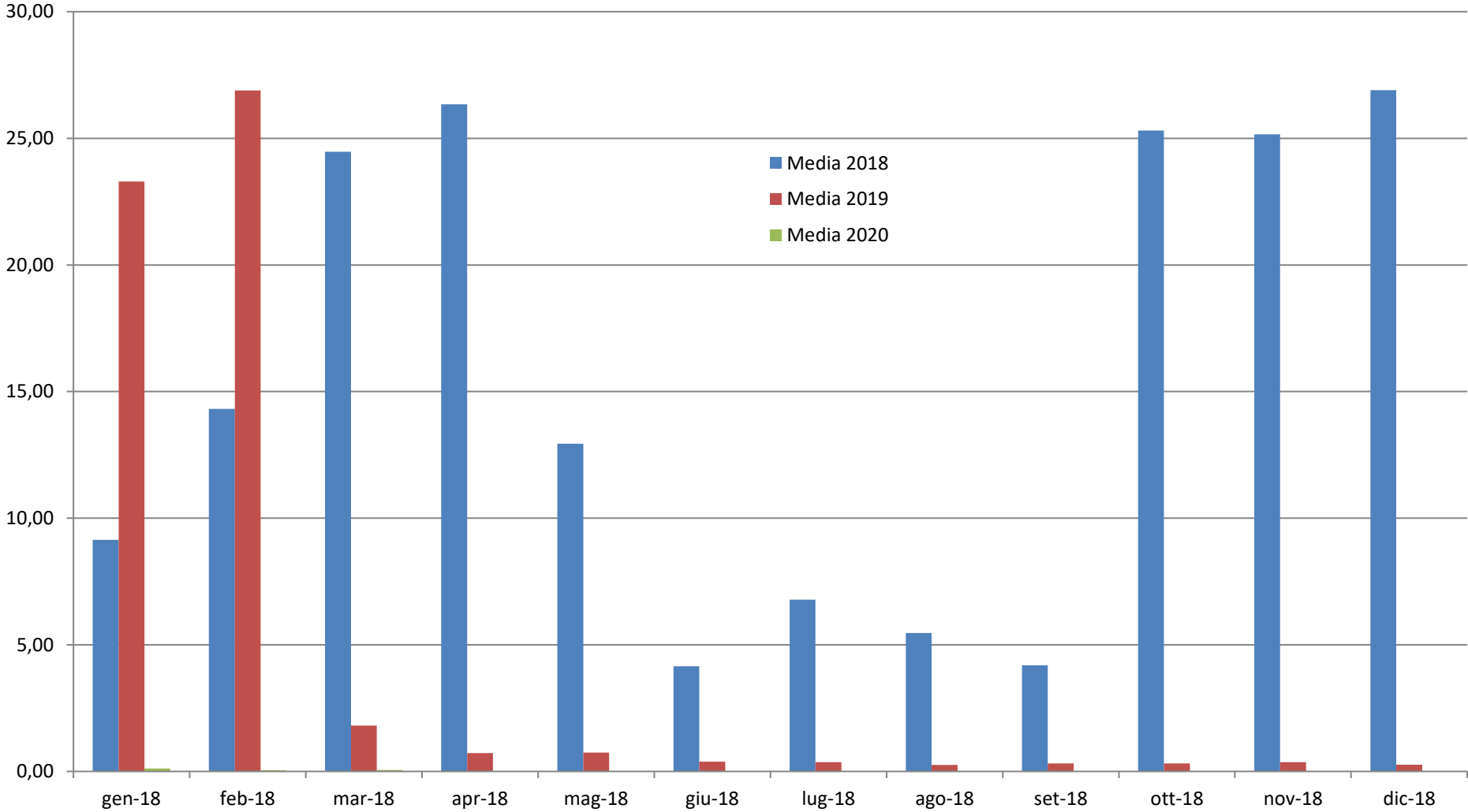
### Concentrazione polveri (mg/Nm3) camino E324 - Anni 2018-2019



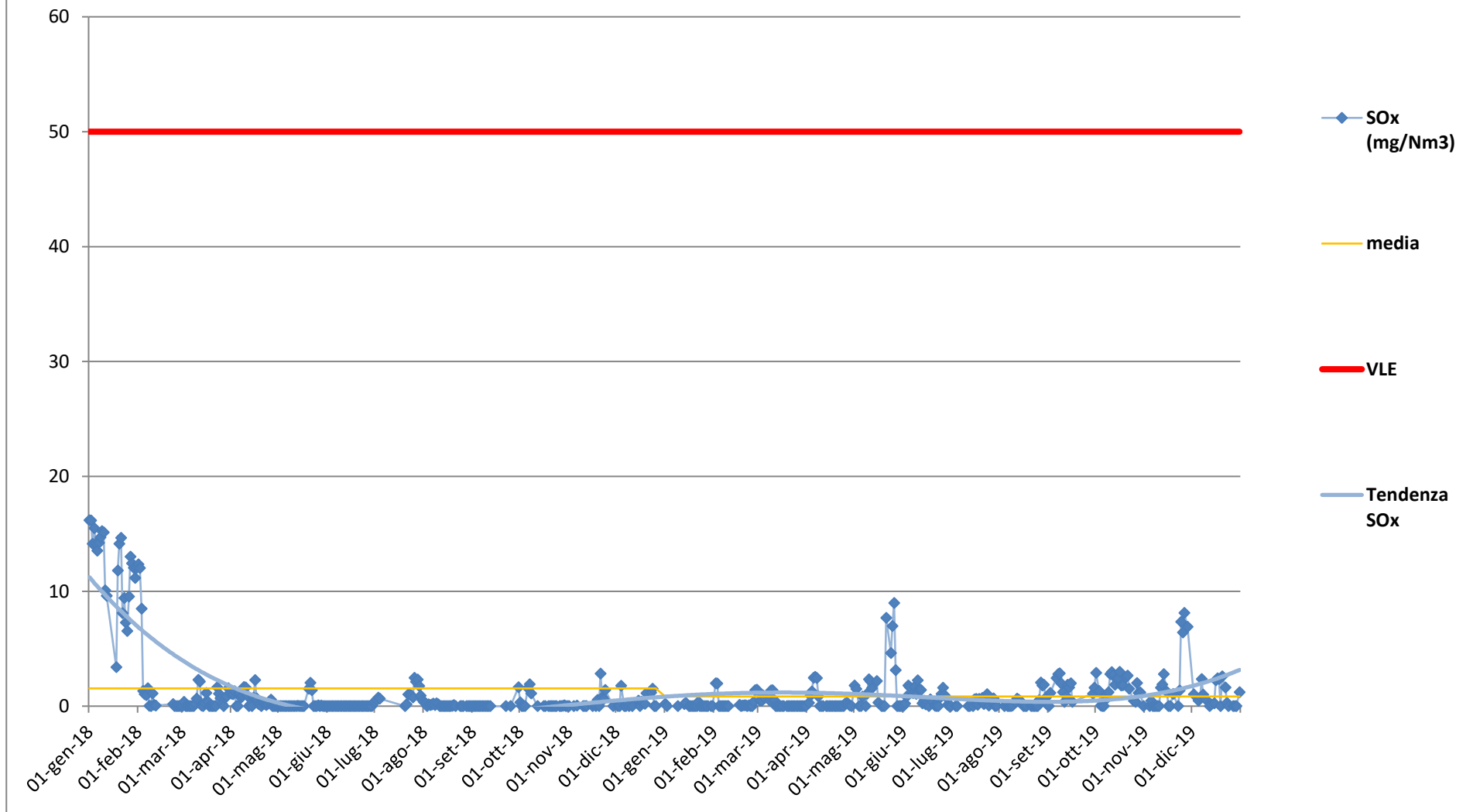
### Concentrazione polveri (mg/Nm3) camino E324 - Anno 2020



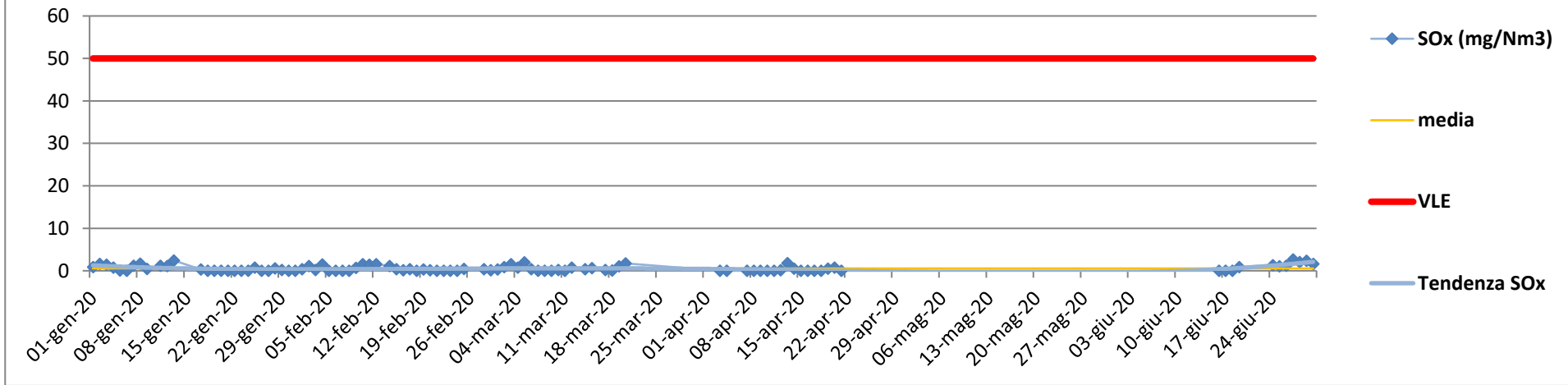
### Concentrazione polveri (mg/Nm<sup>3</sup>) camino E324 medie mensili



### Concentrazione SOx (mg/Nm3) camino E324 - Anni 2018-2019

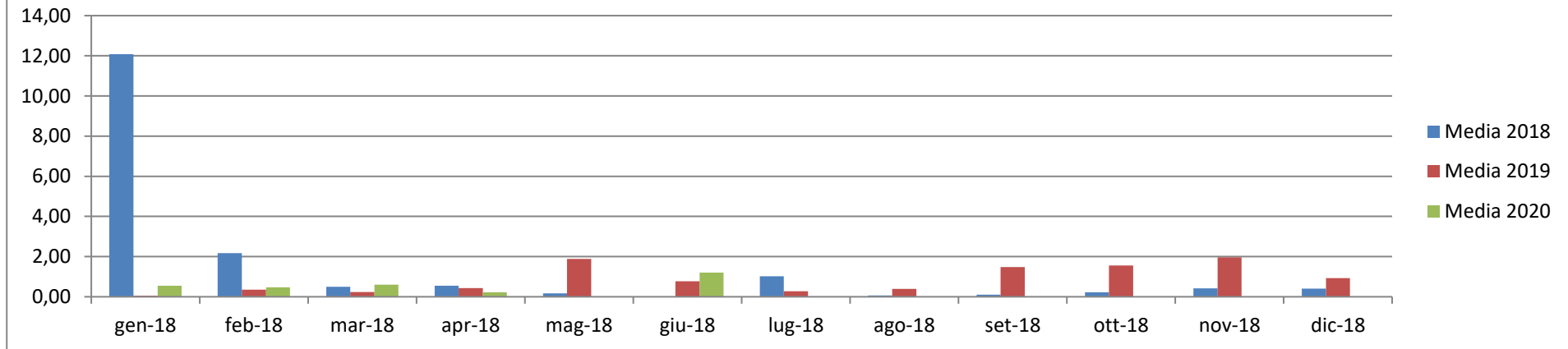


### Concentrazione SOx (mg/Nm3) camino E324 - Anno 2020

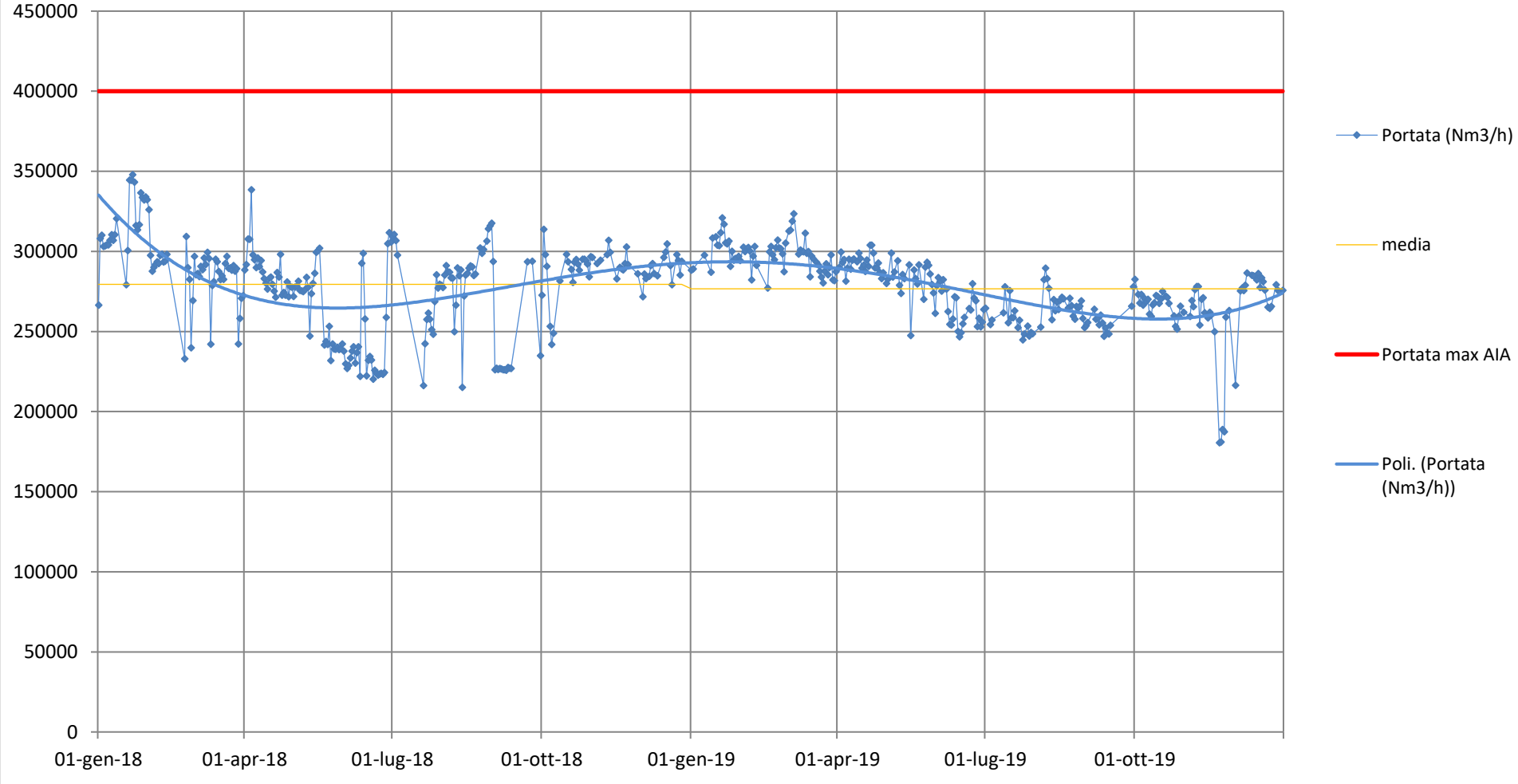




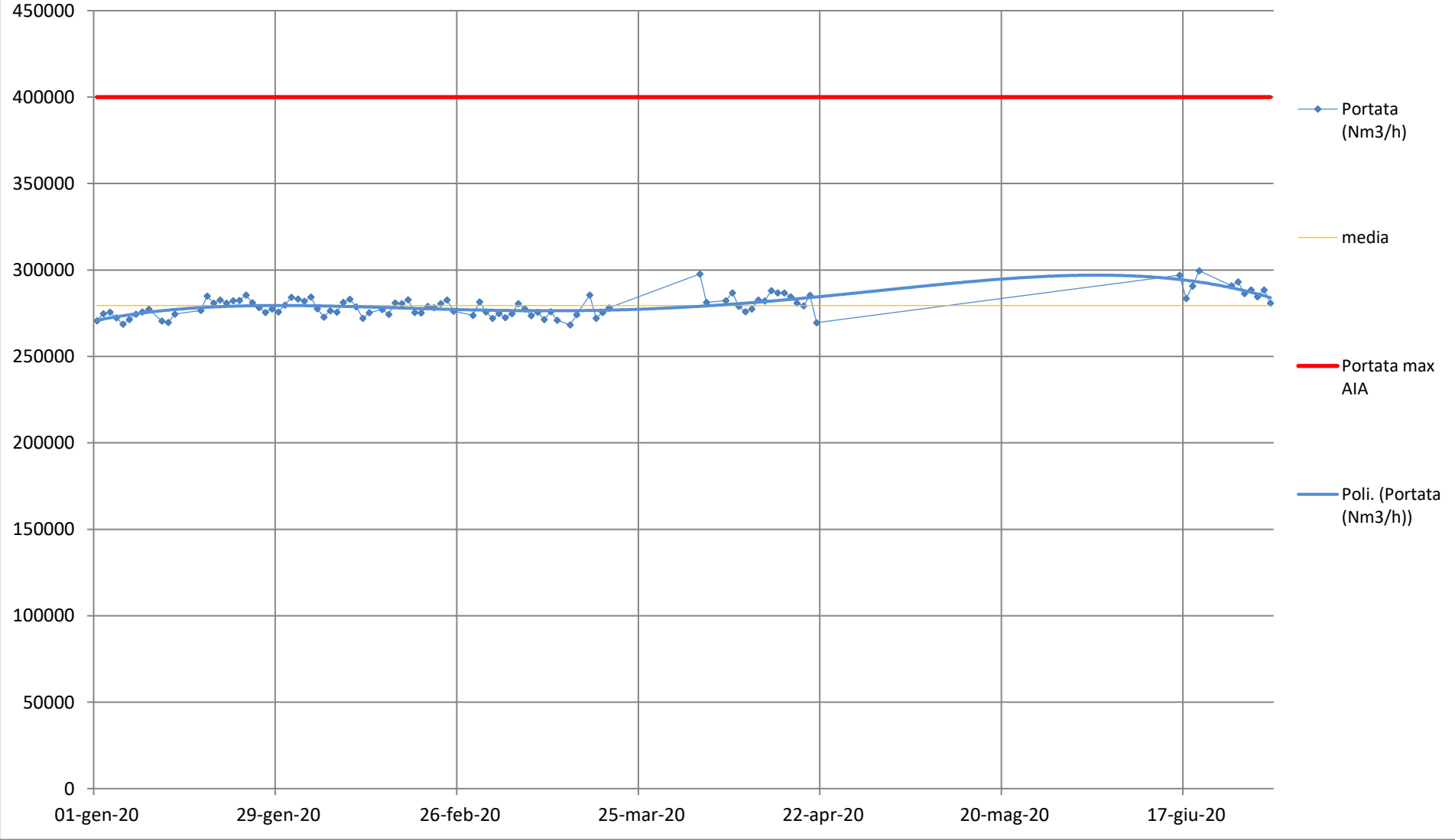
### Concentrazione SOx (mg/Nm3) camino E324 medie mensili



### Portata fumi (Nm3/h) camino E324 - Anni 2018-2019



### Portata fumi (Nm3/h) camino E324 - Anno 2020



### Portata fumi (Nm<sup>3</sup>/h)camino E324 medie mensili

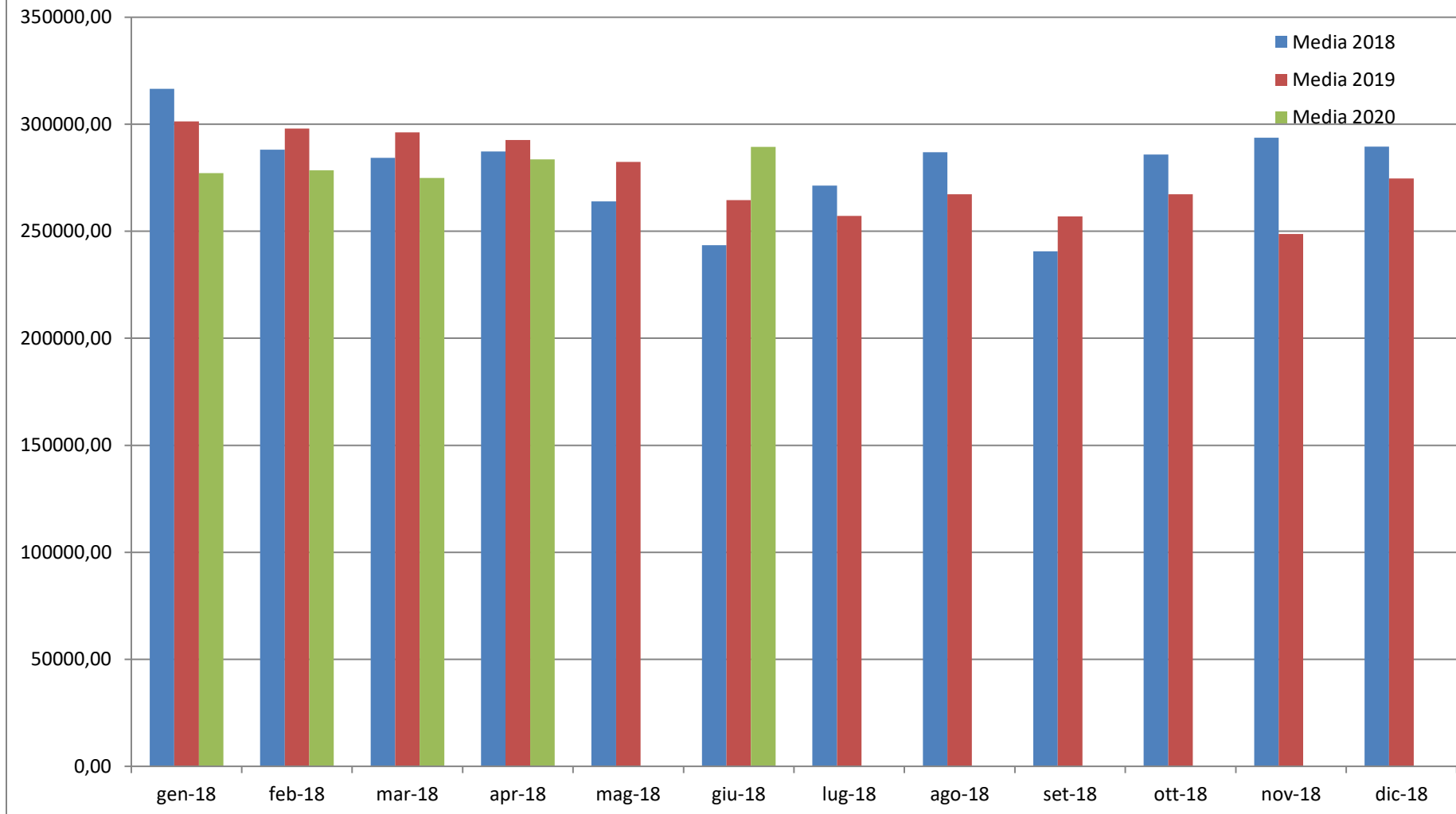
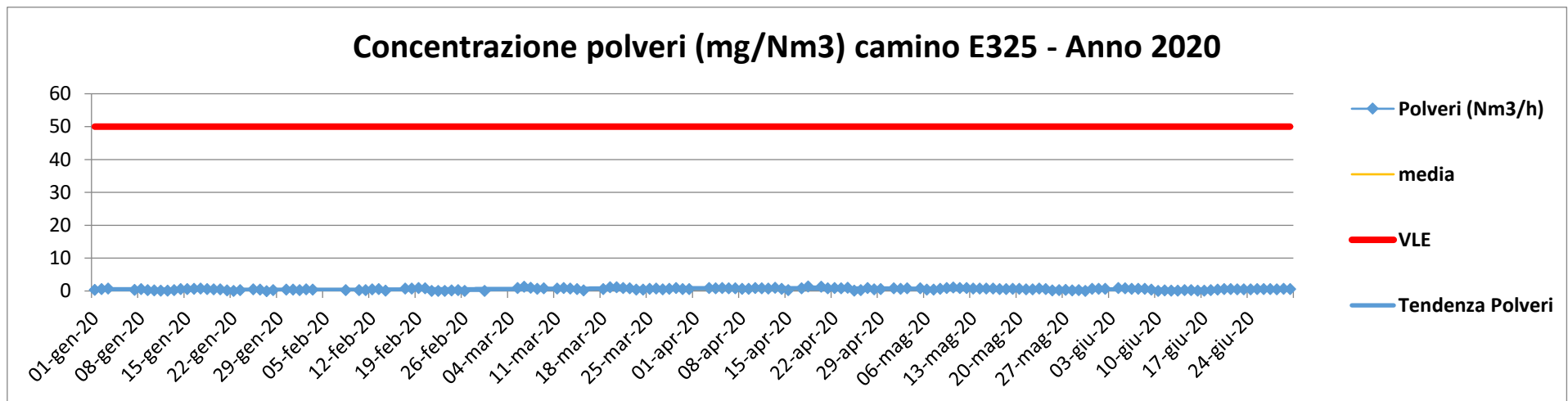
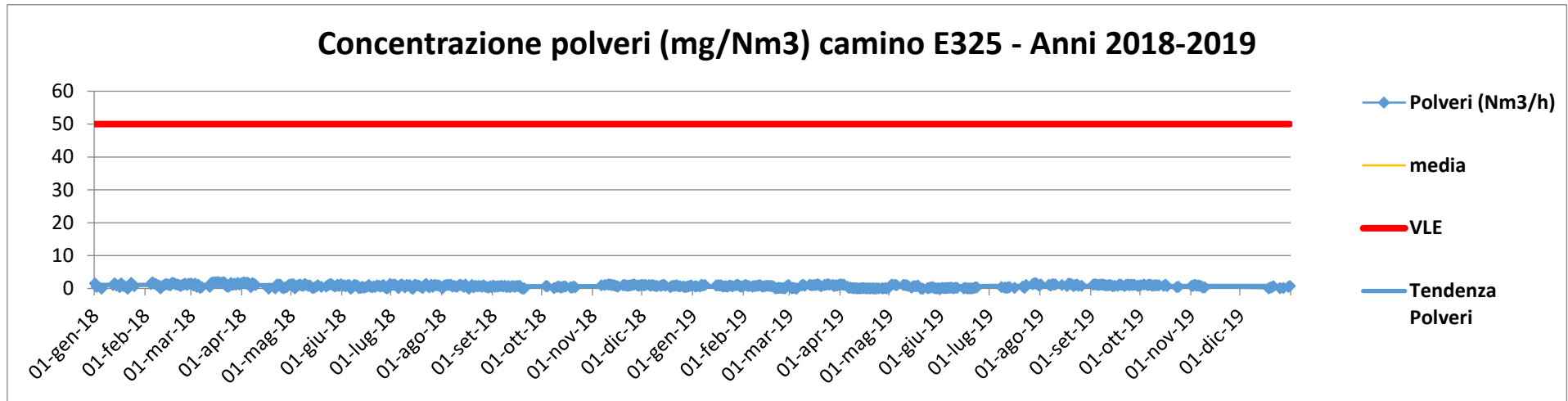
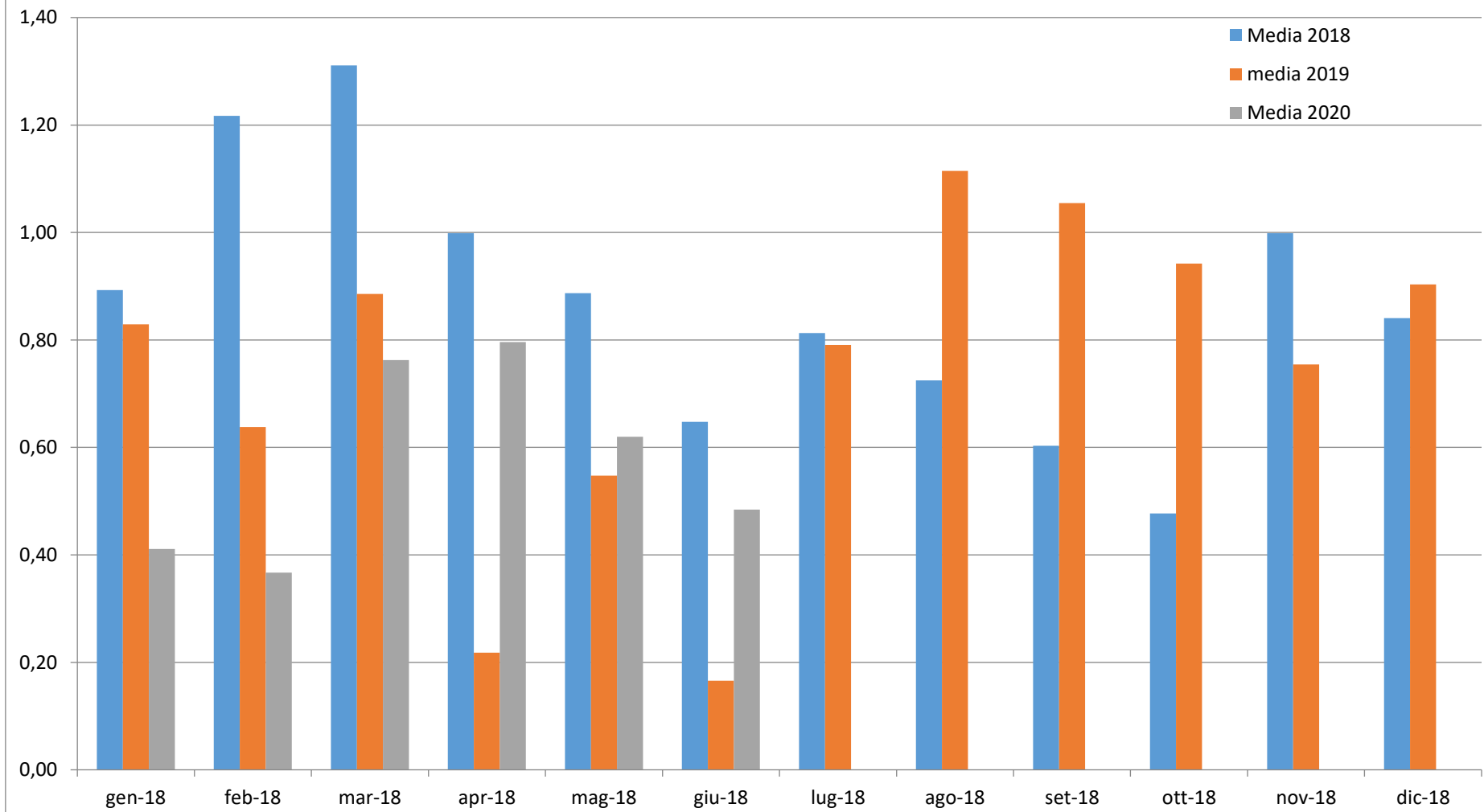


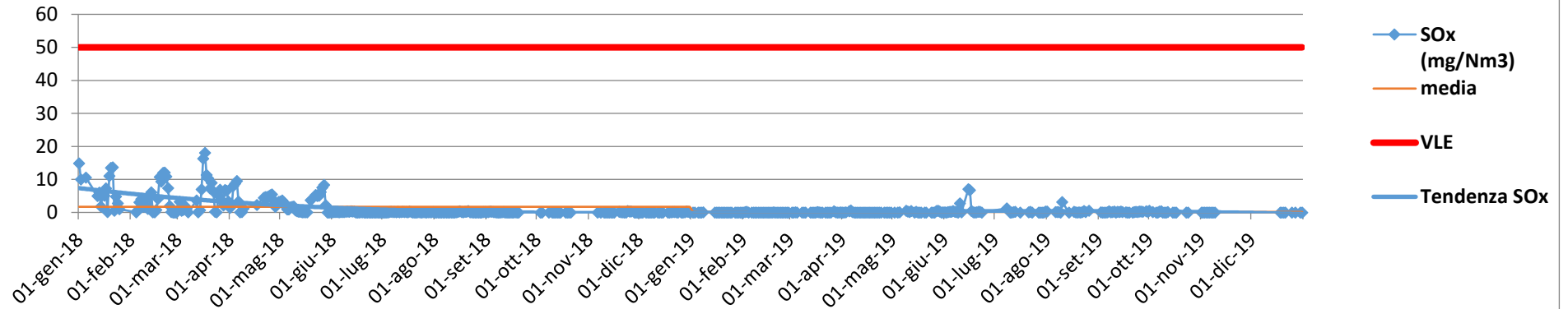
Figura 11. Esercizio Camino E324 Area Agglomerato, periodo gennaio 2018 – giugno 2020



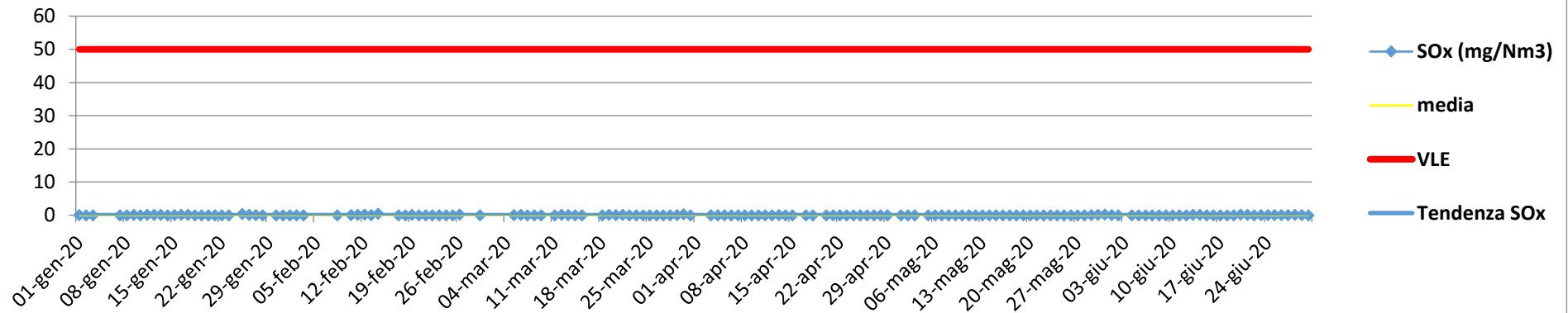
### Concentrazione polveri (mg/Nm<sup>3</sup>) camino E325 medie mensili



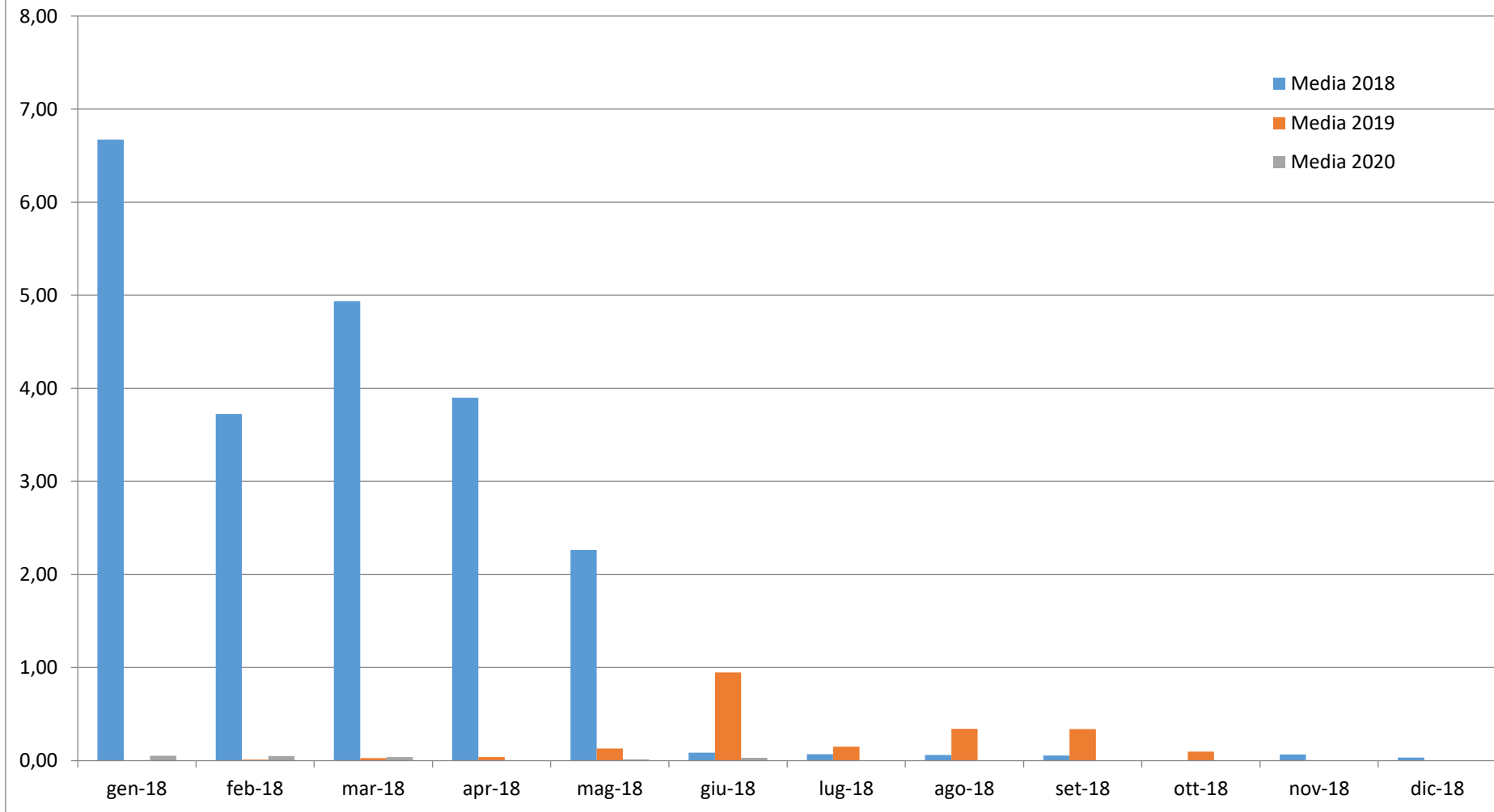
### Concentrazione SOx (mg/Nm3) camino E325 - Anni 2018-2019



### Concentrazione SOx (mg/Nm3) camino E325 - Anno 2020

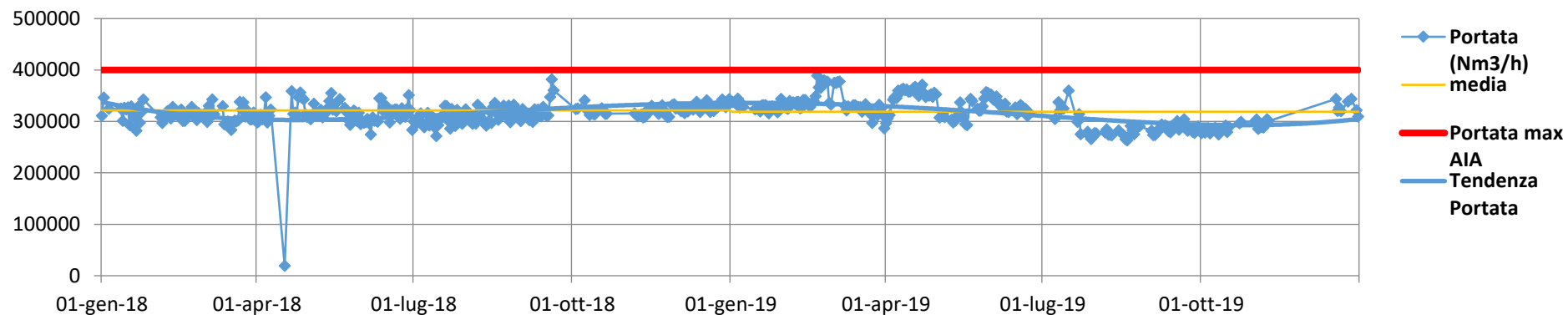


### Concentrazione SOx (mg/Nm3) camino E325 medie mensili

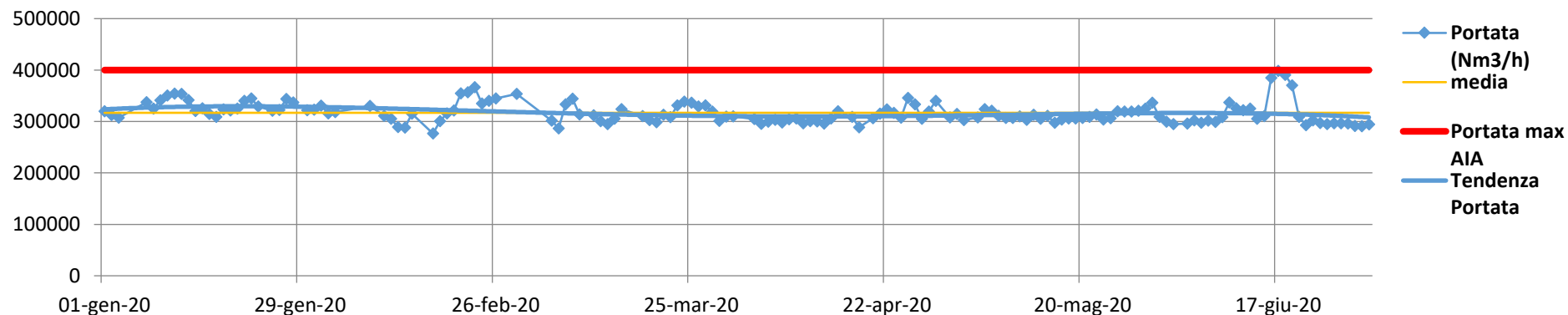


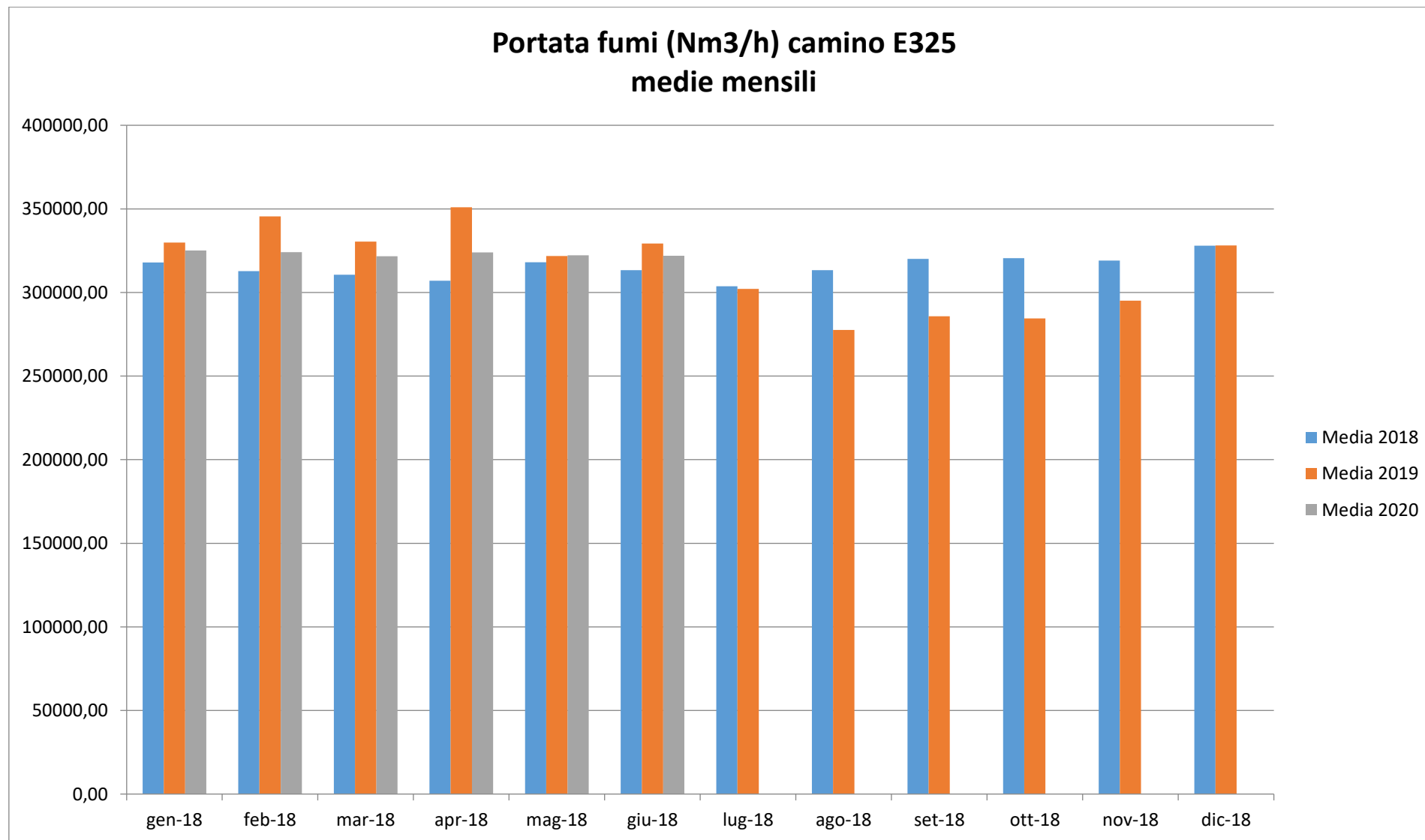


### Portata fumi (Nm3/h) camino E325 - Anni 2018-2019



### Portata fumi (Nm3/h) camino E325 - Anno 2020

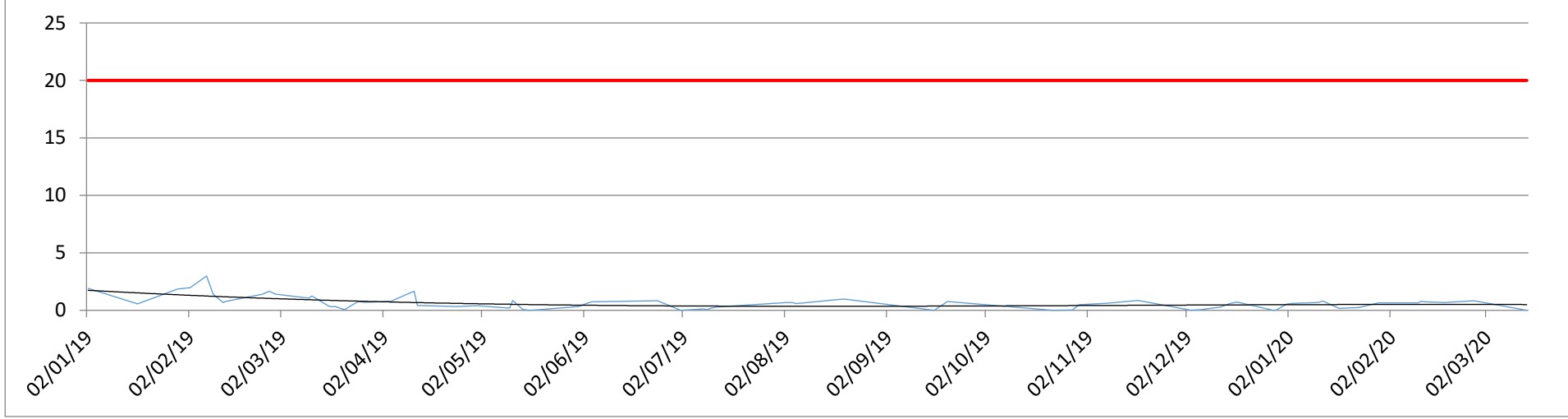




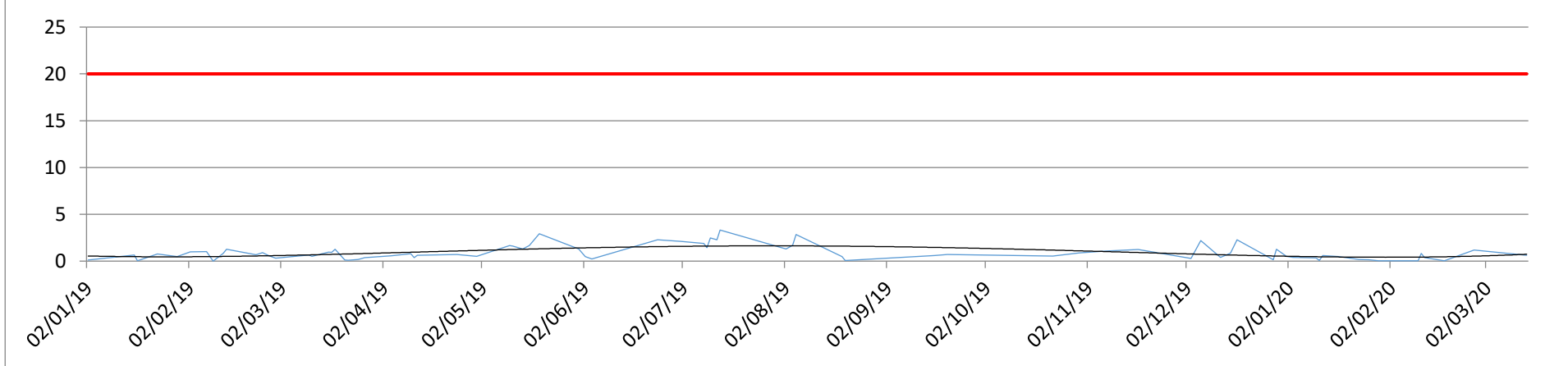
**Figura 12. Esercizio Camino E325 Area Agglomerato, periodo gennaio 2018 – giugno 2020**

**TAVOLA 3 - Camini Acciaieria – periodo dal 01/01/2019 al 30/06/2020**

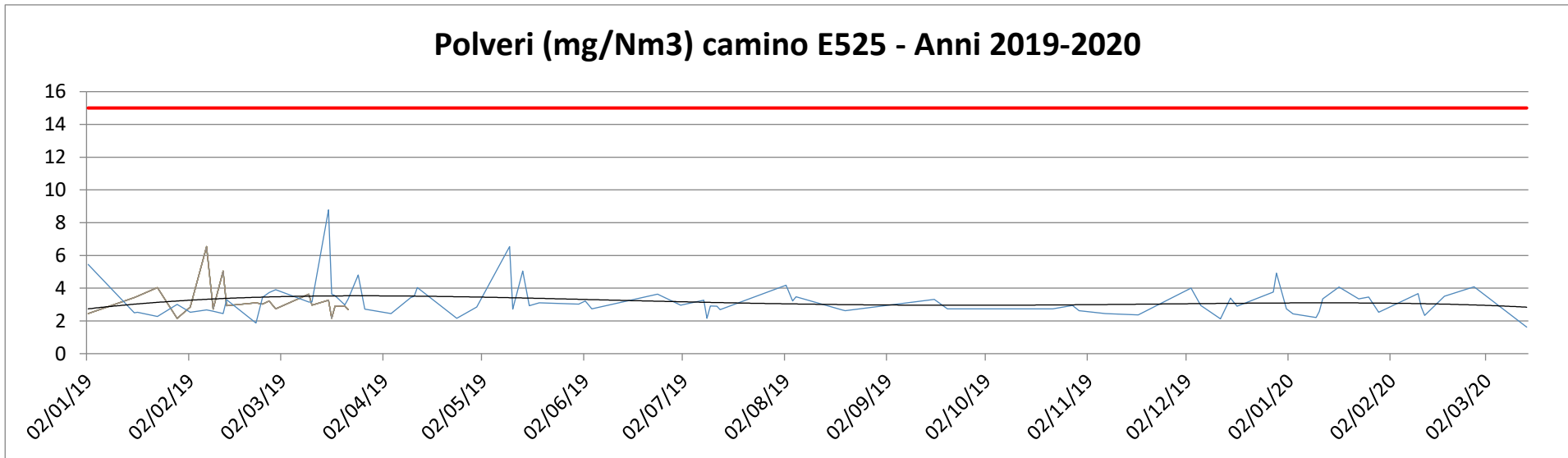
**NOx (mg/Nm3) camino E525 - Anni 2019-2020**



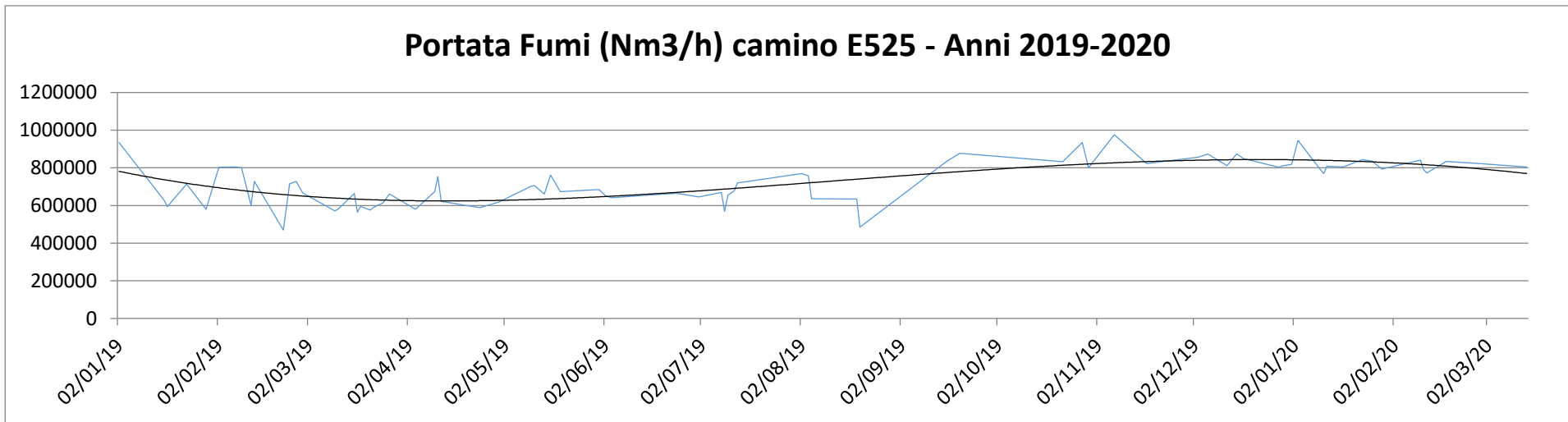
**SOx (mg/Nm3) camino E525 - Anni 2019-2020**



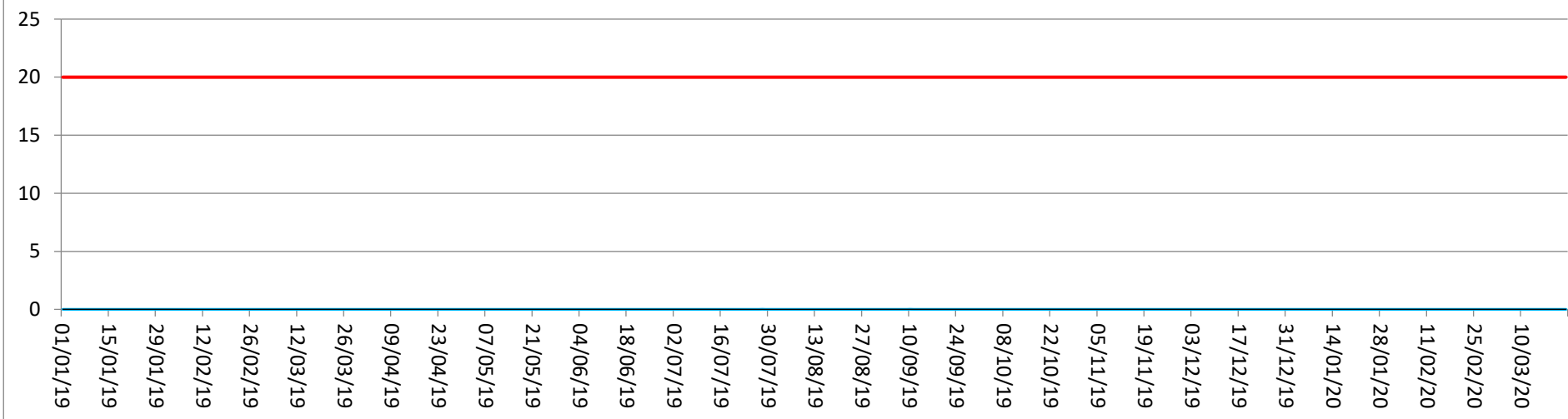
**Polveri (mg/Nm3) camino E525 - Anni 2019-2020**



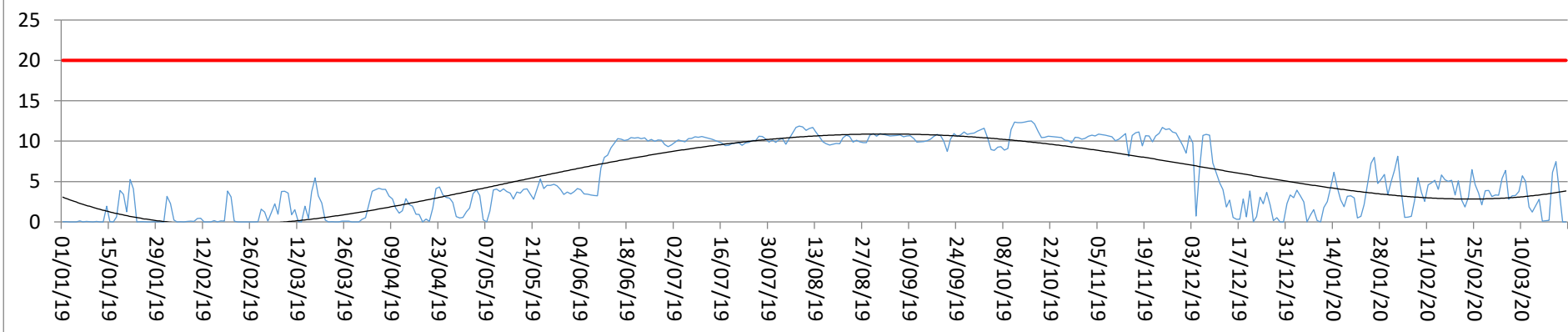
**Portata Fumi (Nm3/h) camino E525 - Anni 2019-2020**



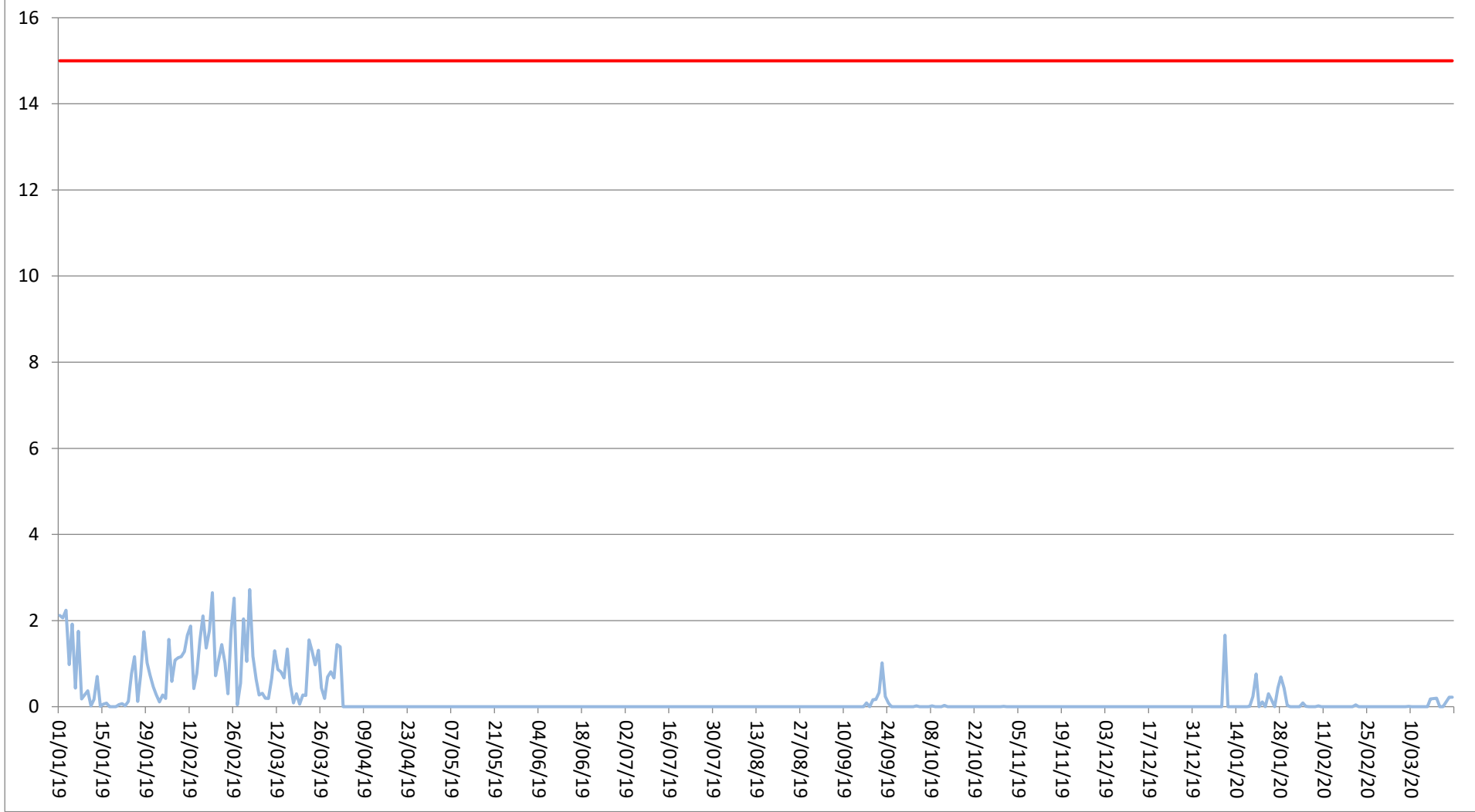
**NOx (mg/Nm3) camino E525B - Anni 2019-2020**



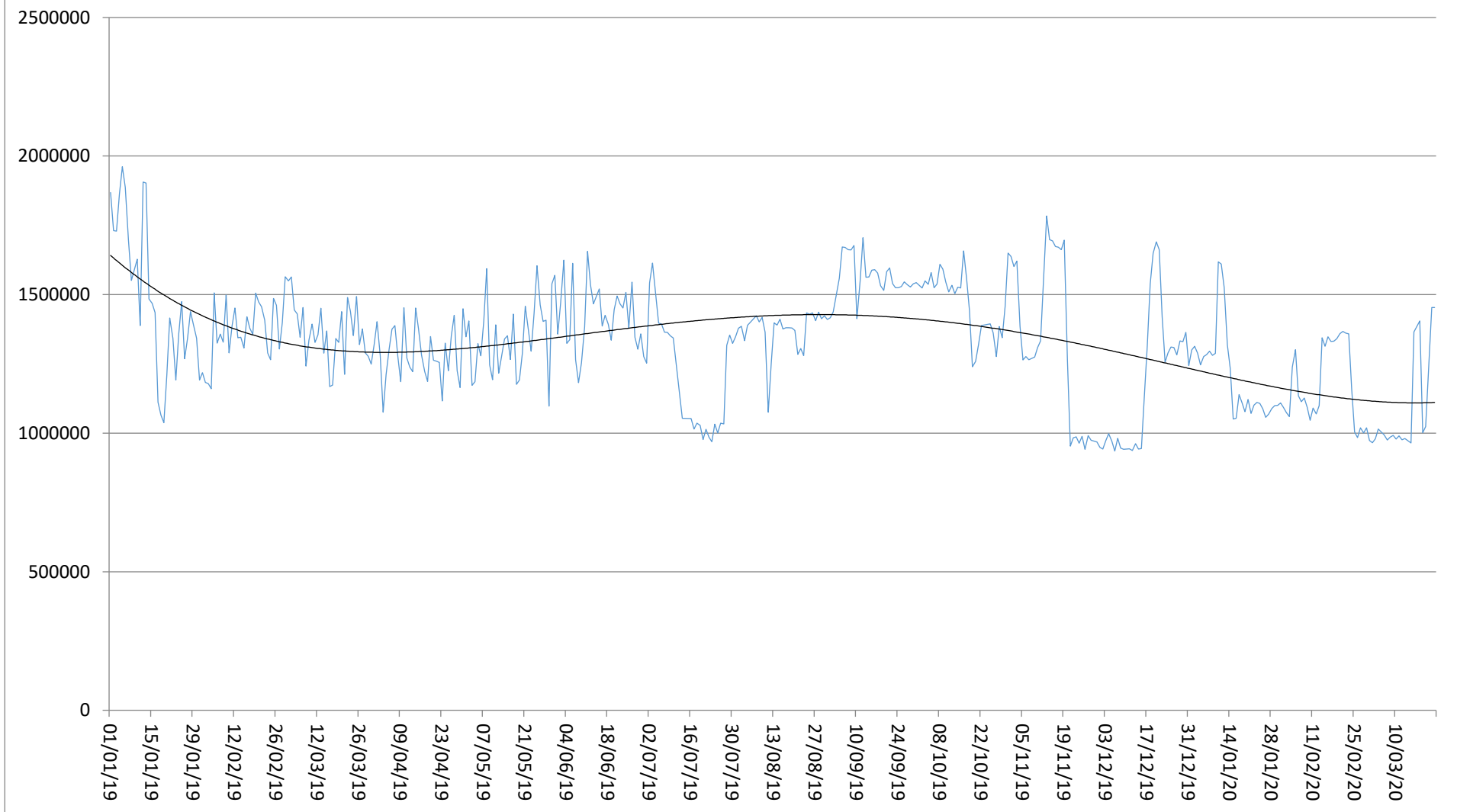
**SOx (mg/Nm3) camino E525B - Anni 2019-2020**



### Polveri (mg/Nm3) camino E525B - Anni 2019-2020

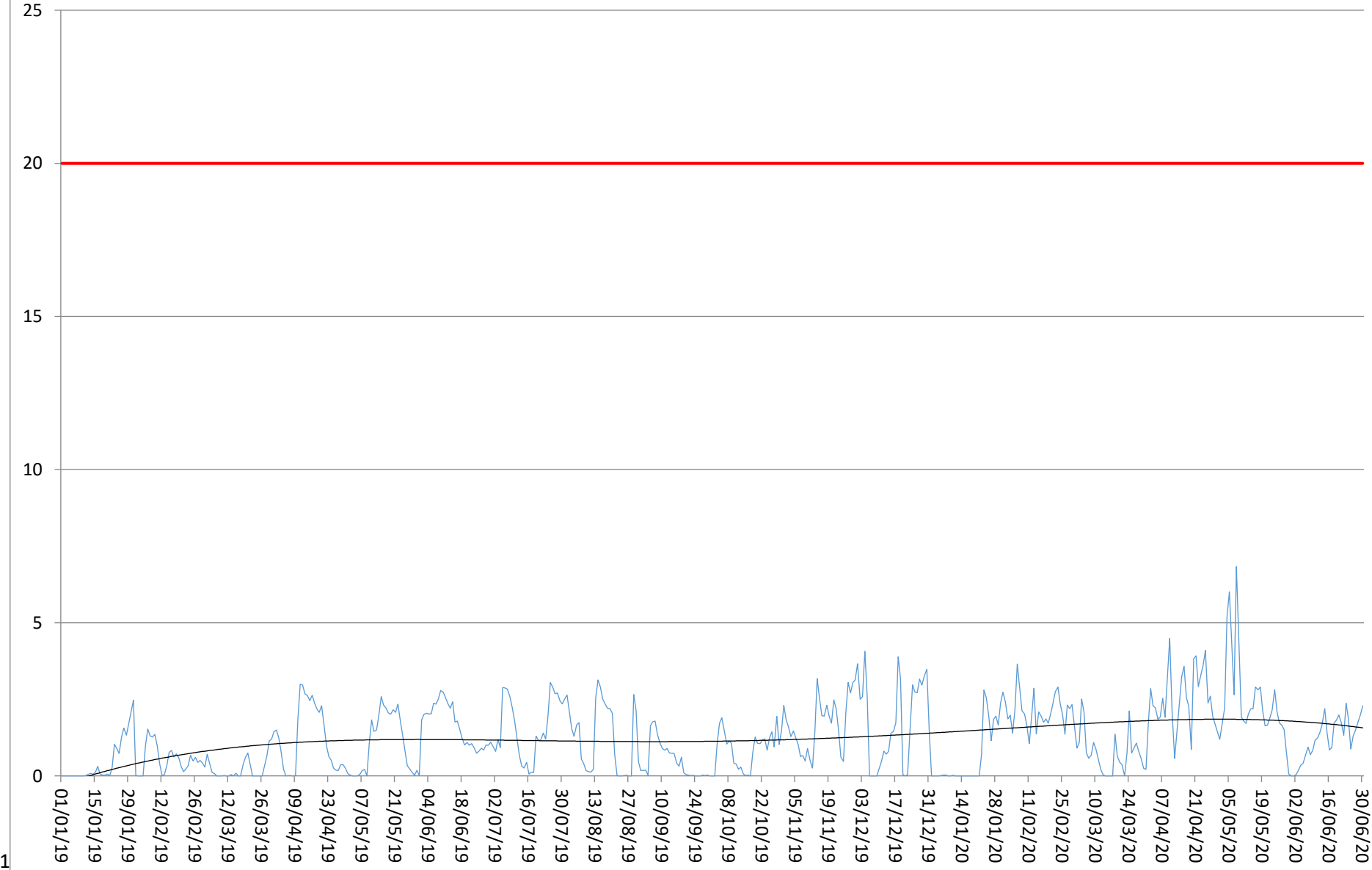


**Portata Fumi (Nm<sup>3</sup>/h) camino E525B - Anni 2019-2020**

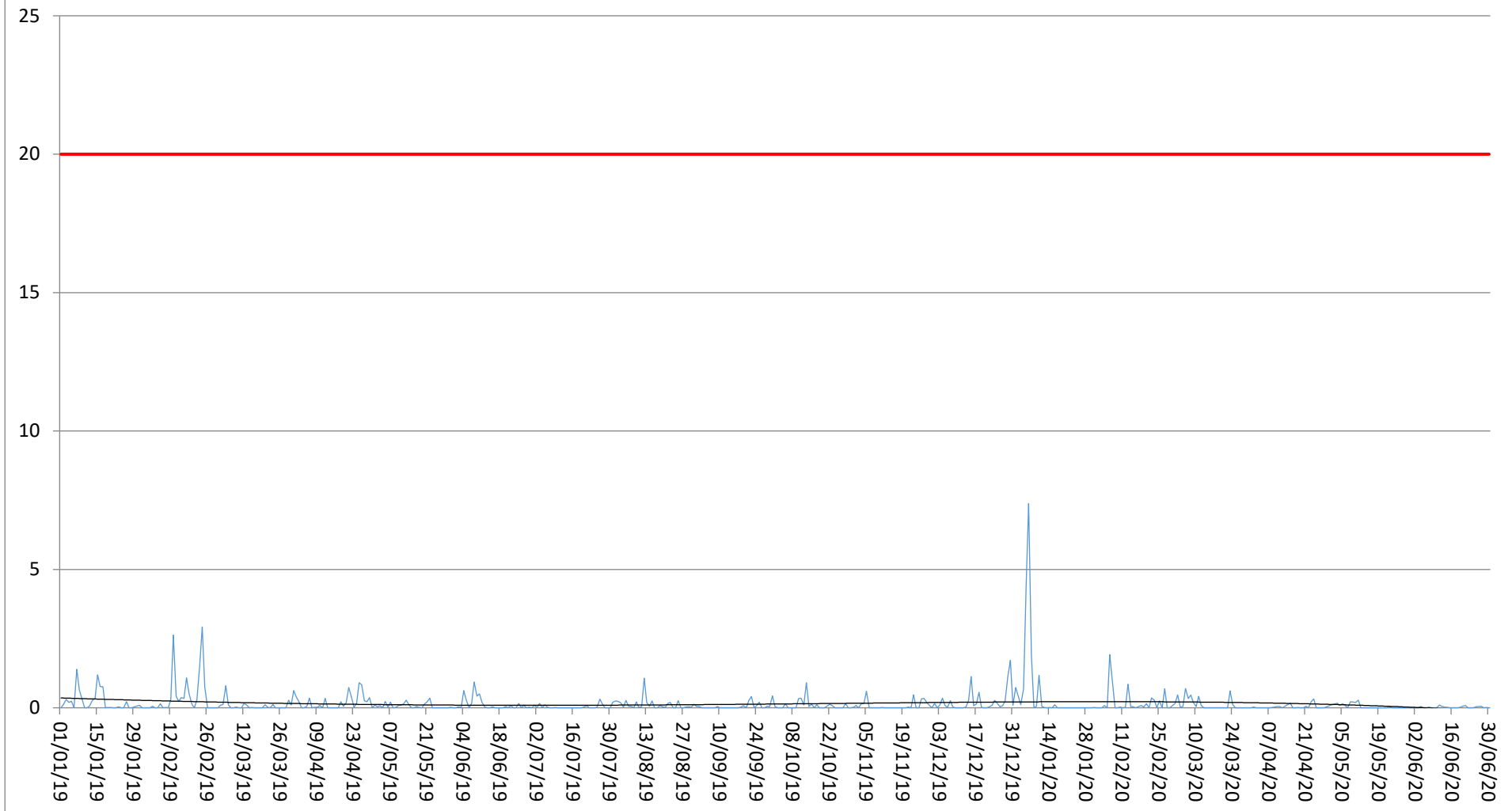




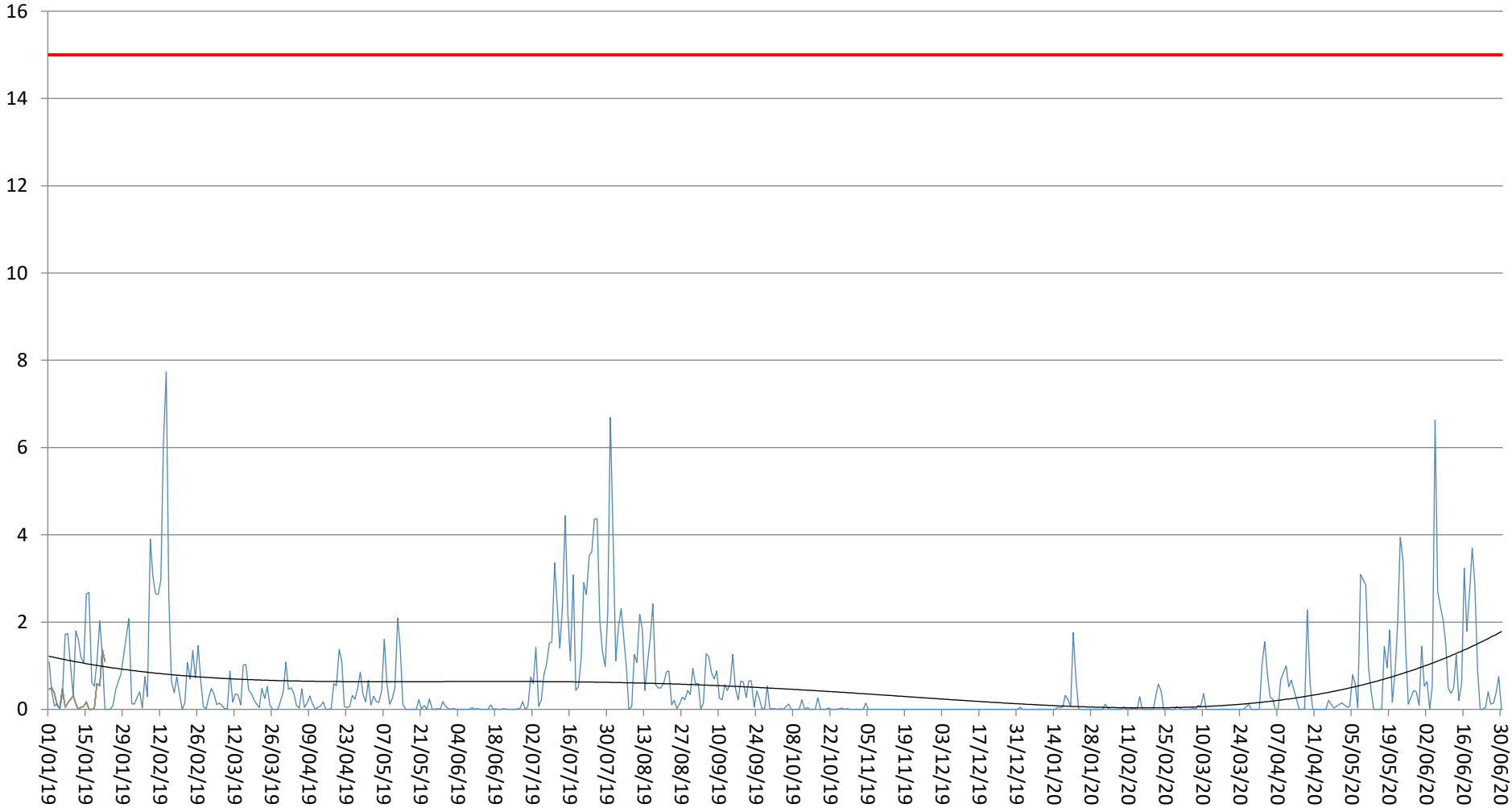
**NOx (mg/Nm3) camino E551B - Anni 2019-2020**



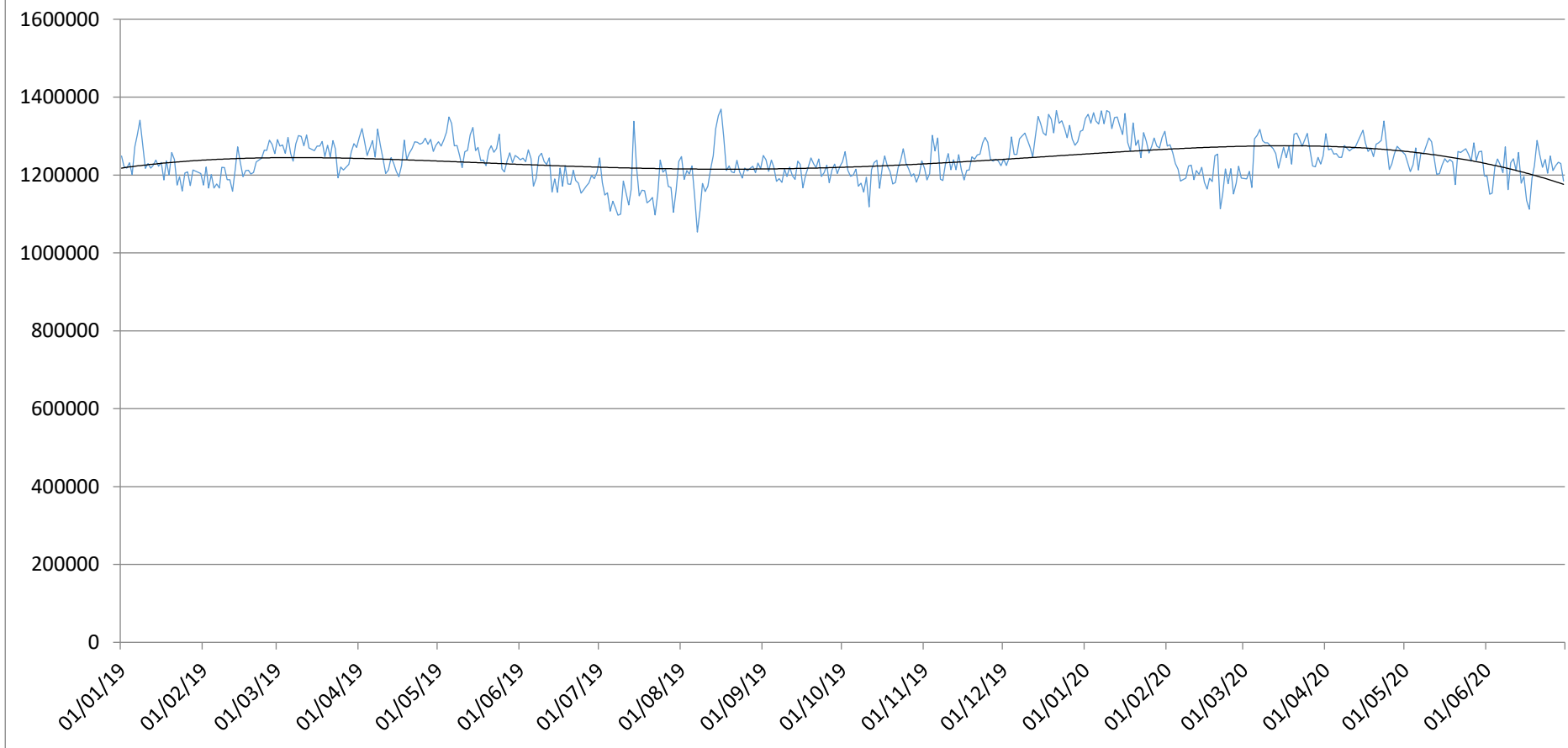
### SOx (mg/Nm3) camino E551B - Anni 2019-2020



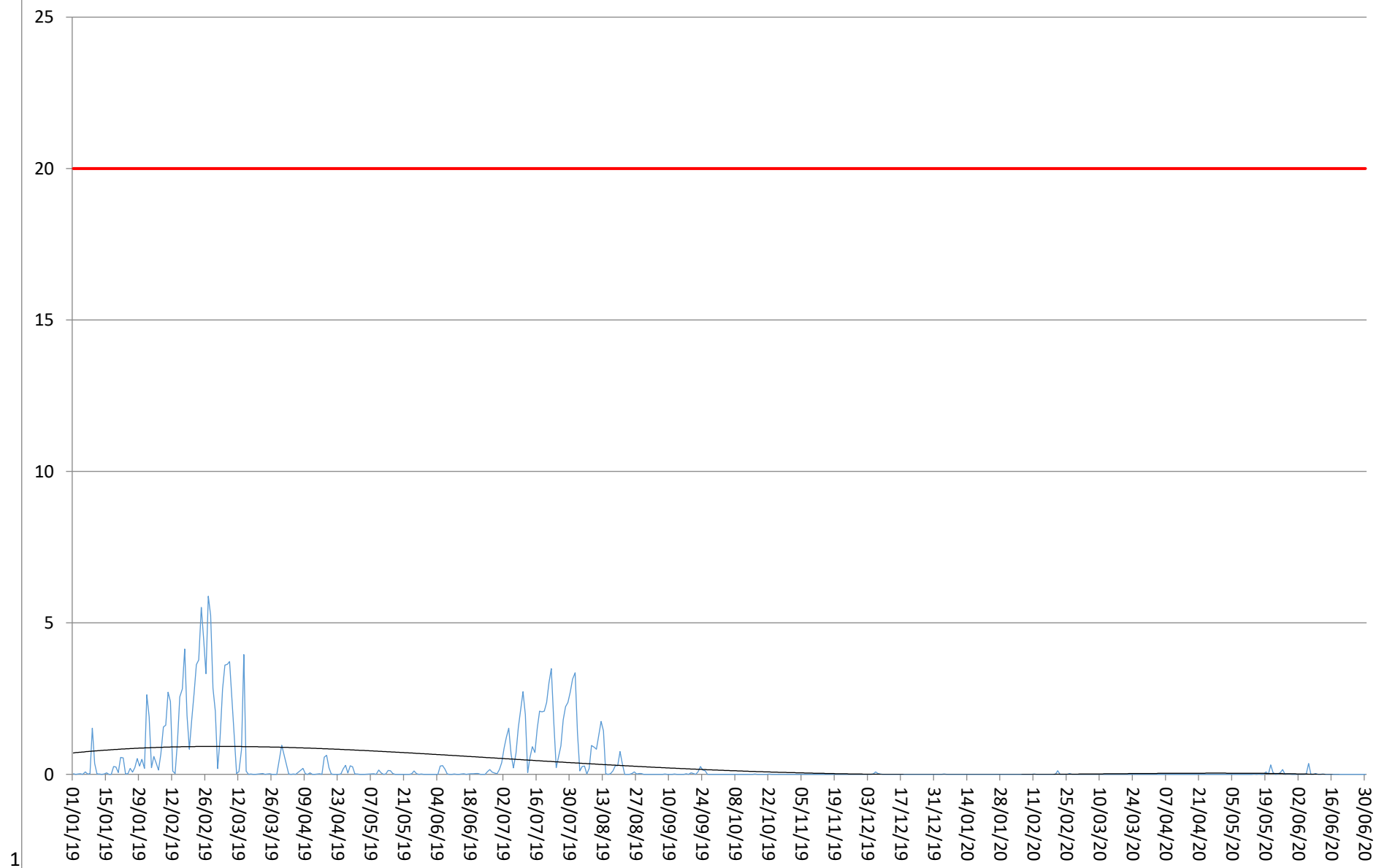
### Polveri (mg/Nm3) camino E551B - Anni 2019-2020



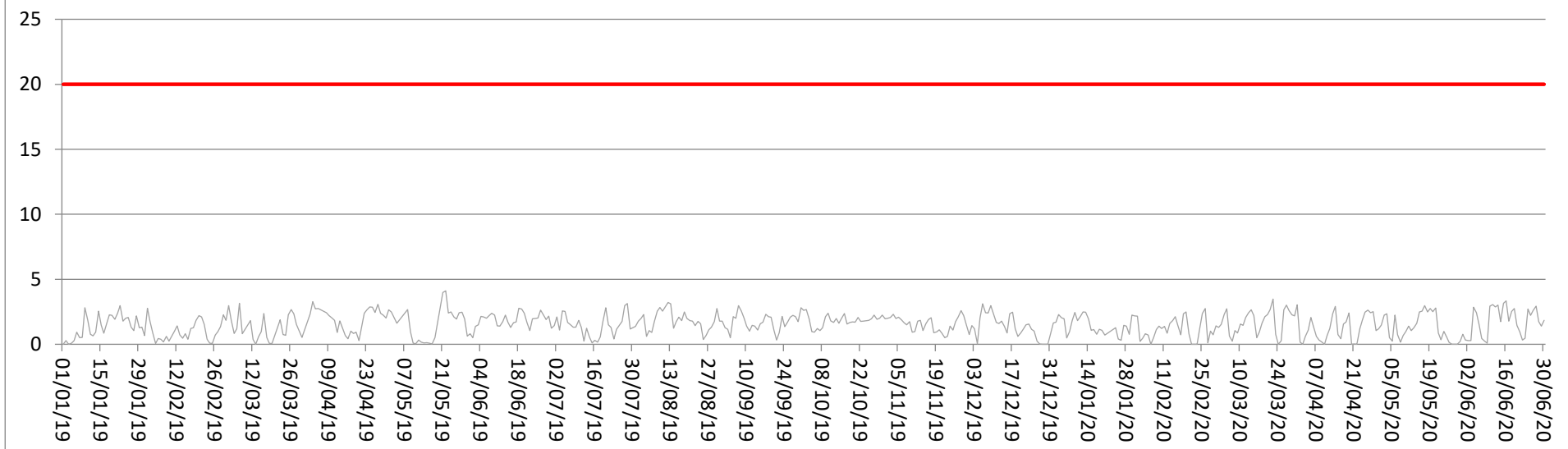
### Portata Fumi (Nm3/h) camino E551B - Anni 2019-2020



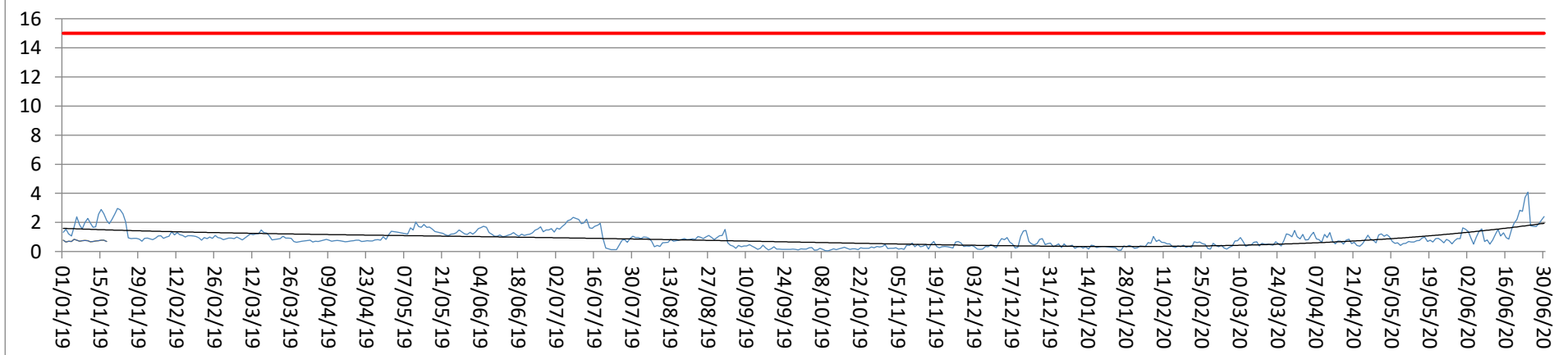
# NOx (mg/Nm3) camino E551C - Anni 2019-2020



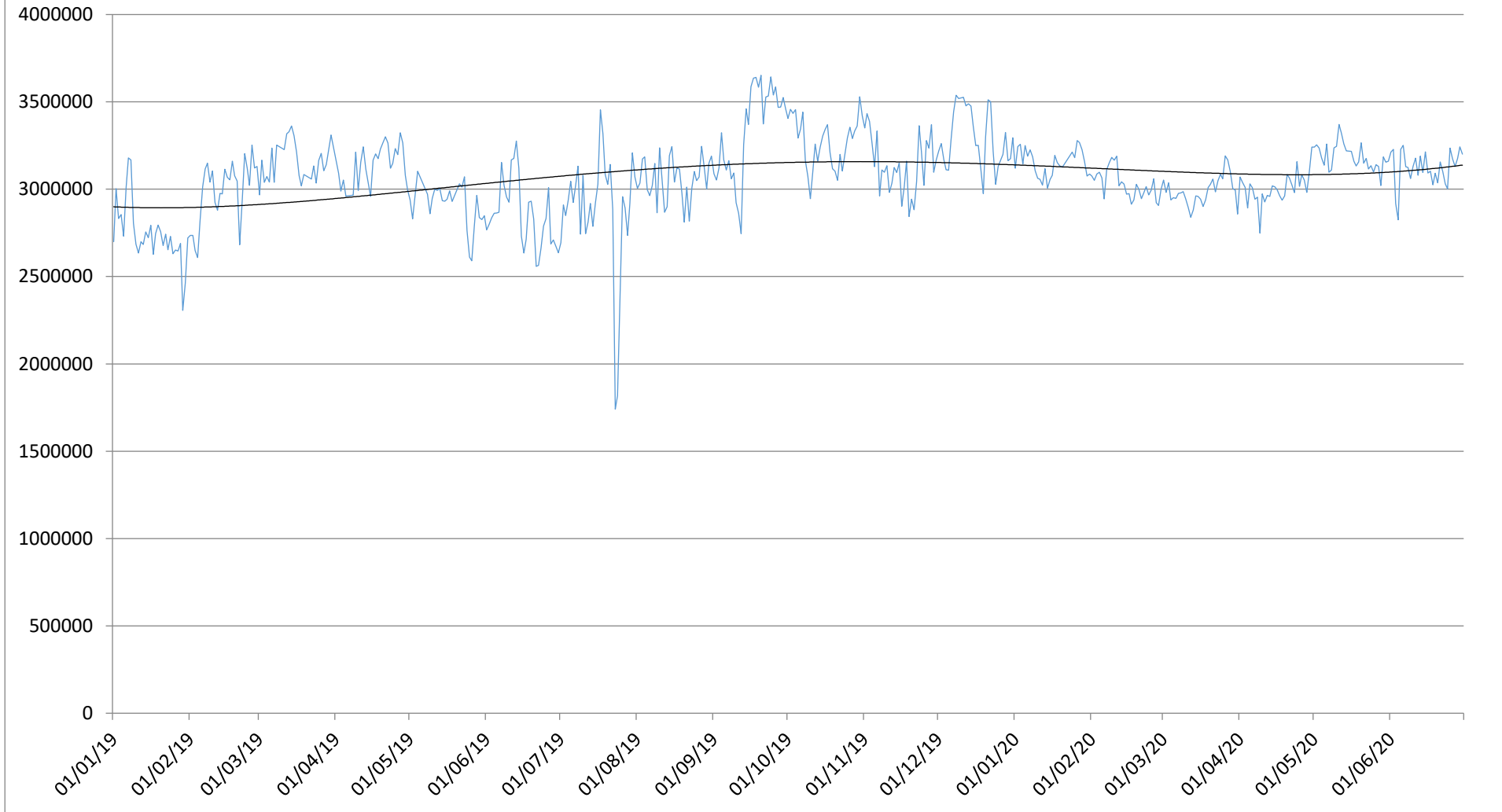
### SOx (mg/Nm3) camino E551C - Anni 2019-2020



### Polveri (mg/Nm3) camino E551C - Anni 2019-2020



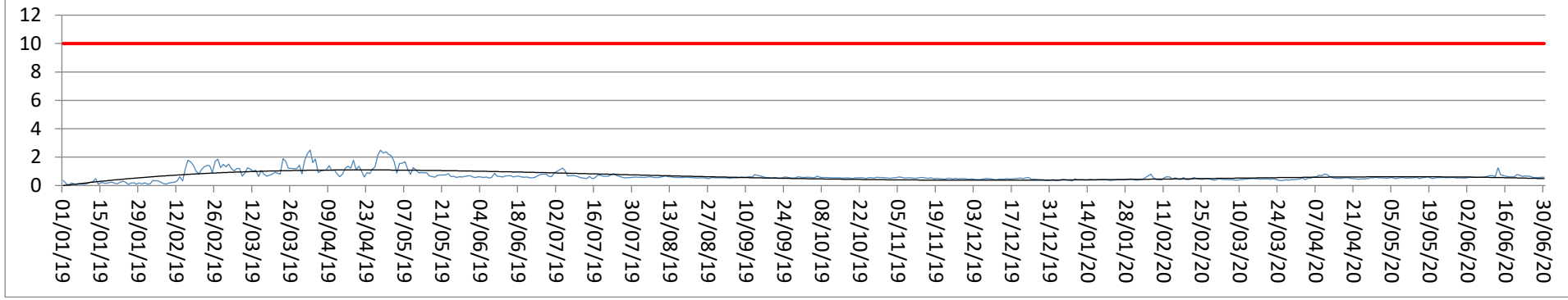
### Portata Fumi (Nm3/h) camino E551C - Anni 2019-2020



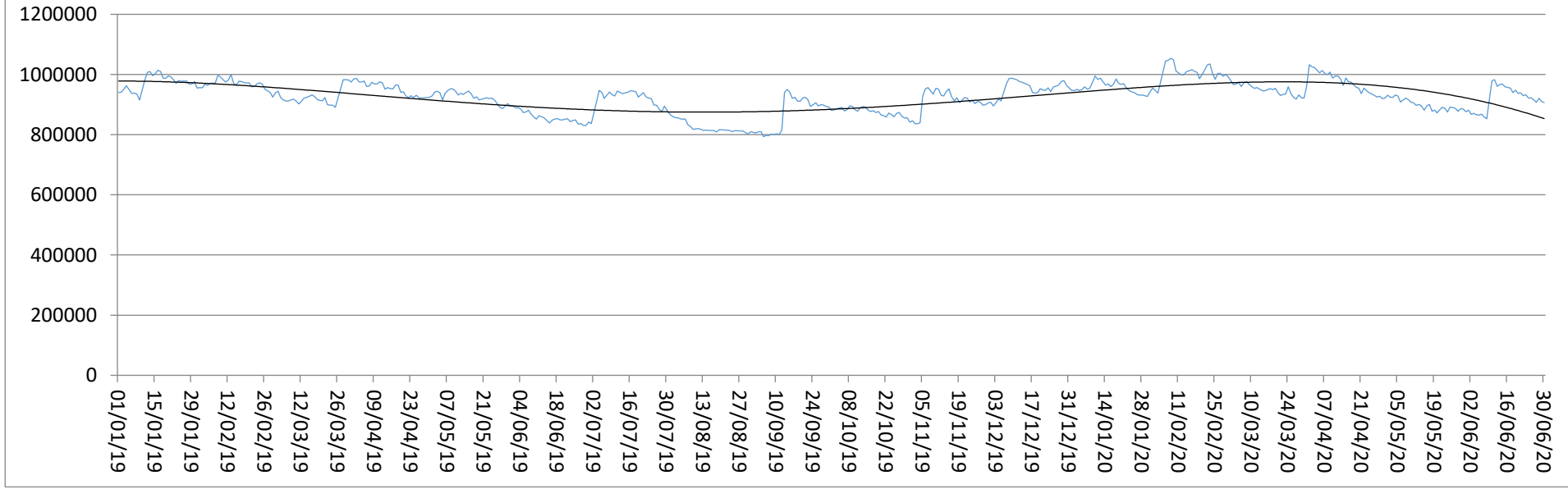
**TAVOLA 4 - Camini Altoforno - periodo dal 01/01/2019 al 30/06/2020**



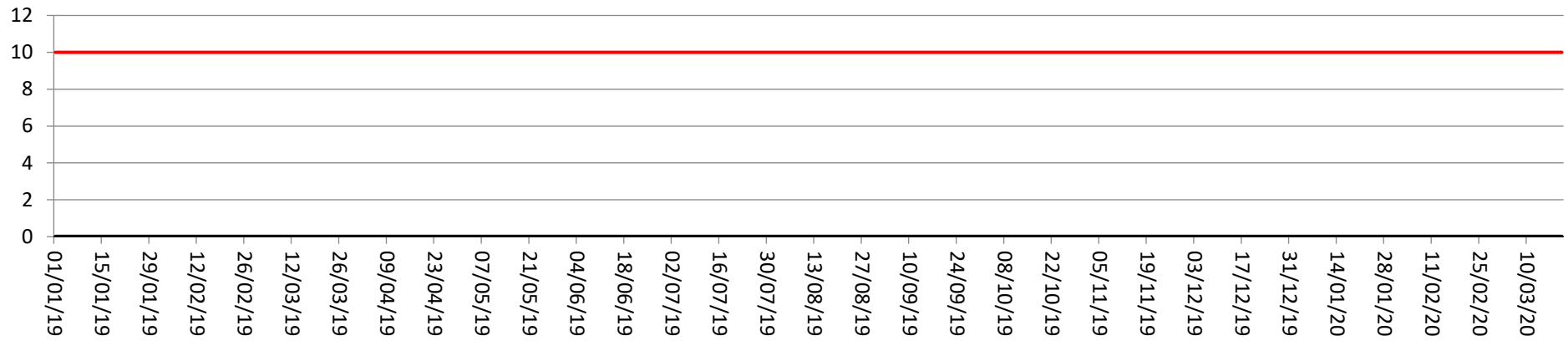
### Polveri (mg/Nm3) camino E102B - Anni 2019-2020



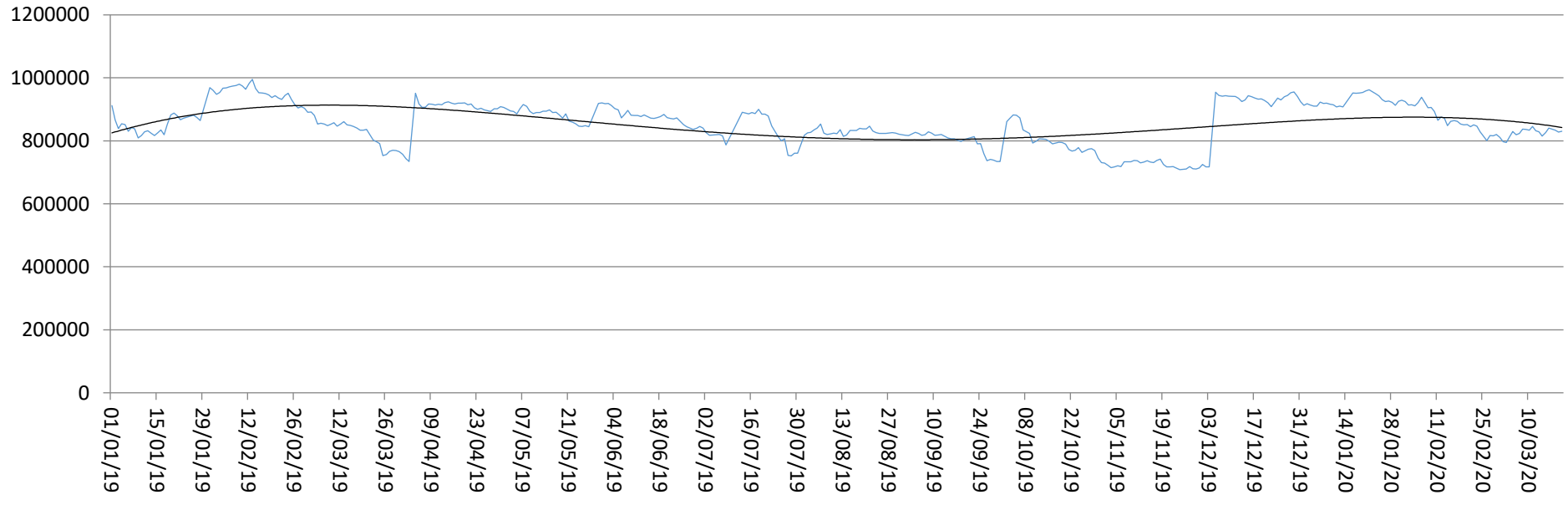
### Portata Fumi (Nm3/h) camino E102B - Anni 2019-2020



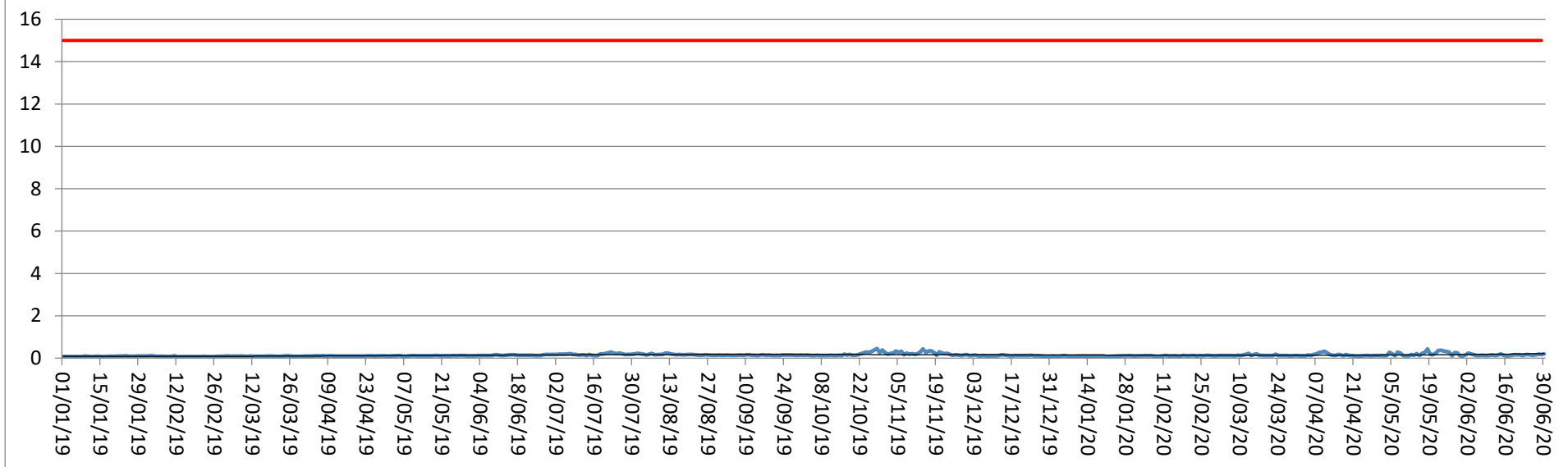
### Polveri (mg/Nm3) camino E103B - Anni 2019-2020



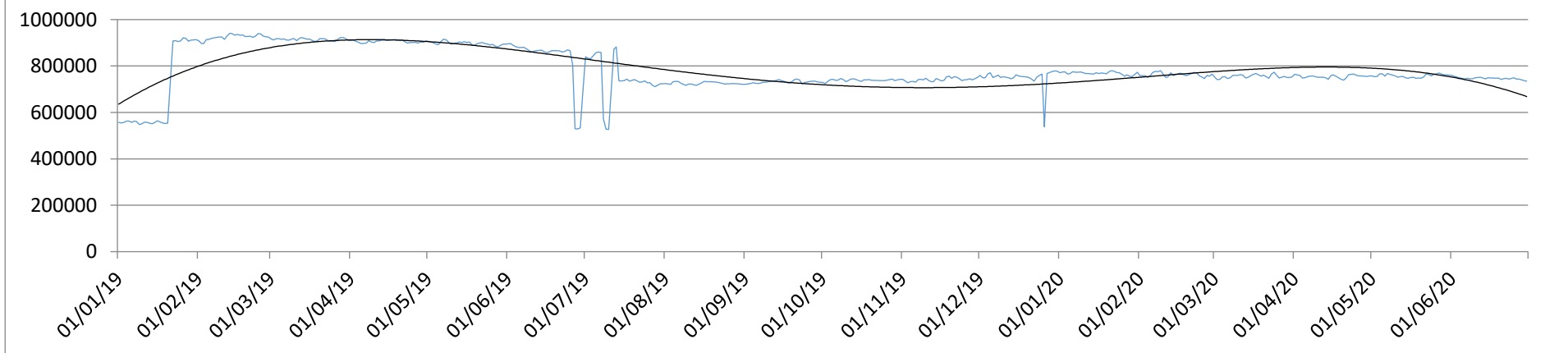
### Portata Fumi (Nm3/h) camino E103B - Anni 2019-2020



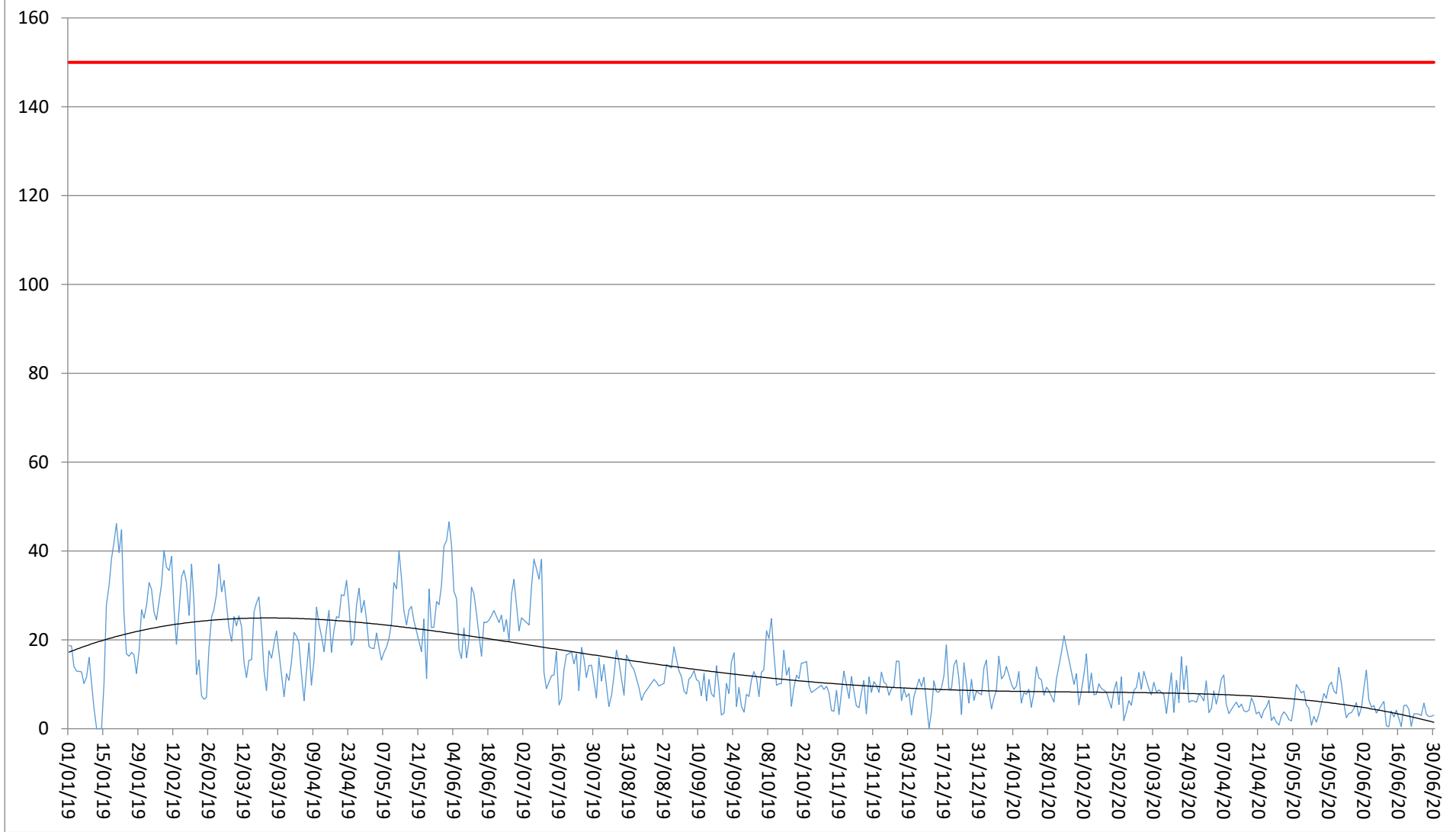
### Polveri (mg/Nm3) camino E109 - Anni 2019-2020



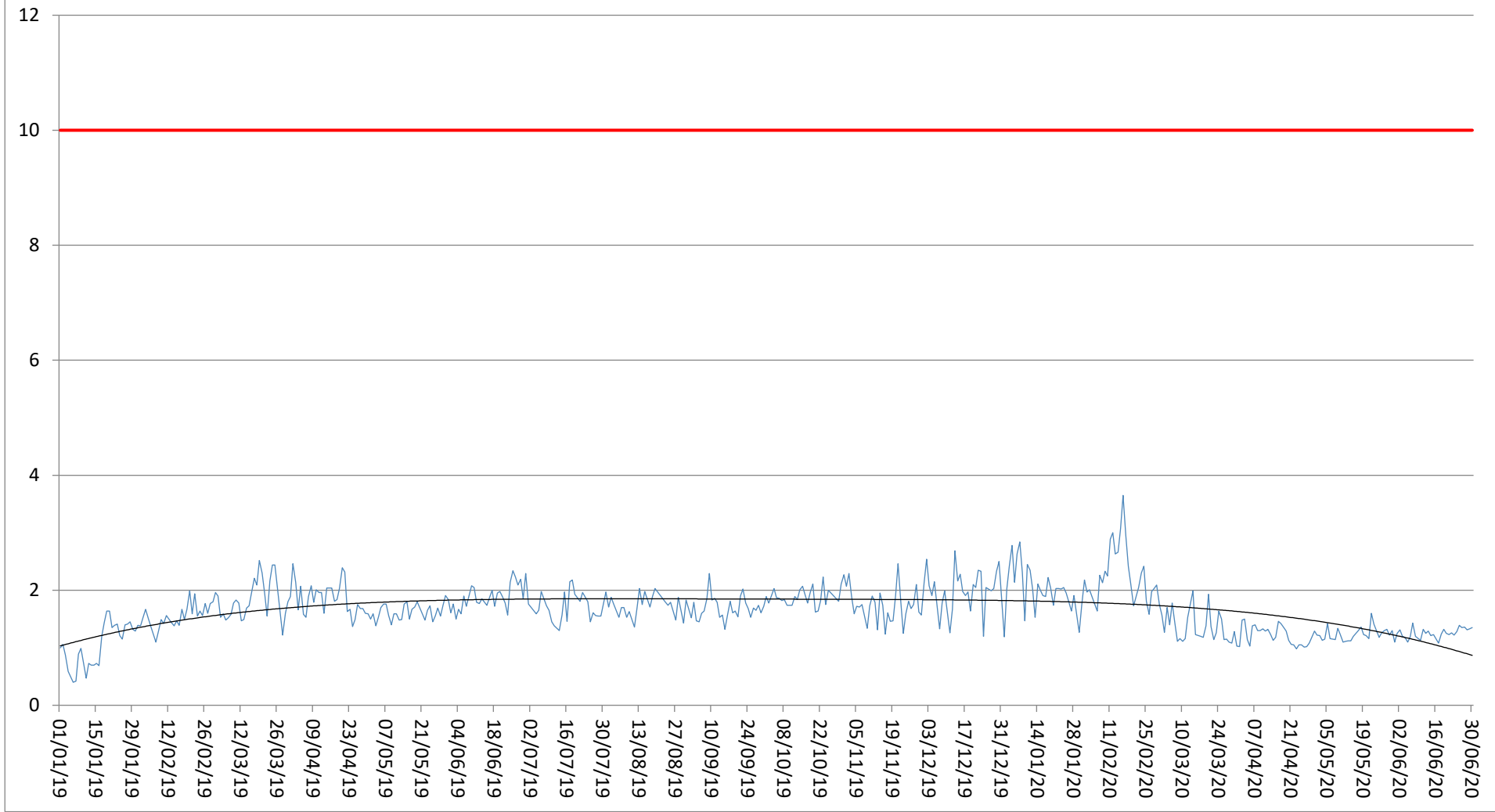
### Portata Fumi (Nm3/h) camino E109 - Anni 2019-2020



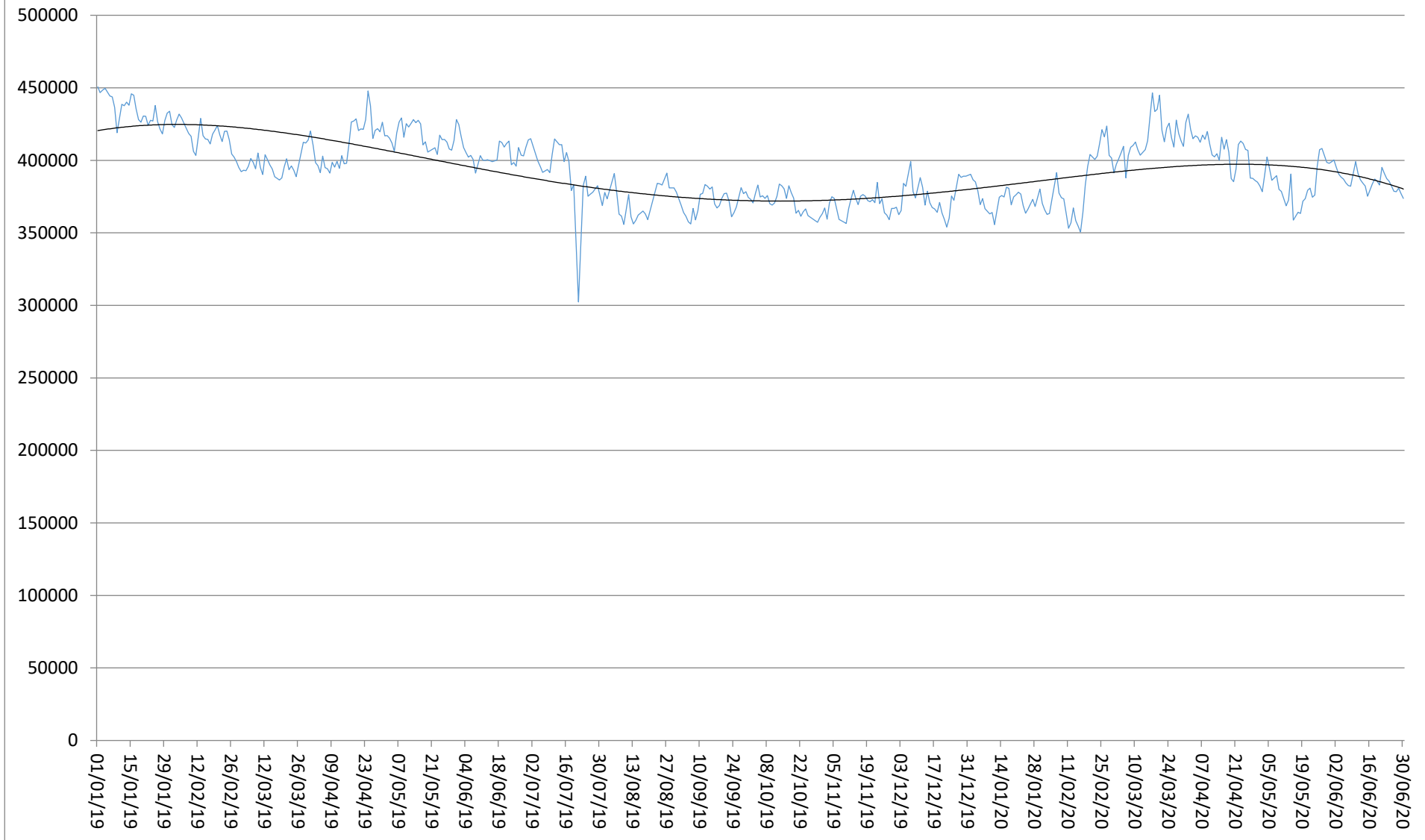
### SOx (mg/Nm3) camino E111 - Anni 2019-2020



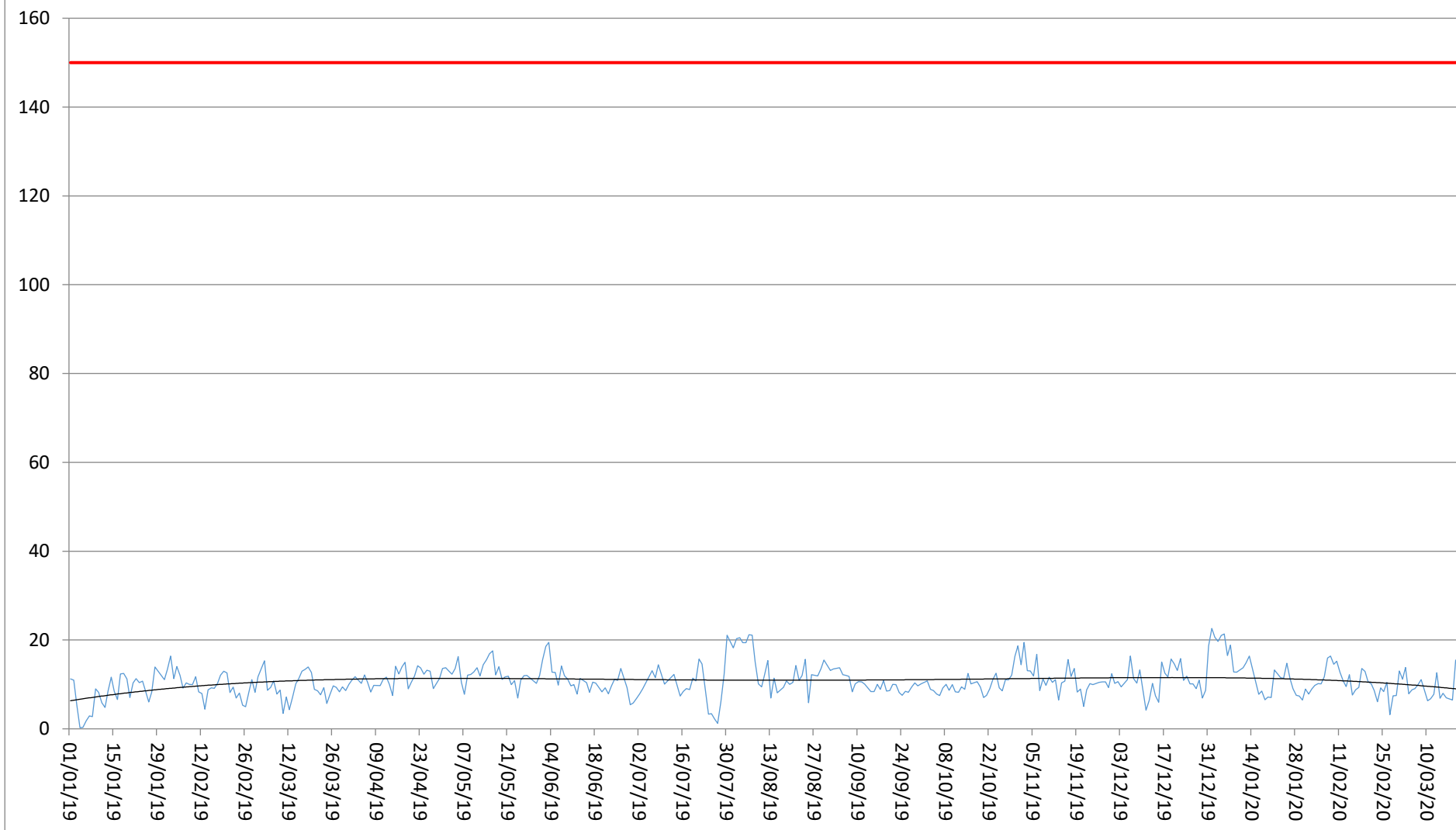
### Polveri (mg/Nm3) camino E111 - Anni 2019-2020



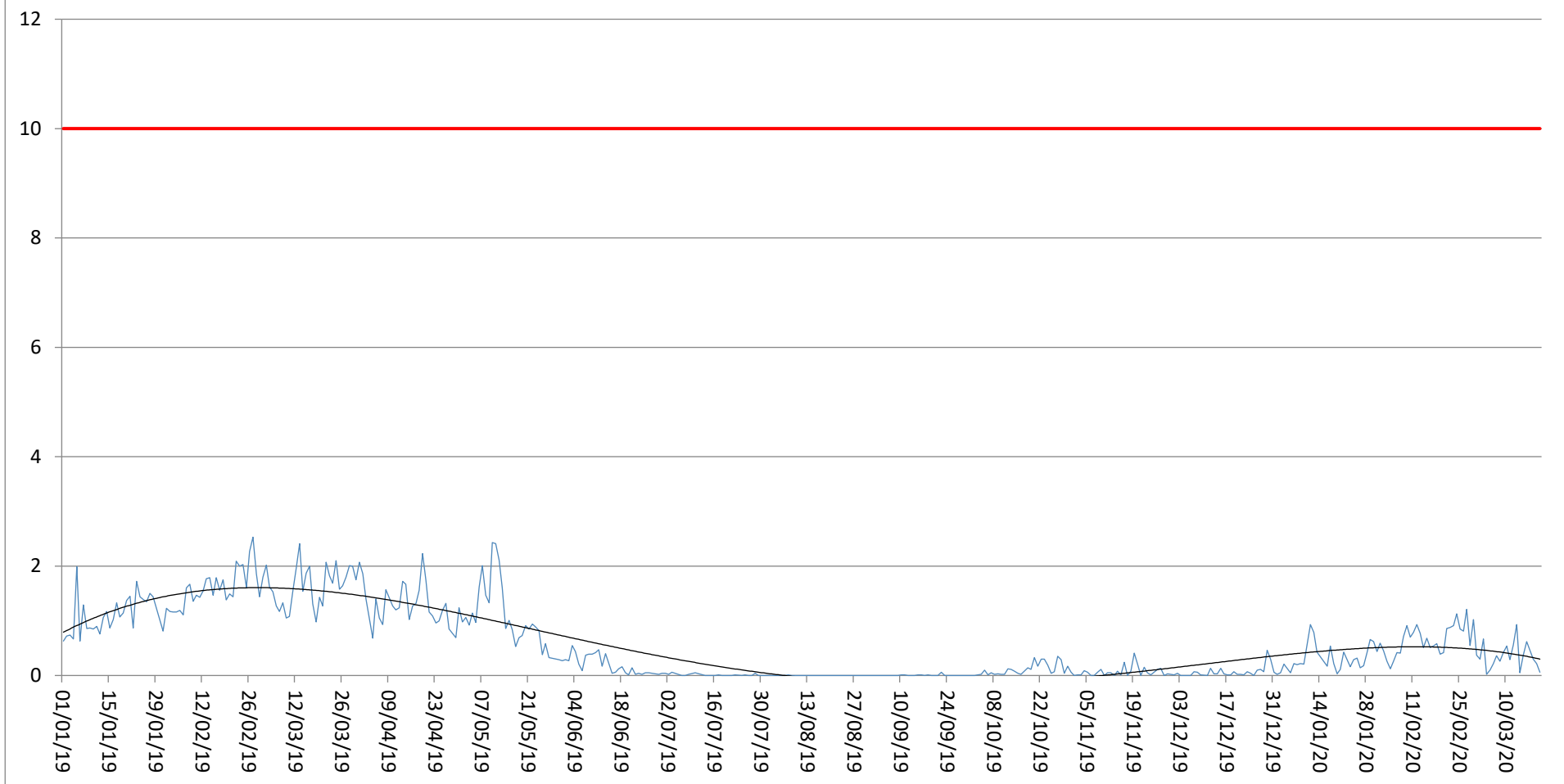
### Portata Fumi (Nm3/h) camino E111 - Anni 2019-2020



### SOx (mg/Nm3) camino E112 - Anni 2019-2020

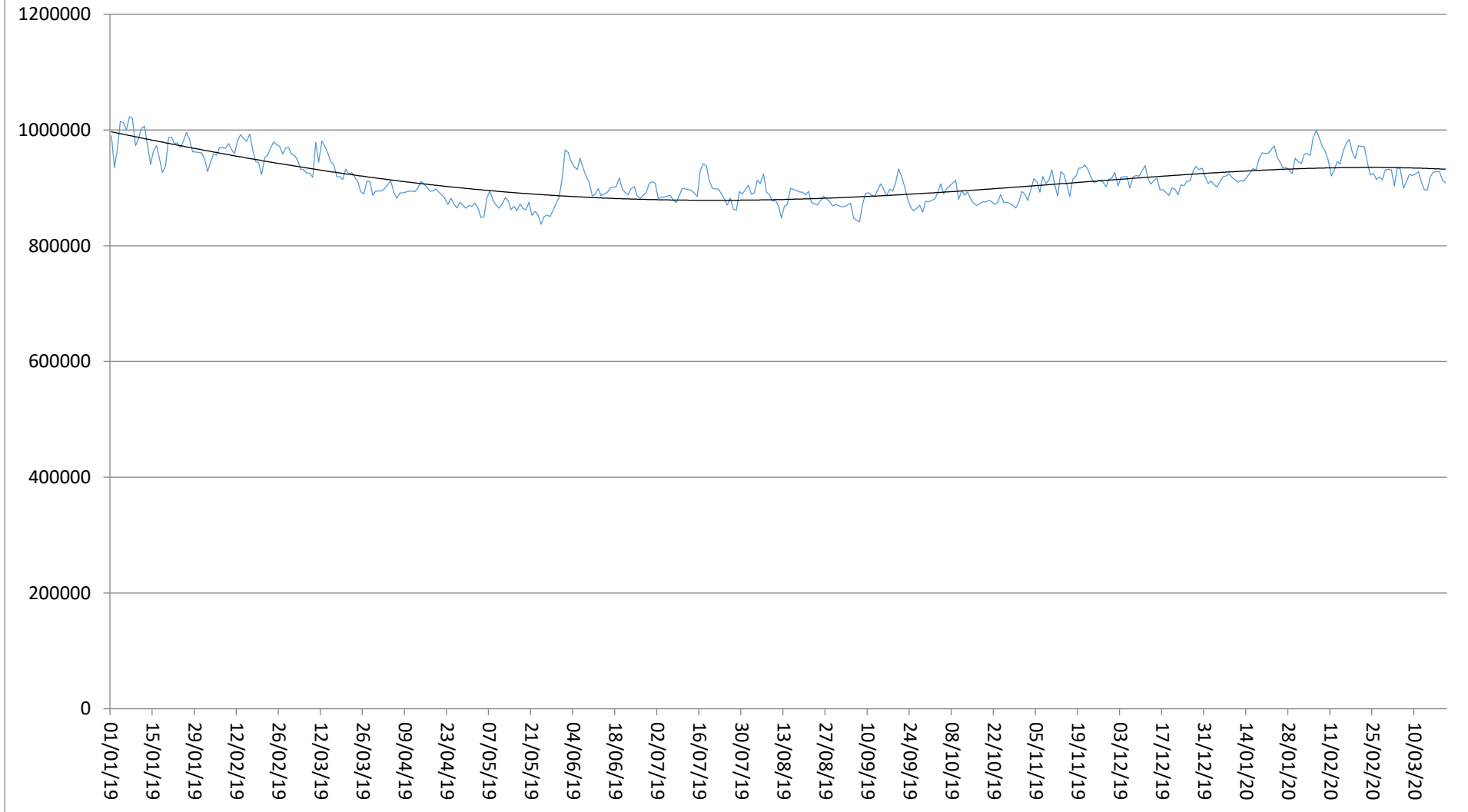


### Polveri (mg/Nm3) camino E112 - Anni 2019-2020

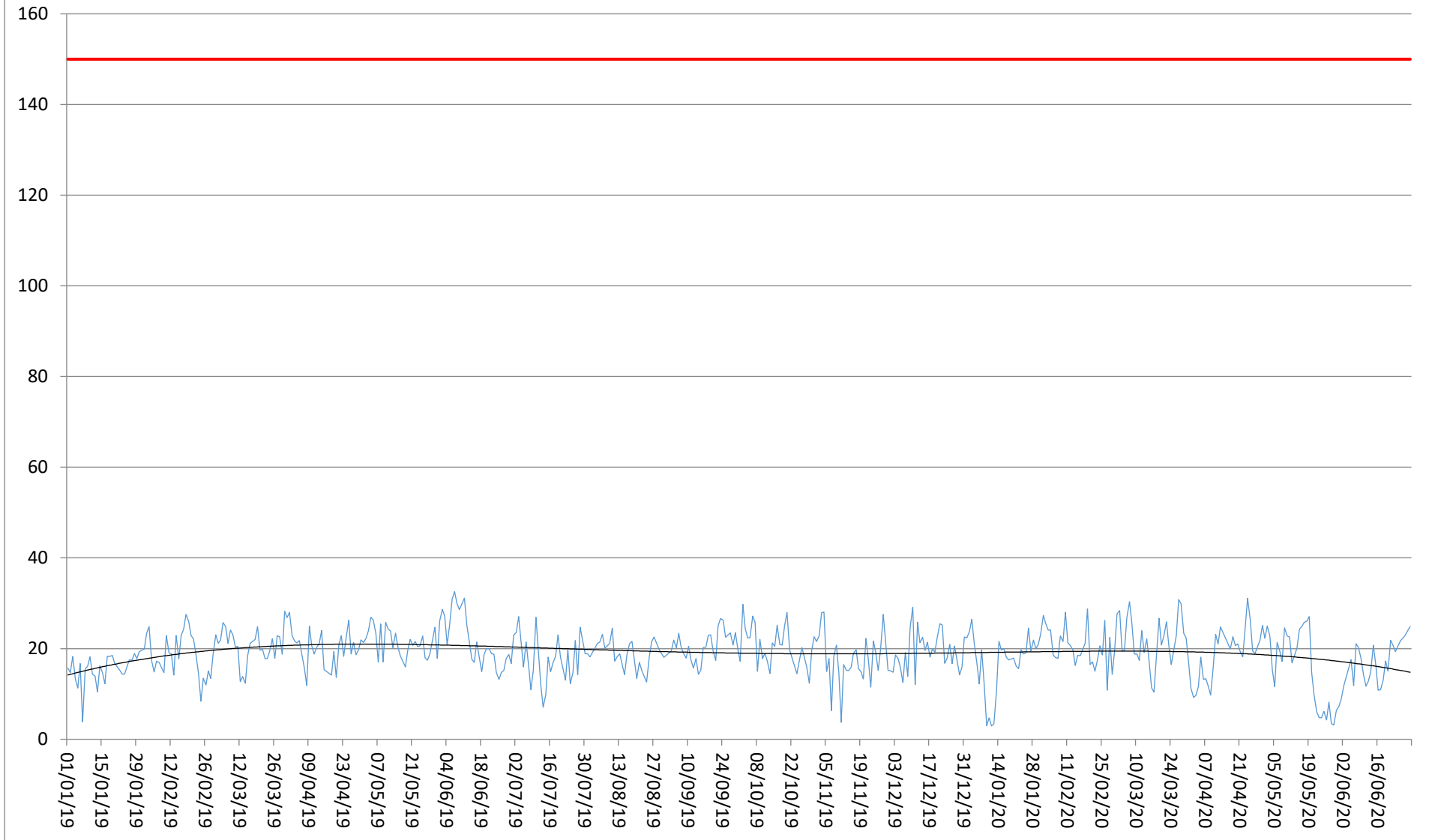




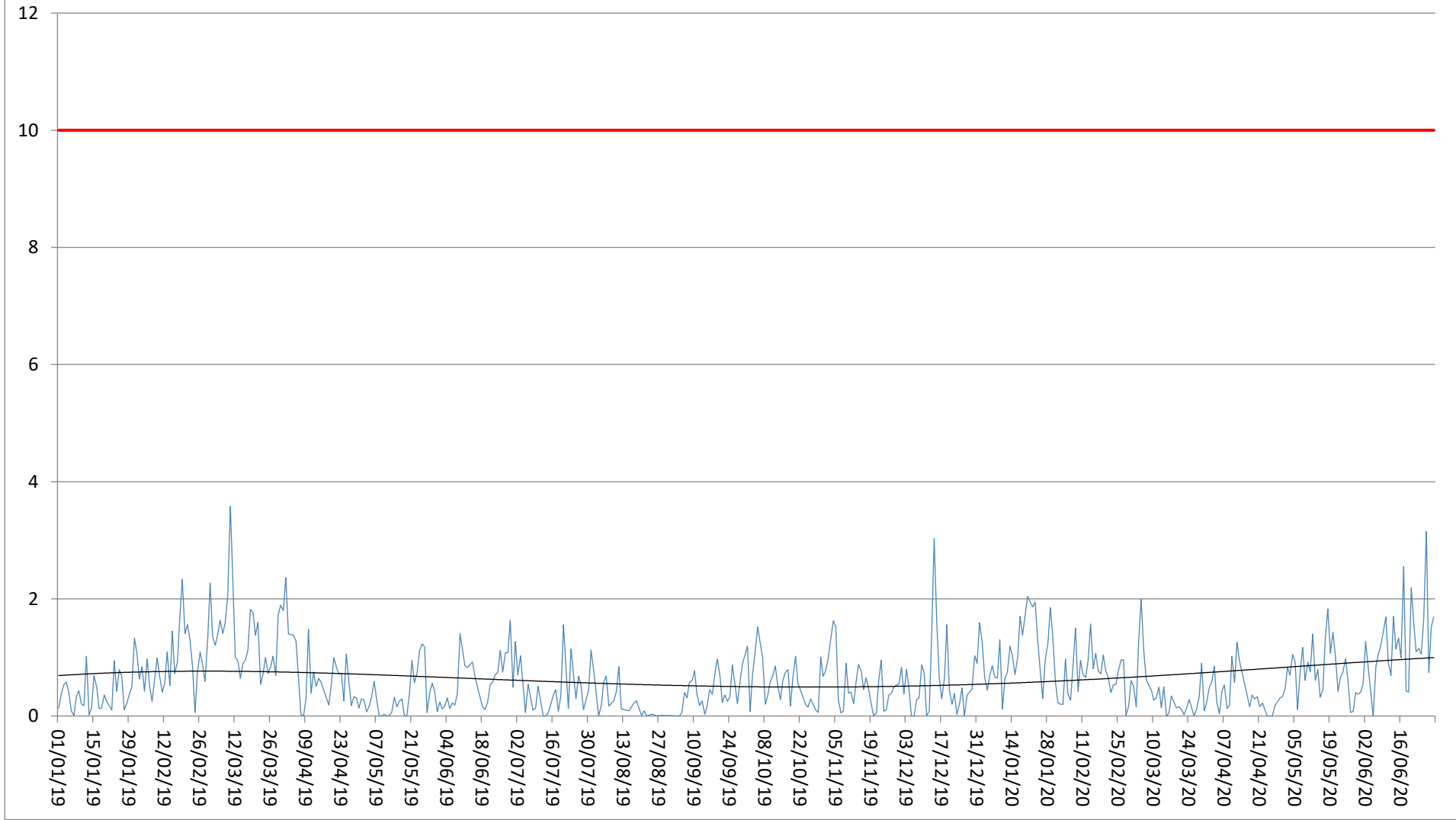
### Portata Fumi (Nm3/h) camino E112 - Anni 2019-2020



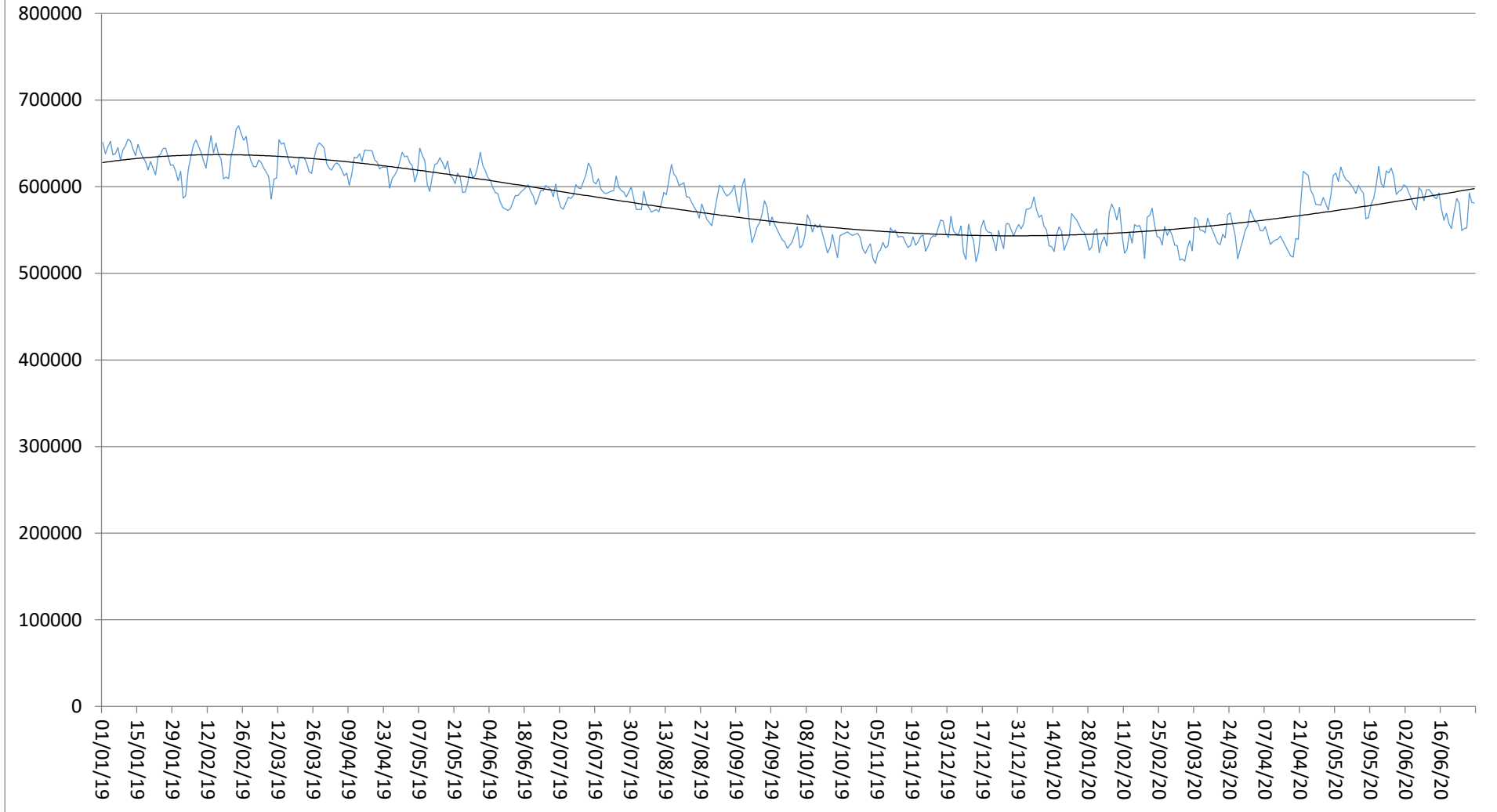
### SOx (mg/Nm3) camino E114 - Anni 2019-2020



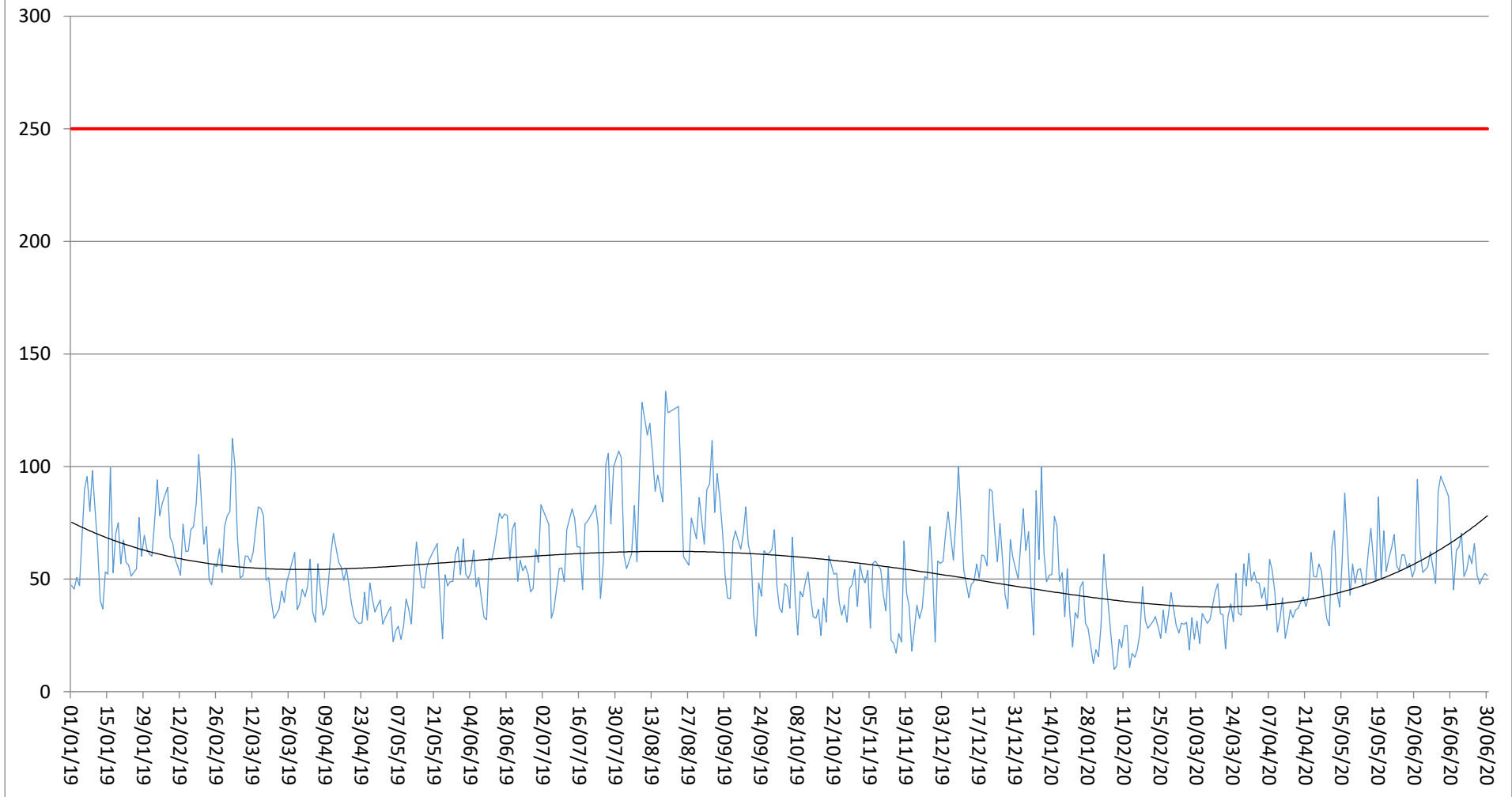
## Polveri (mg/Nm3) camino E114 - Anni 2019-2020



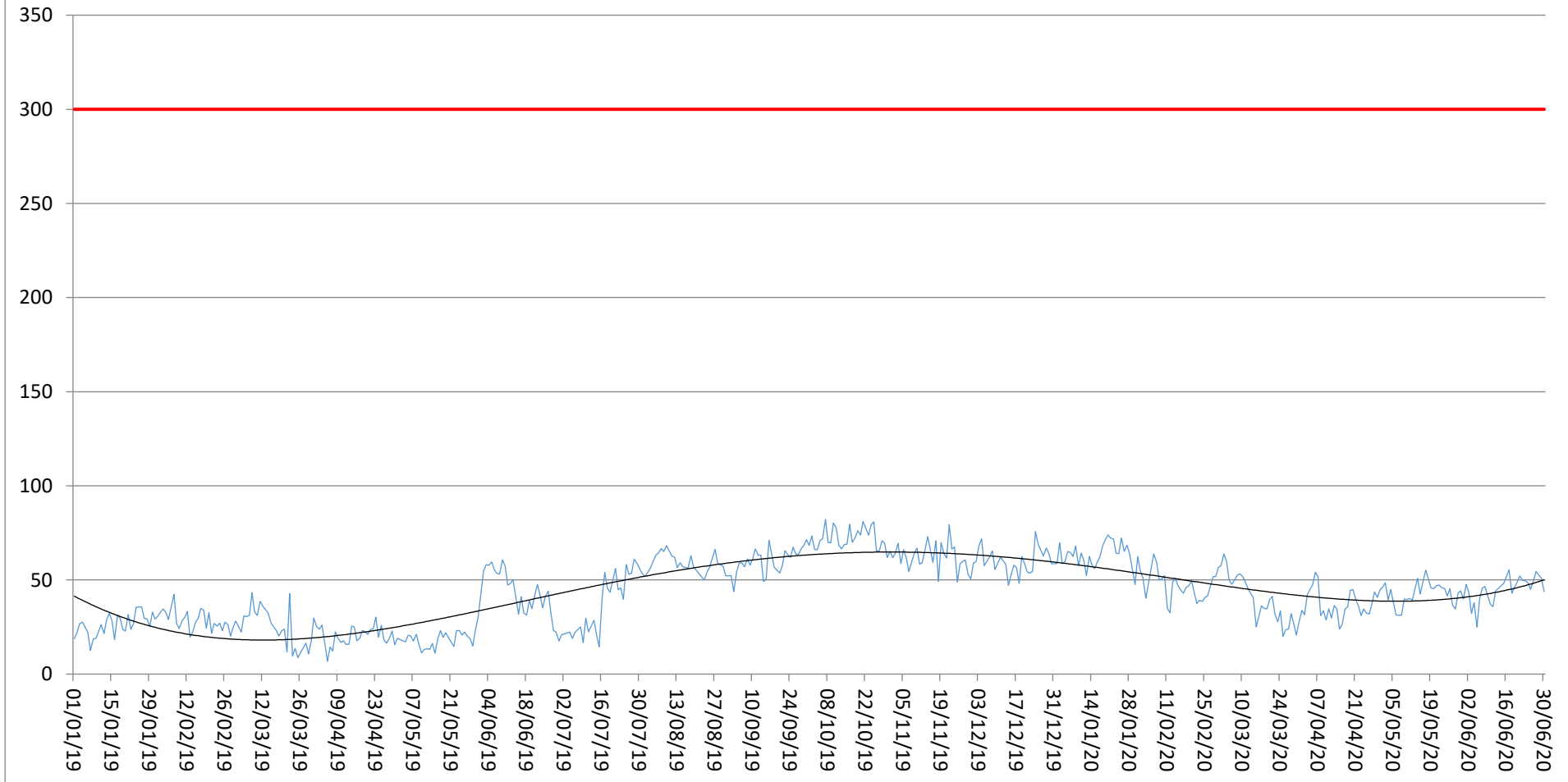
### Portata Fumi (Nm3/h) camino E114 - Anni 2019-2020



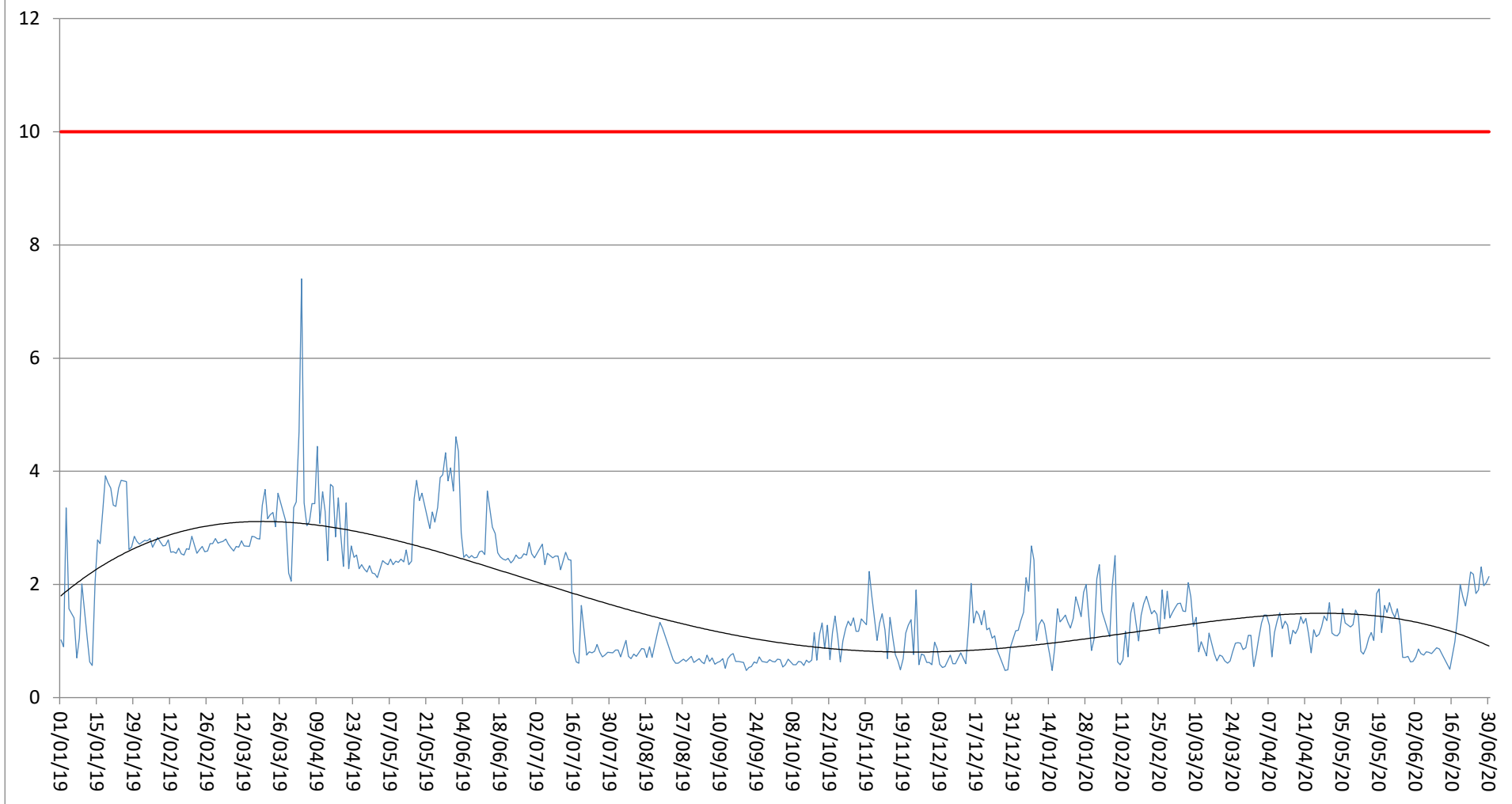
# NOx (mg/Nm3) camino E134 - Anni 2019-2020



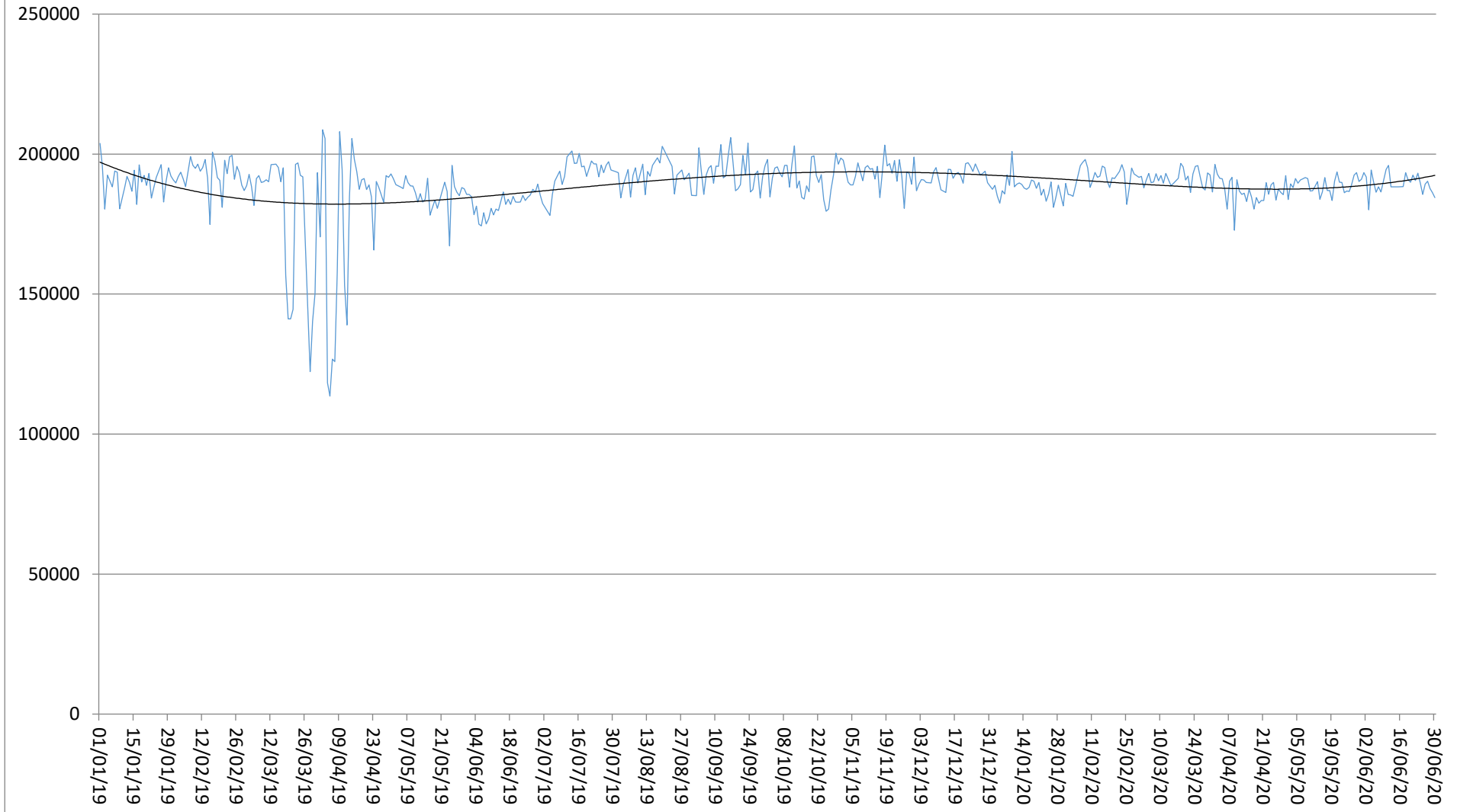
### SOx (mg/Nm3) camino E134 - Anni 2019-2020



### Polveri (mg/Nm3) camino E134 - Anni 2019-2020

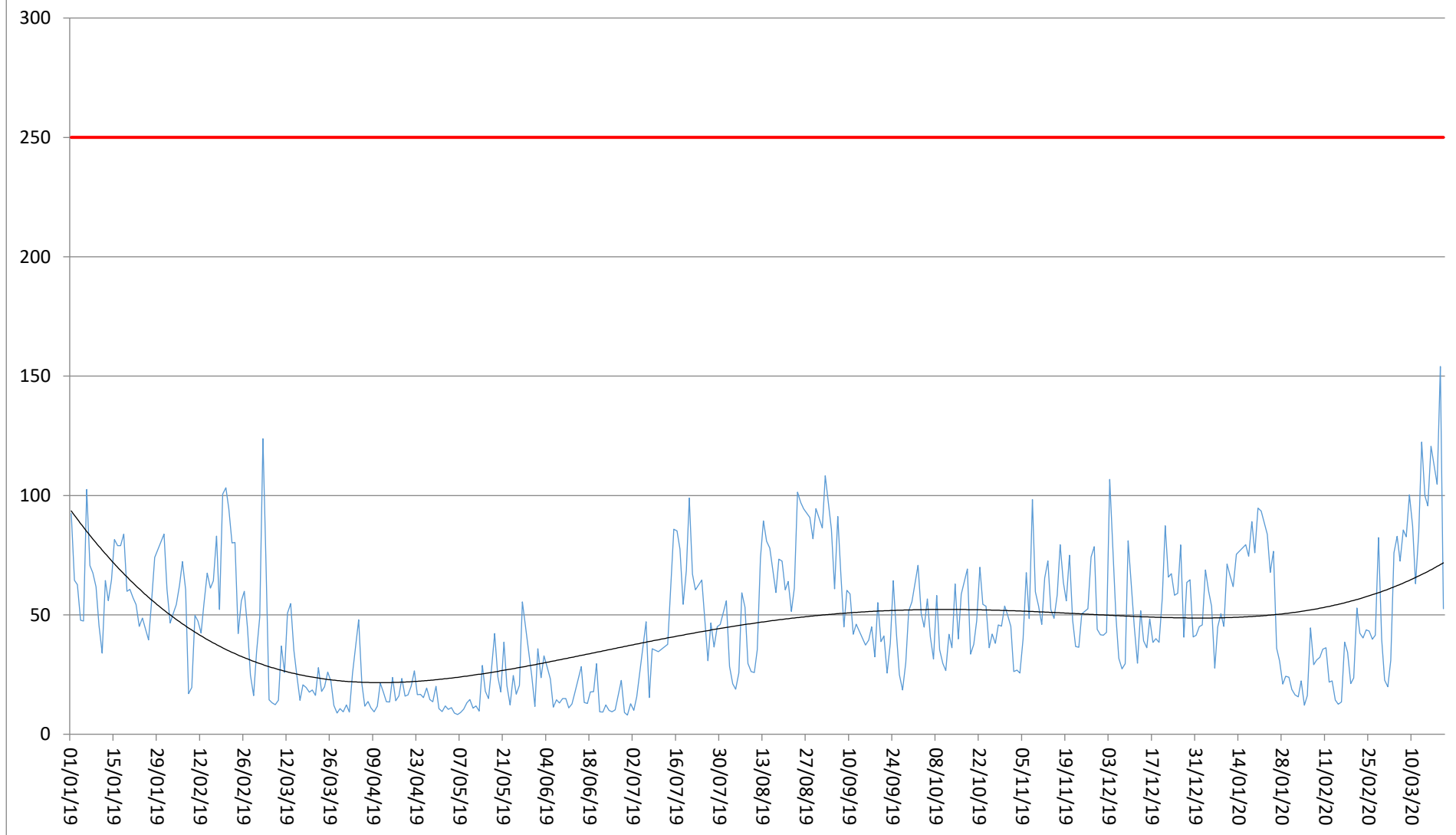


### Portata Fumi (Nm3/h) camino E134 - Anni 2019-2020

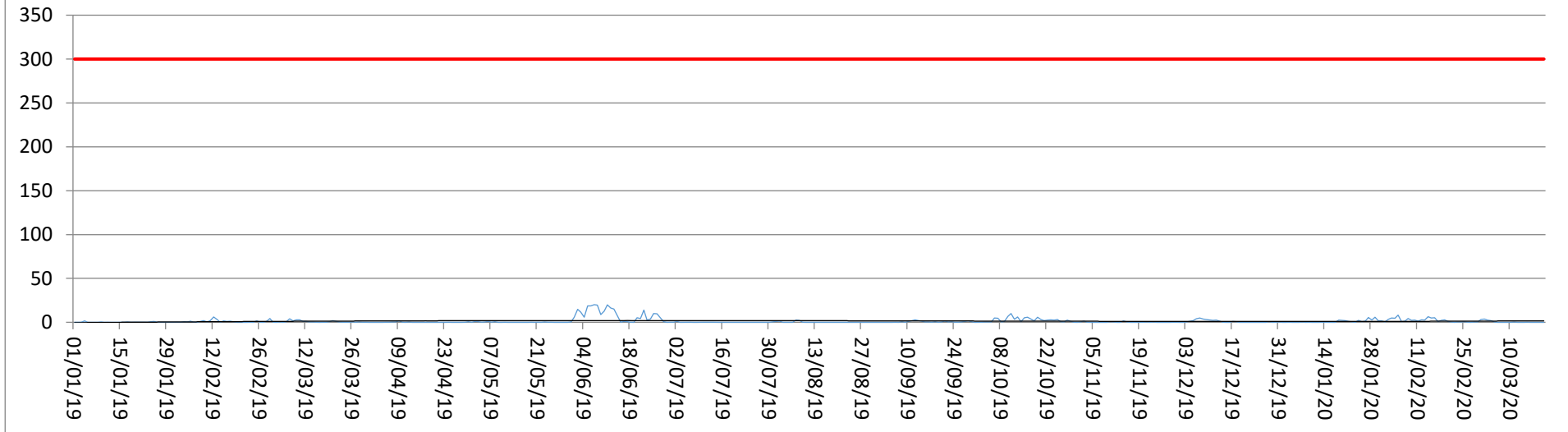




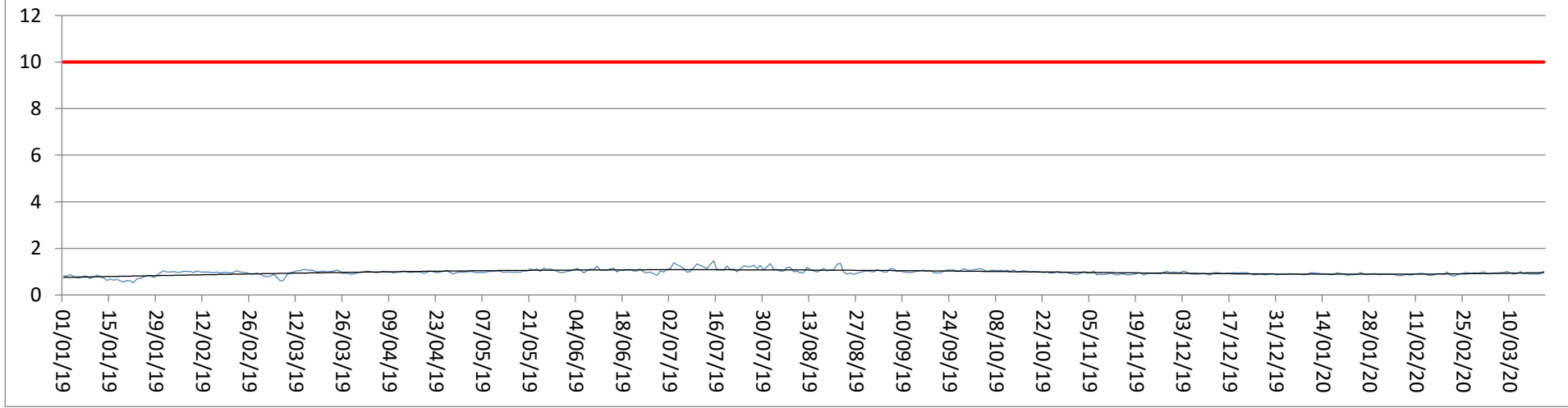
### NOx (mg/Nm3) camino E135 - Anni 2019-2020



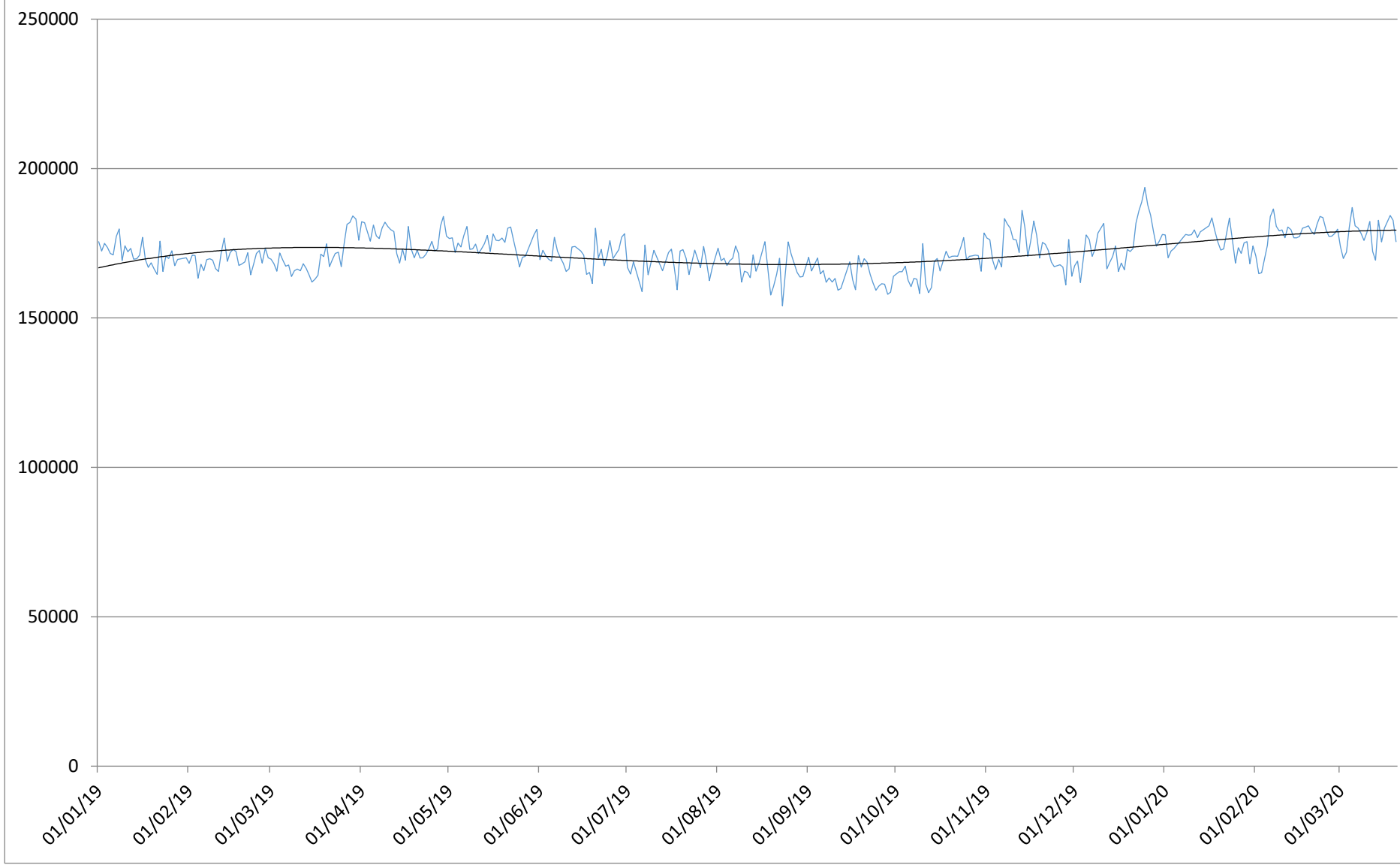
### SOx (mg/Nm3) camino E135 - Anni 2019-2020



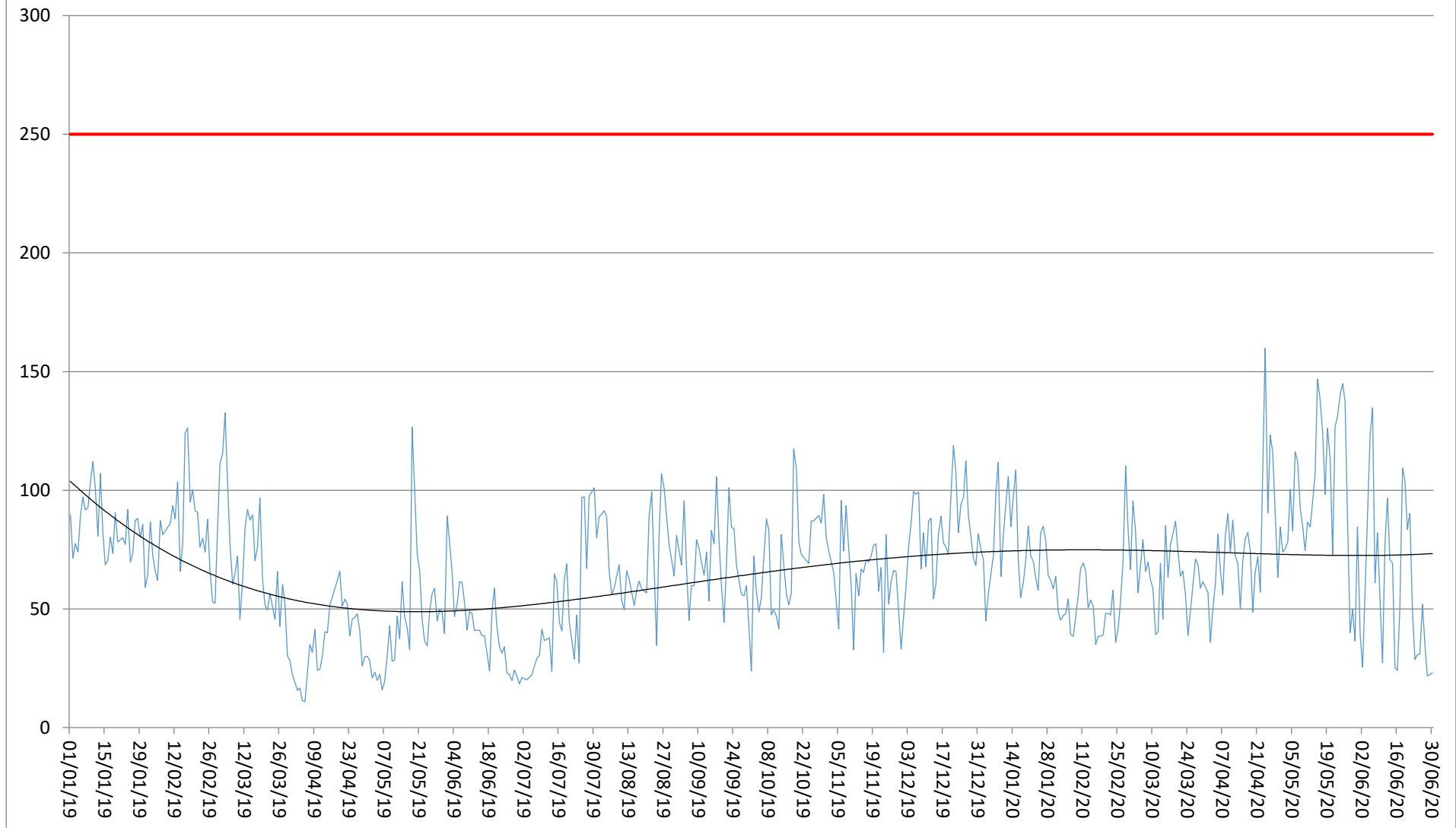
### Polveri (mg/Nm3) camino E135 - Anni 2019-2020



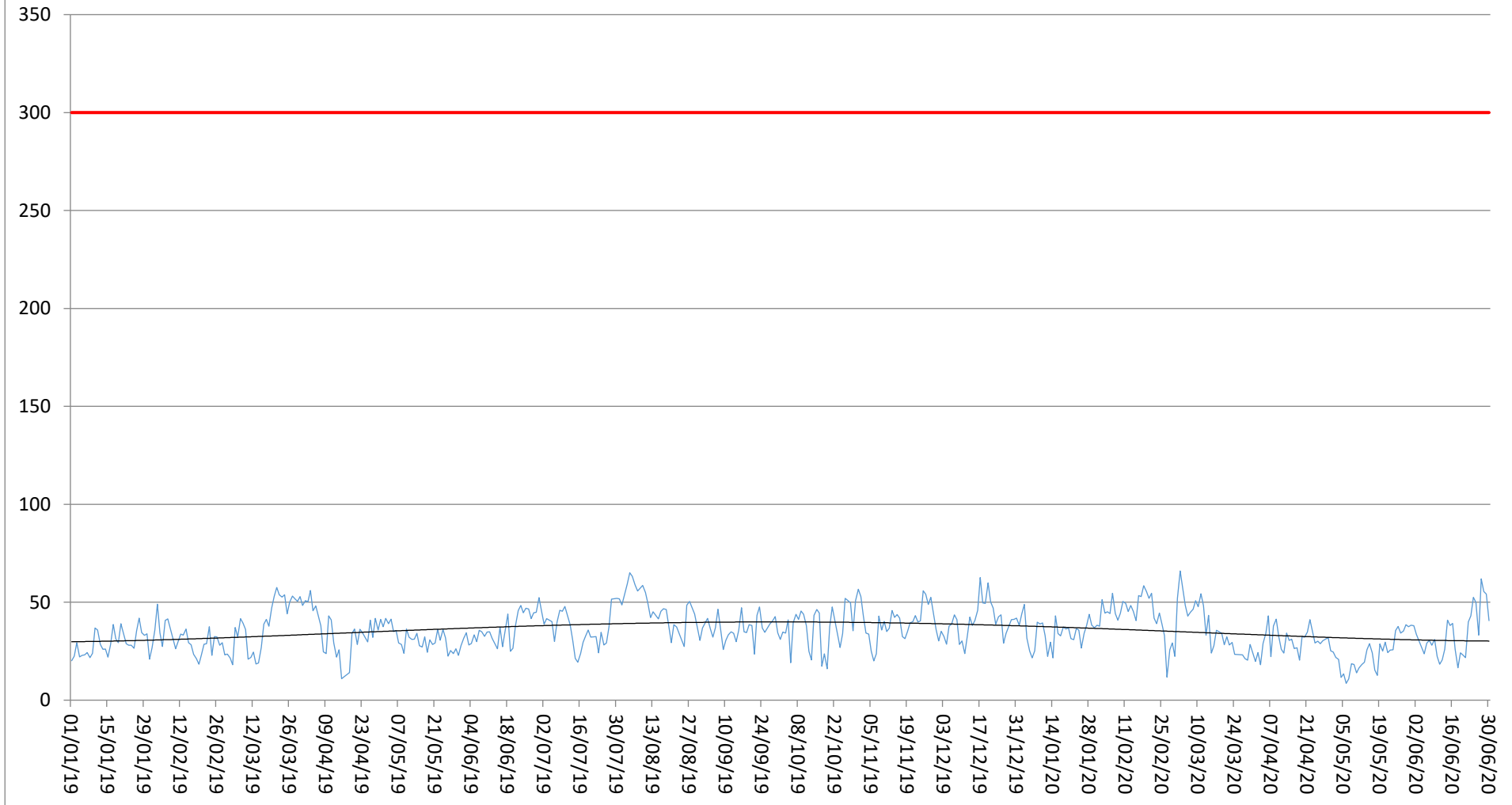
### Portata Fumi (Nm3/h) camino E135 - Anni 2019-2020



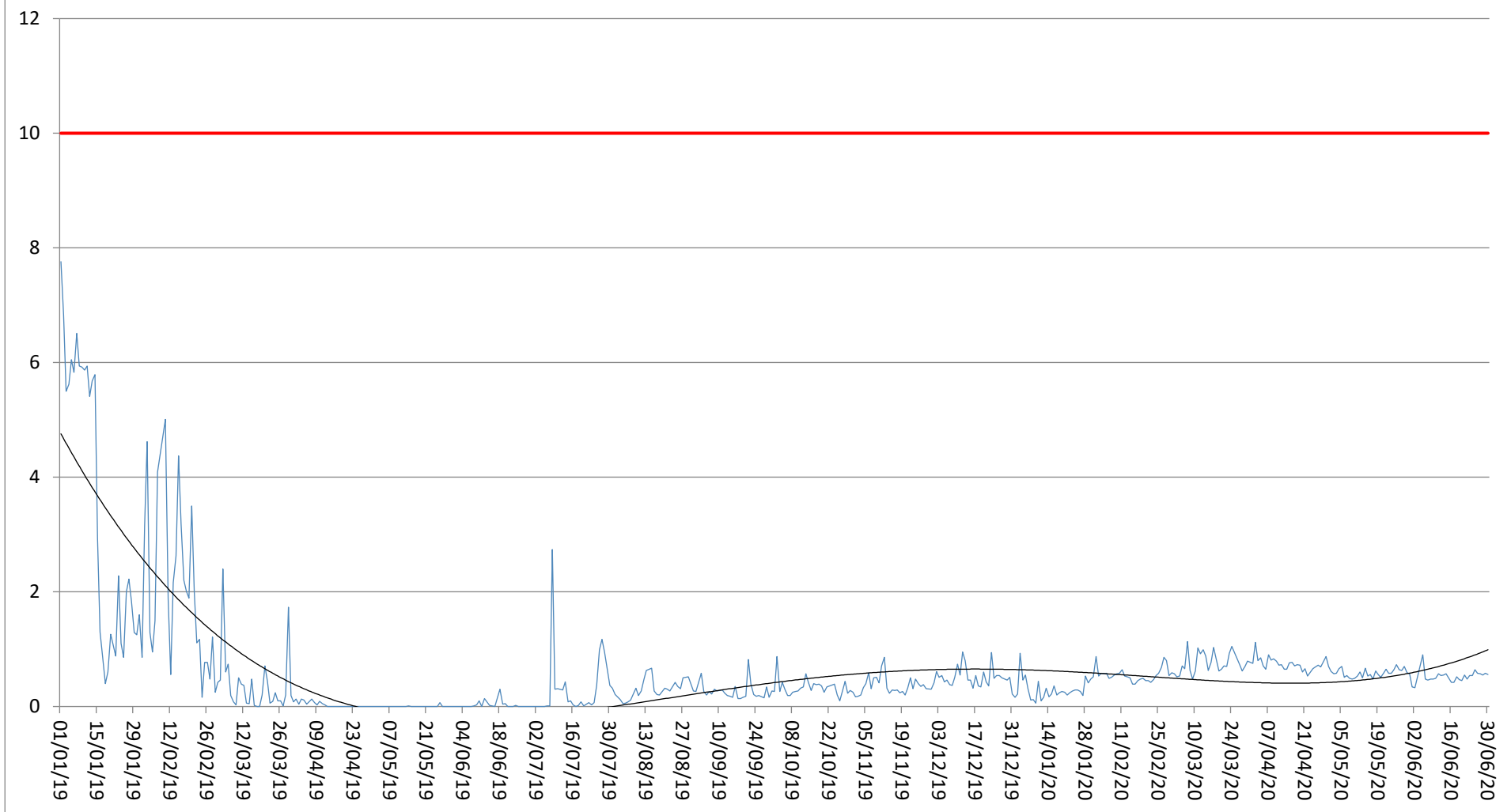
# NOx (mg/Nm3) camino E137 - Anni 2019-2020



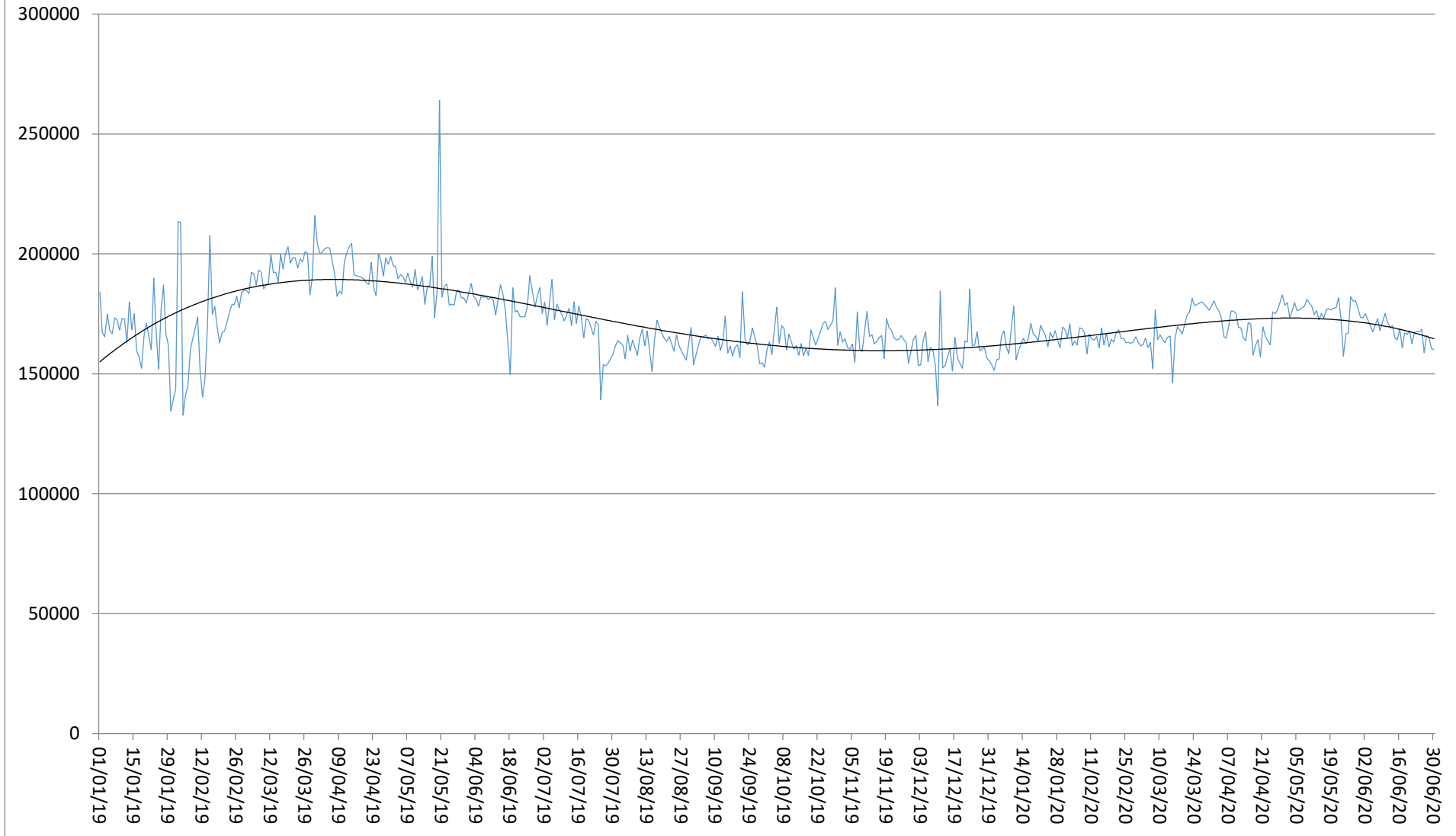
### SOx (mg/Nm3) camino E137 - Anni 2019-2020



### Polveri (mg/Nm3) camino E137 - Anni 2019-2020



### Portata Fumi (Nm3/h) camino E137 - Anni 2019-2020



**TAVOLA 5 Emissioni diffuse**



Dati riepilogativi sulle stime delle emissioni diffuse in aria estratte dai rapporti annuali di esercizio 2017-2018-2019 trasmessi dal Gestore per i vari reparti dell'area a caldo																						
Impianto/prodotto		Produzione (Ktonnellate/a)			Polveri (t/anno)			IPA (BaP) (Kg/anno)			Benzene (t/anno)			Stima emissione diffusa di PCDD/F g/anno			H <sub>2</sub> S (t/anno)			SO <sub>2</sub> (t/anno)		
		2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
Coleria(Batterie 7-8 e 11-12)/Coke m.		1234	1232	1181	25,52	25,24	24,52	17,06	17,03	16,32	1,26	1,25	1,20									
Coleria (Torri di spegnimento 4 e 7)/Coke m.					22,54	26,90	33,10															
Agglomerato/ Agl	Depolverazione secondaria (parte non captata)	5525	4901	4878	18,74	18,88	20,06							0,0044	0,0783	0,011						
	Raffreddatori				35,09	31,71	30,49							0,0060	0,0523	0,0081						
Altoforni 1, 2 e 4/Ghisa	Colaggio	4673	4430	4173	88,8	84,2	79,3										4,0 ND(SCVL)	3,9 35,4(SCVL)	3,4 53,8(SCVL)	2,0 ND(SCVL)	1,9 17,4(SCVL)	1,7 26,5(SCVL)
	Stock House				27,8	9,0	0															
Acciaierie 1 e 2/Acciaio	Affinazione ghisa	4731	4520	4210	37,9	36,2	33,7															
TOTALE AREA A CALDO					256,39	232,13	221,71	17,06	17,03	16,32	1,26	1,25	1,20	0,010*	0,13**	0,019***	4,0	39,3	57,2	2,0	19,3	28,2
TOTALE STABILIMENTO					307,5	290,5	257	17,06	17,03	16,32	1,26	1,25	1,20	0,010	0,13	0,019	4	39,3	57,2	2,0	19,3	28,2

(\*) Fattore di emissione: 0,002

(\*\*) Fattore di emissione: 0,027

(\*\*\*) Fattore di emissione 0,004

(SCVL) Senza Condensazione Vapori Loppa