

# ***ISPRA***

## **APPENDICE 2**

*Trends emissivi Camini Area a caldo*

***TAVOLA 1: Cokerie***  
***TAVOLA 2: Agglomerato***  
***TAVOLA 3: Acciaierie***  
***TAVOLA 4: Altoforni***

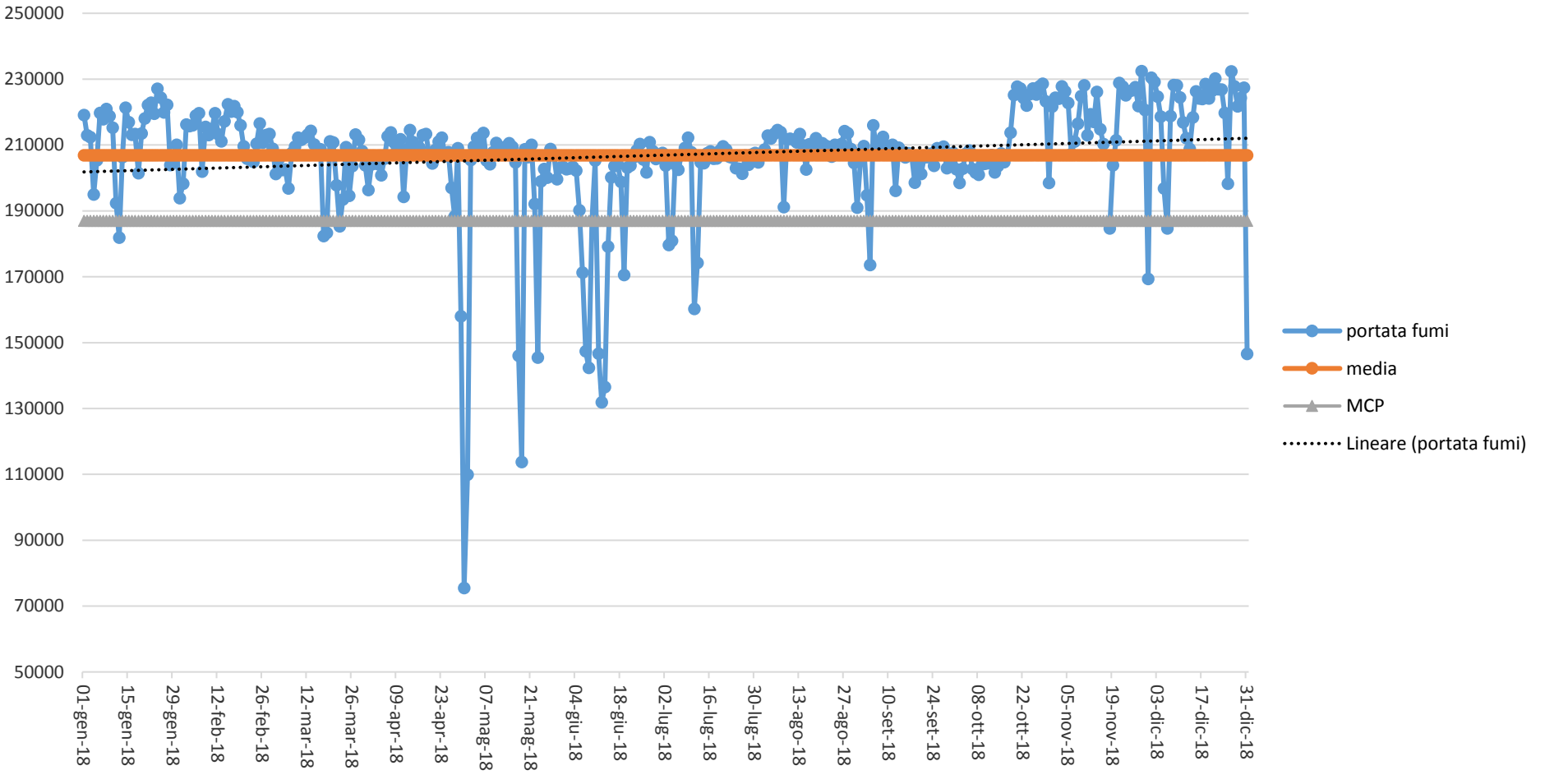
***Aprile 2021***

## **TAVOLA 1 - Camini cokeria**

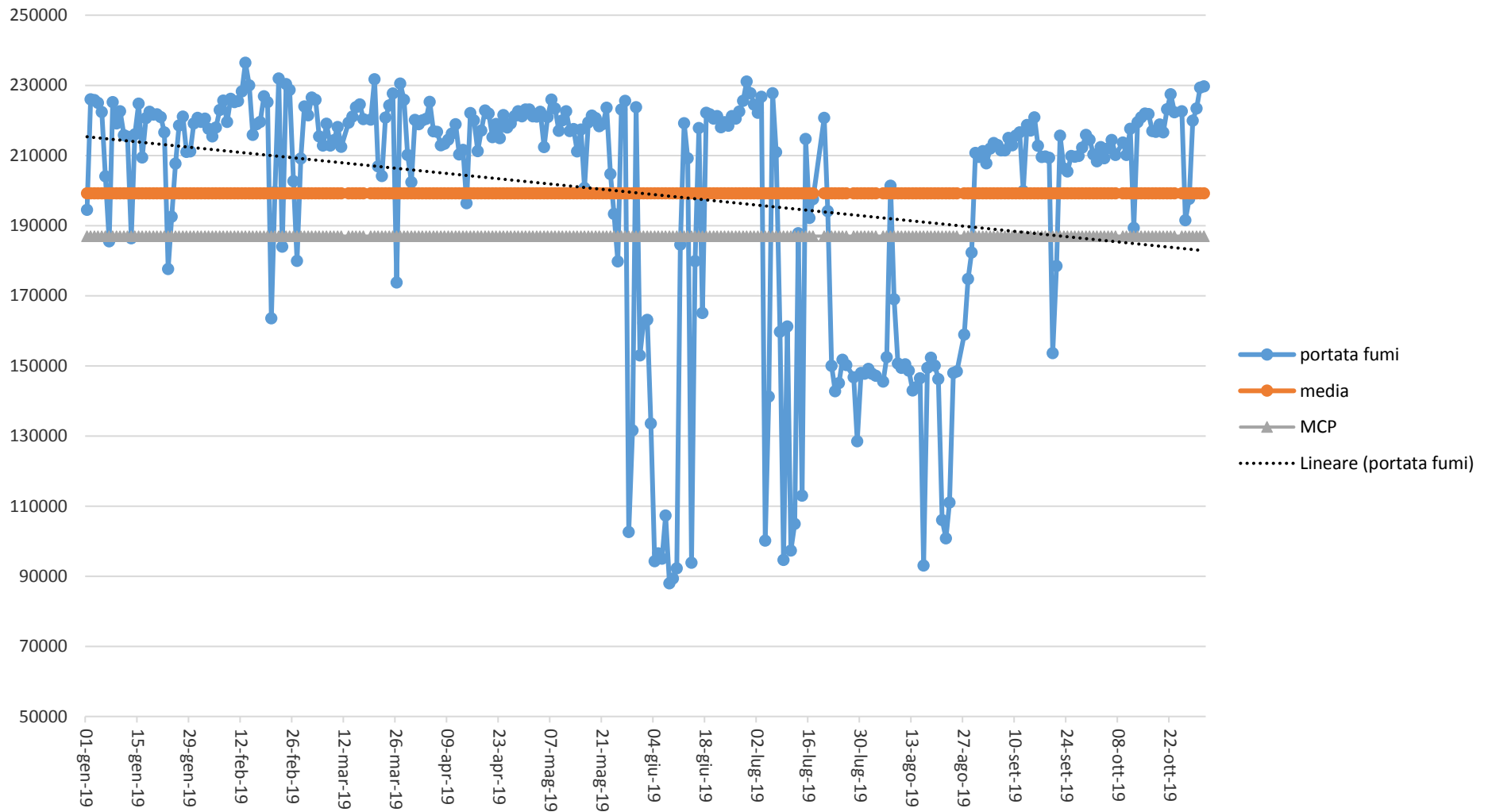
**E424, E426, E428, E435, E436**

**ELABORAZIONE DATI ILVA Spa /AM Italia Spa – COKERIA – CAMINO E424**

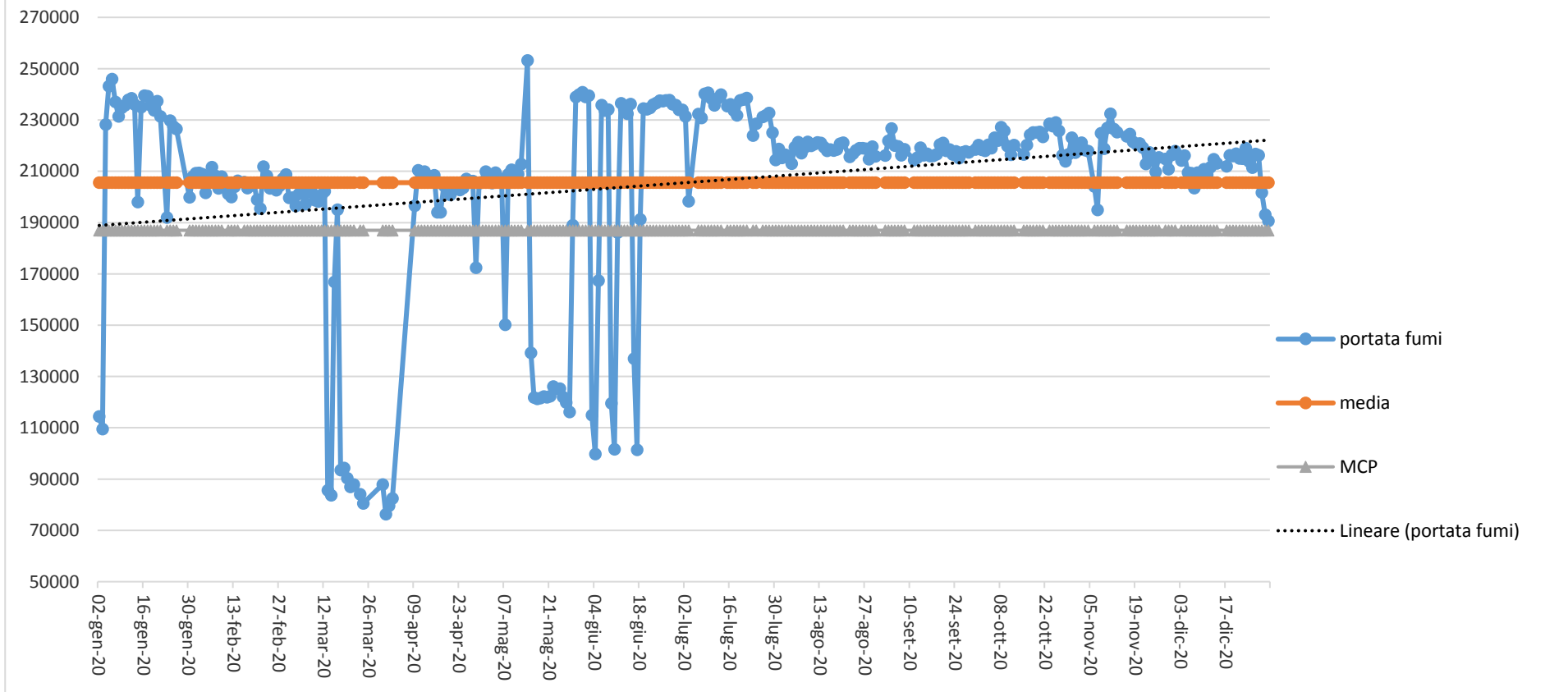
Portata fumi (Nm3/h) camino 4 (E424) cokeria - anno 2018



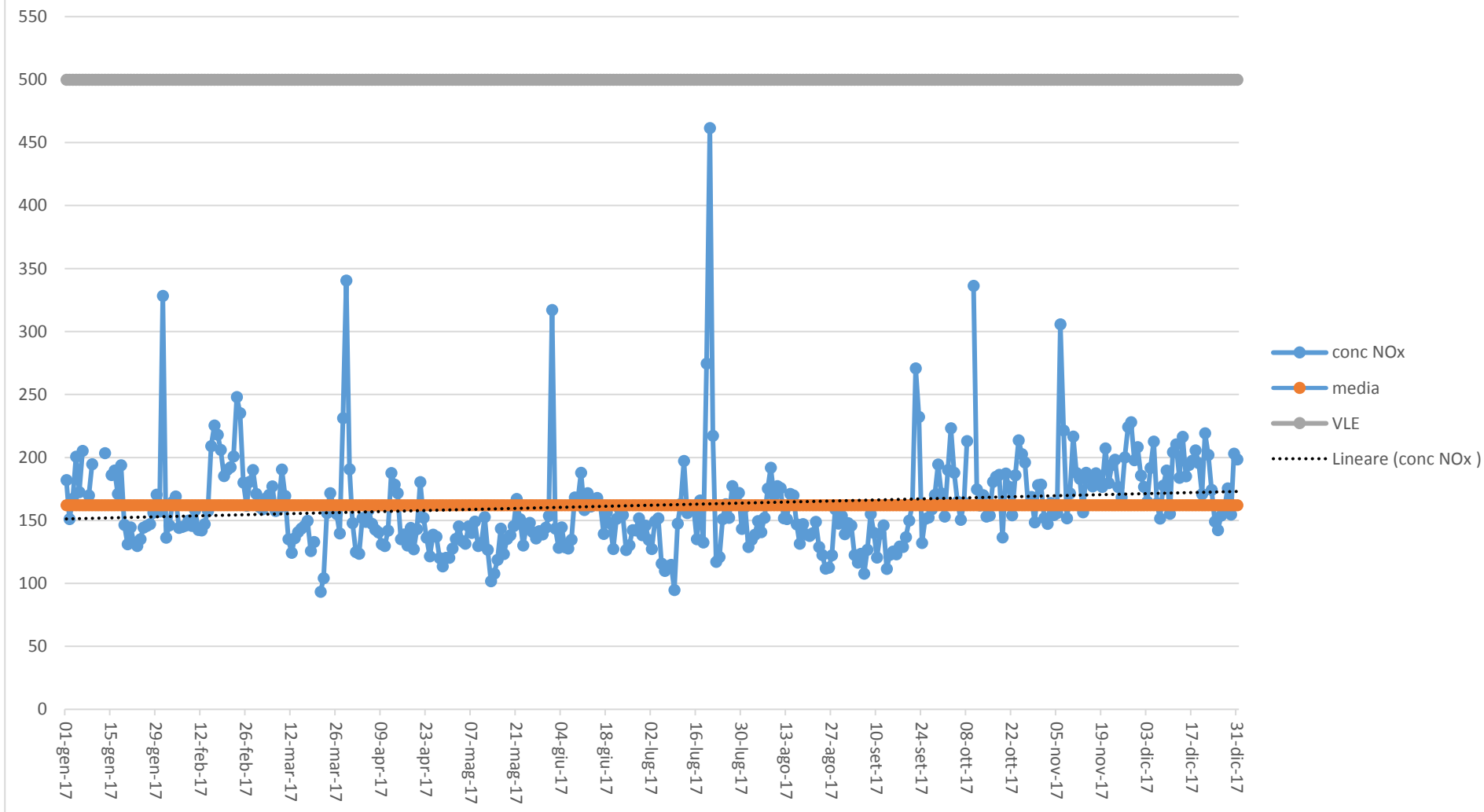
Portata fumi (Nm<sup>3</sup>/h) camino 4 (E424) cokeria - anno 2019



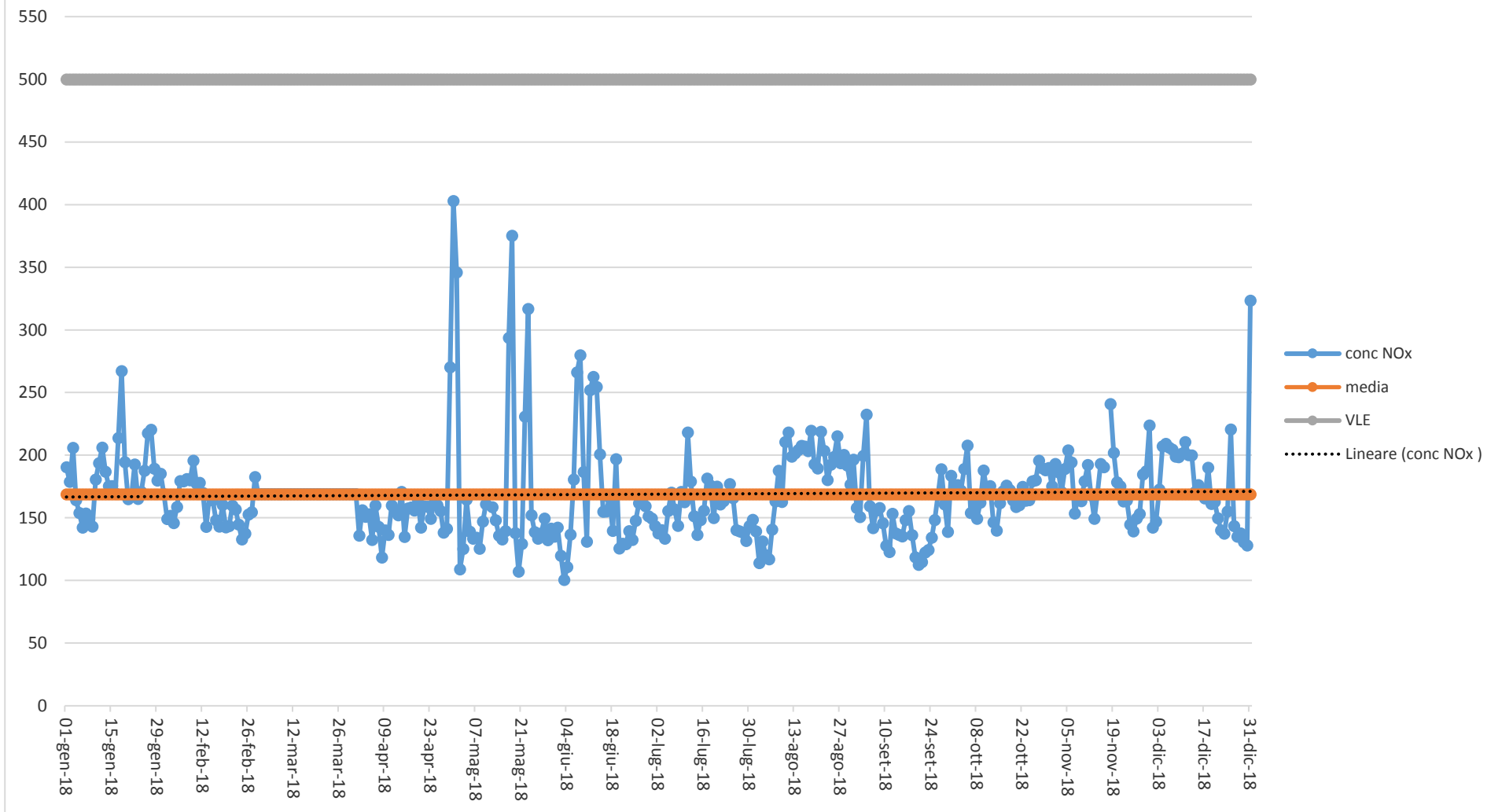
Portata fumi (Nm3/h) camino 4 (E424) cokeria - anno 2020



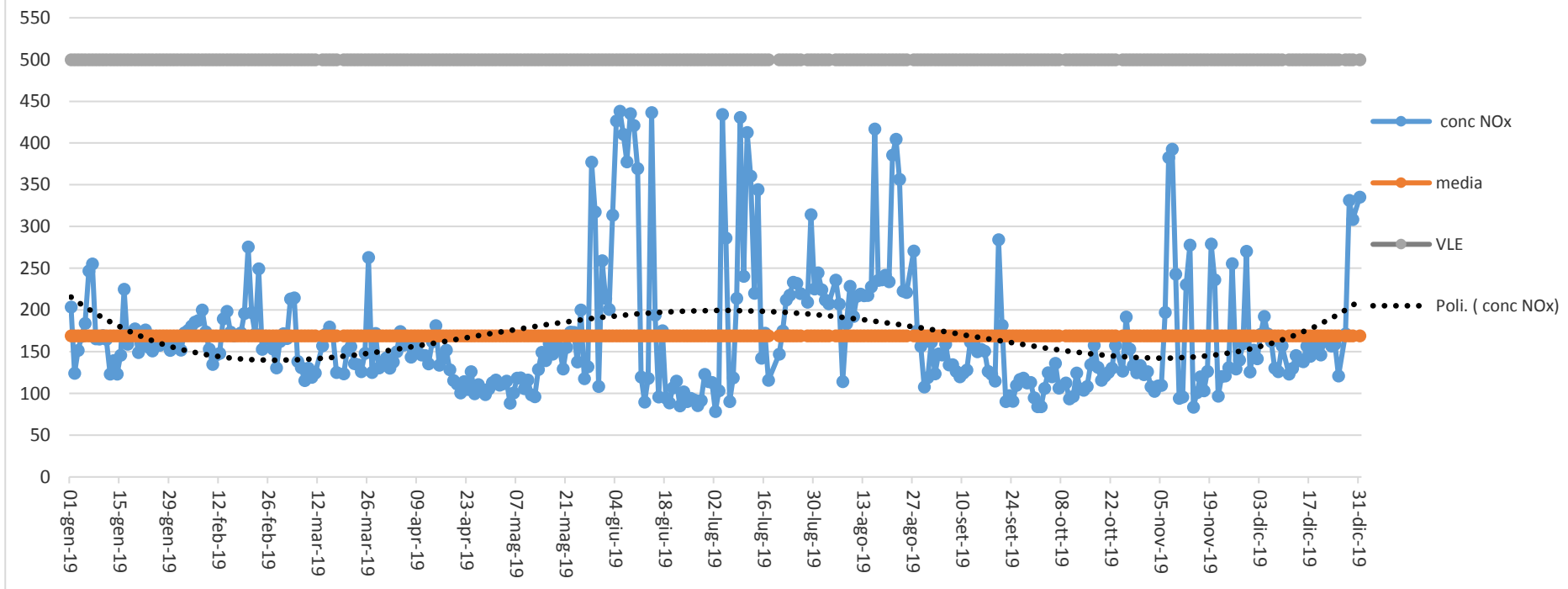
Concentrazione NOx (mg/Nm3, media giornaliera) camino E424 cokeria - ANNO 2017



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

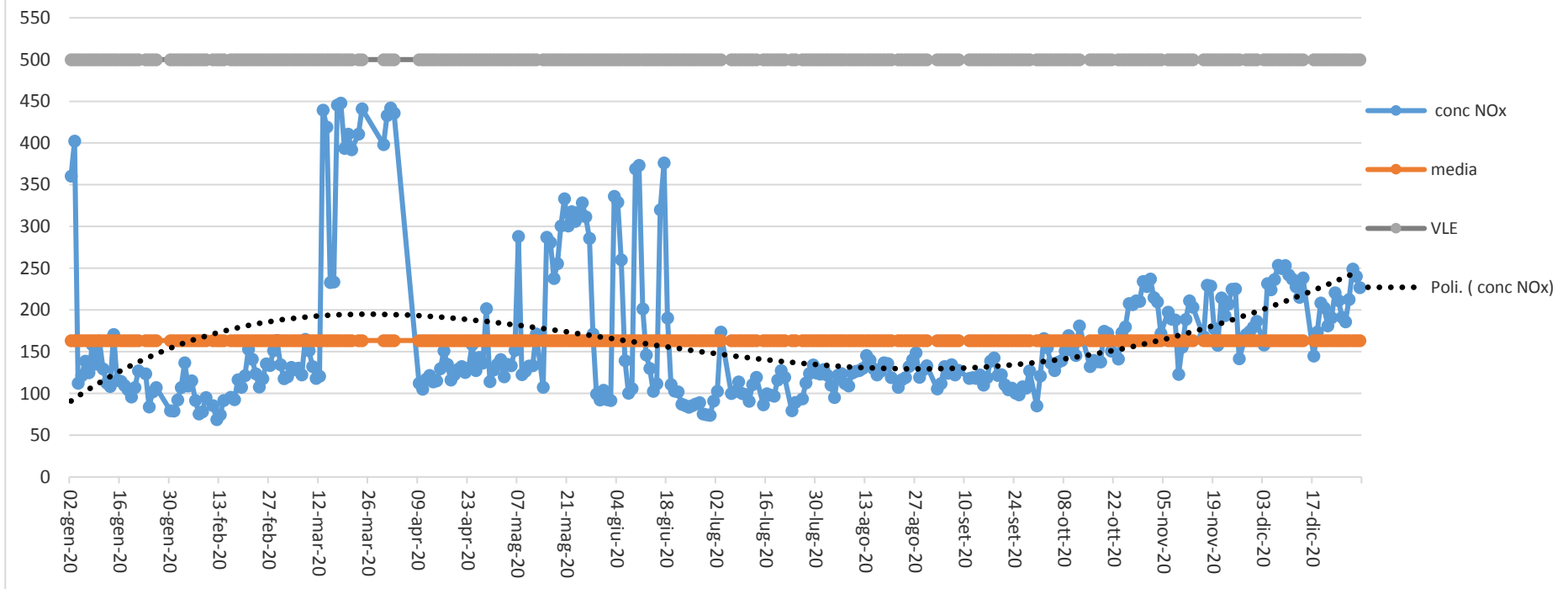


### Concentrazione NOx (mg/Nm3, media giornaliera) camino E424 cokeria - ANNO 2019

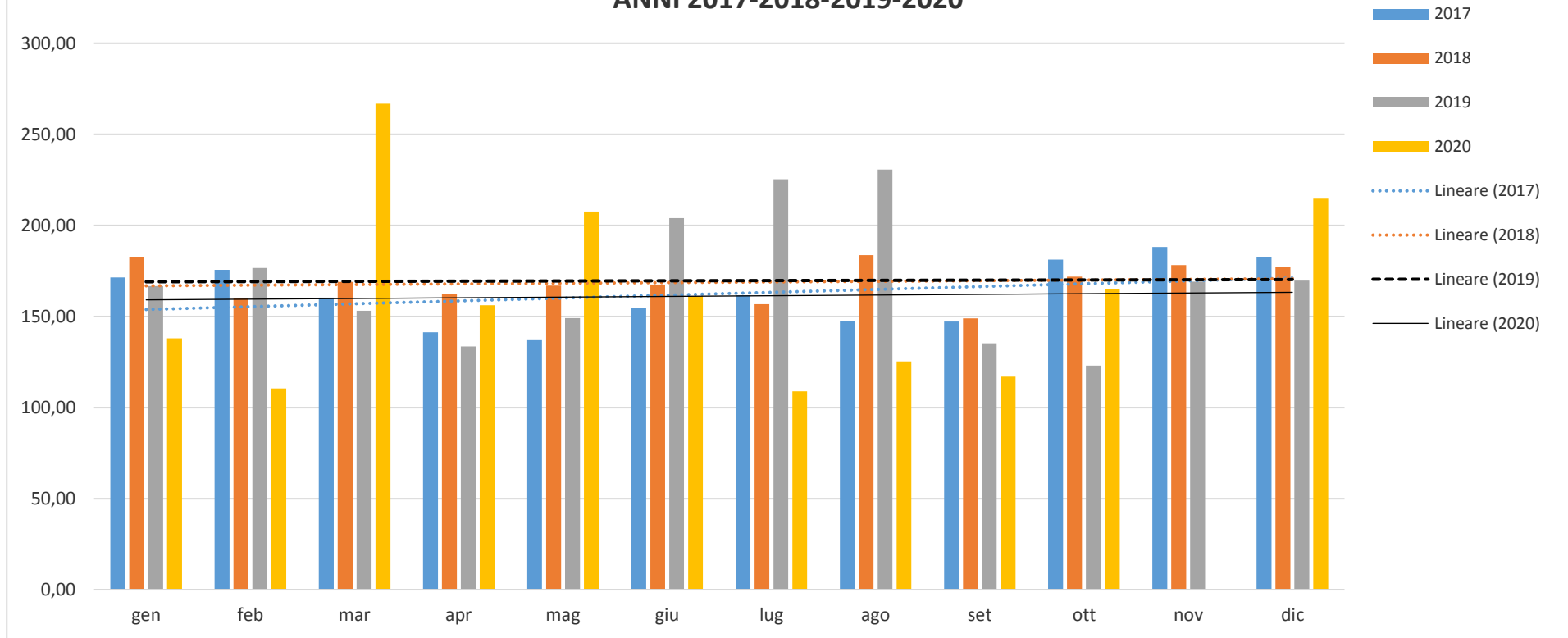




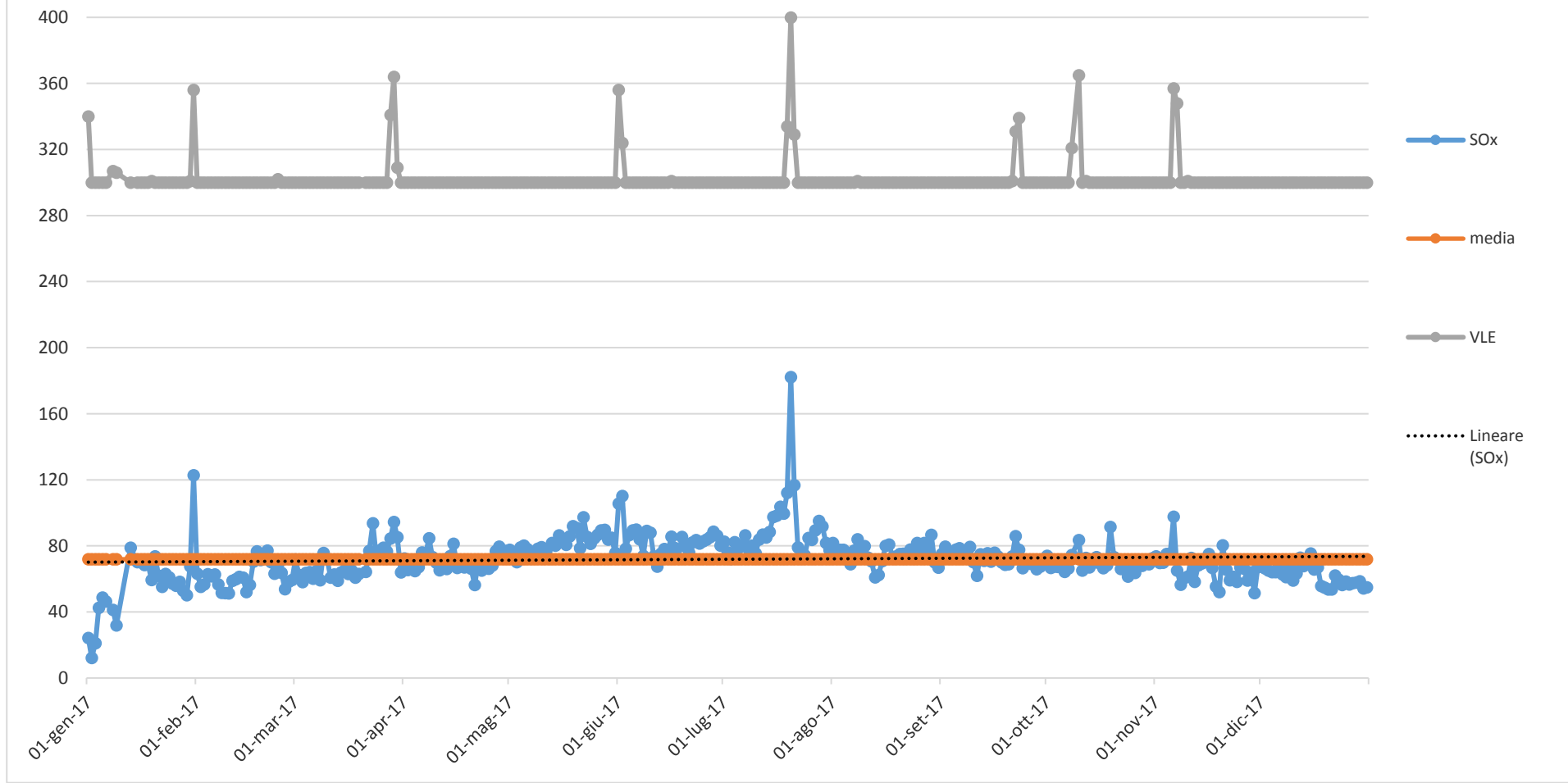
### Concentrazione NOx (mg/Nm3, media giornaliera) camino E424 cokeria - ANNO 2020



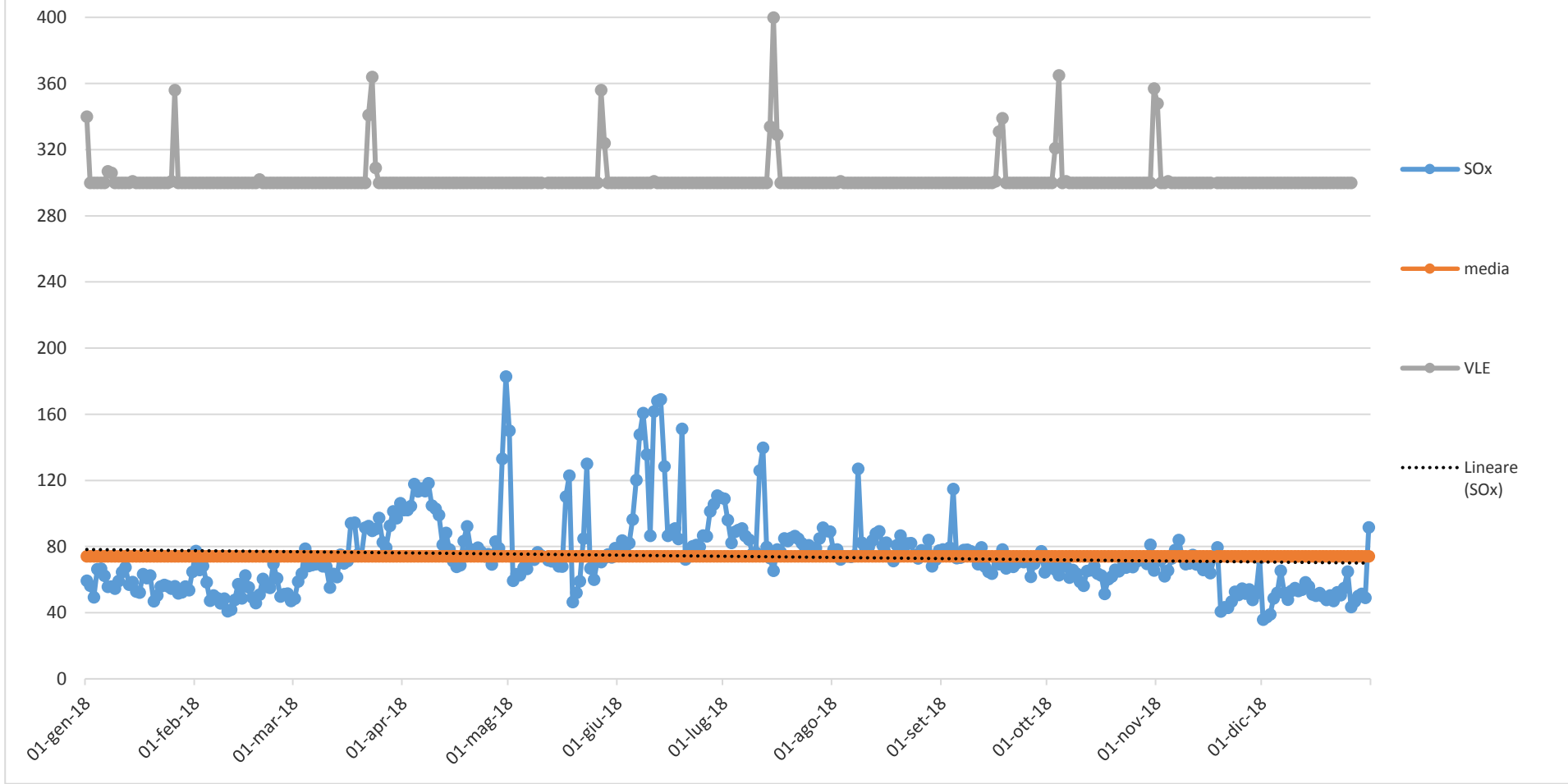
### Concentrazione NOx (mg/Nm3, medie mensili) camino E424 cokeria ANNI 2017-2018-2019-2020



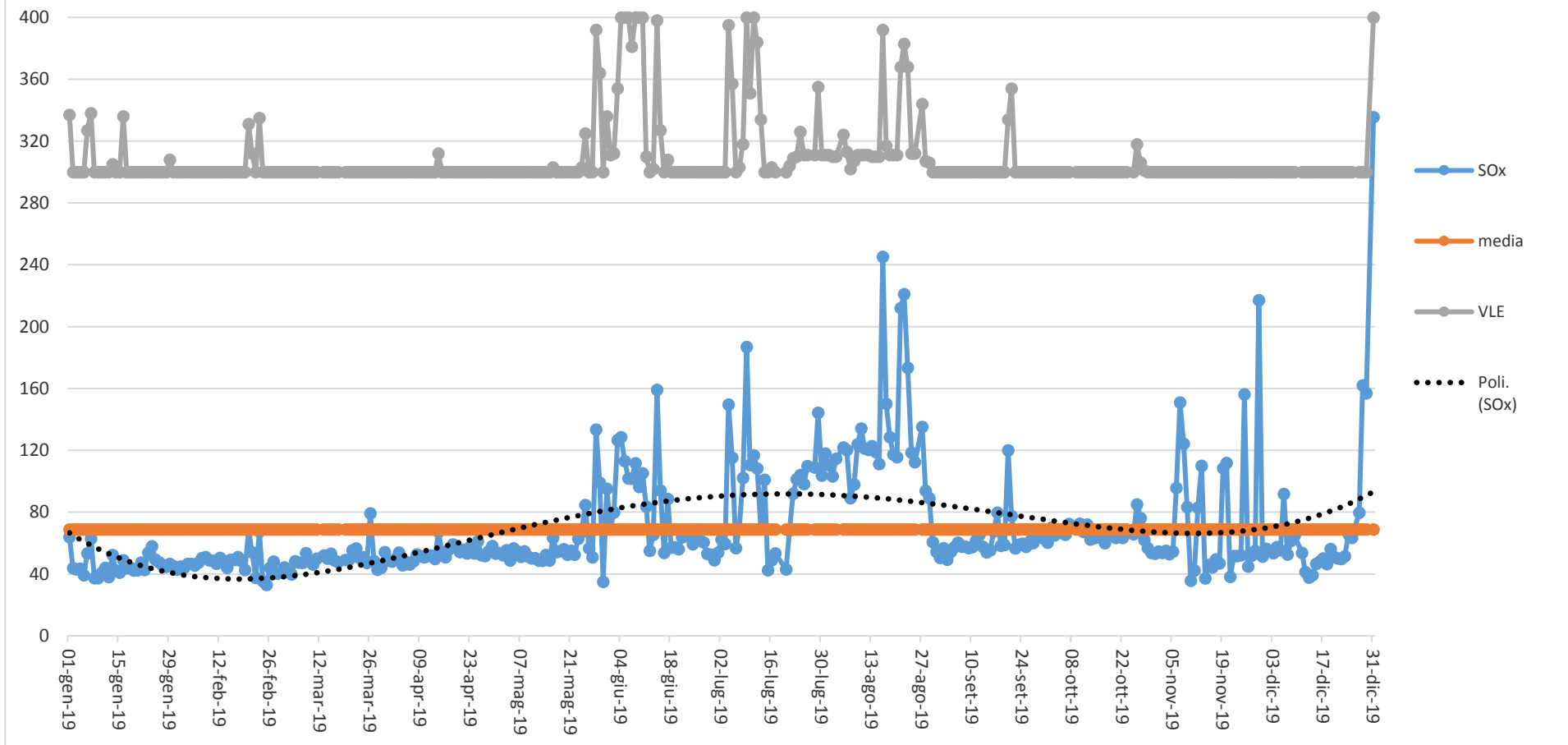
Concentrazione SOx (mg/Nm3, media giornaliera) camino E424 - ANNO 2017



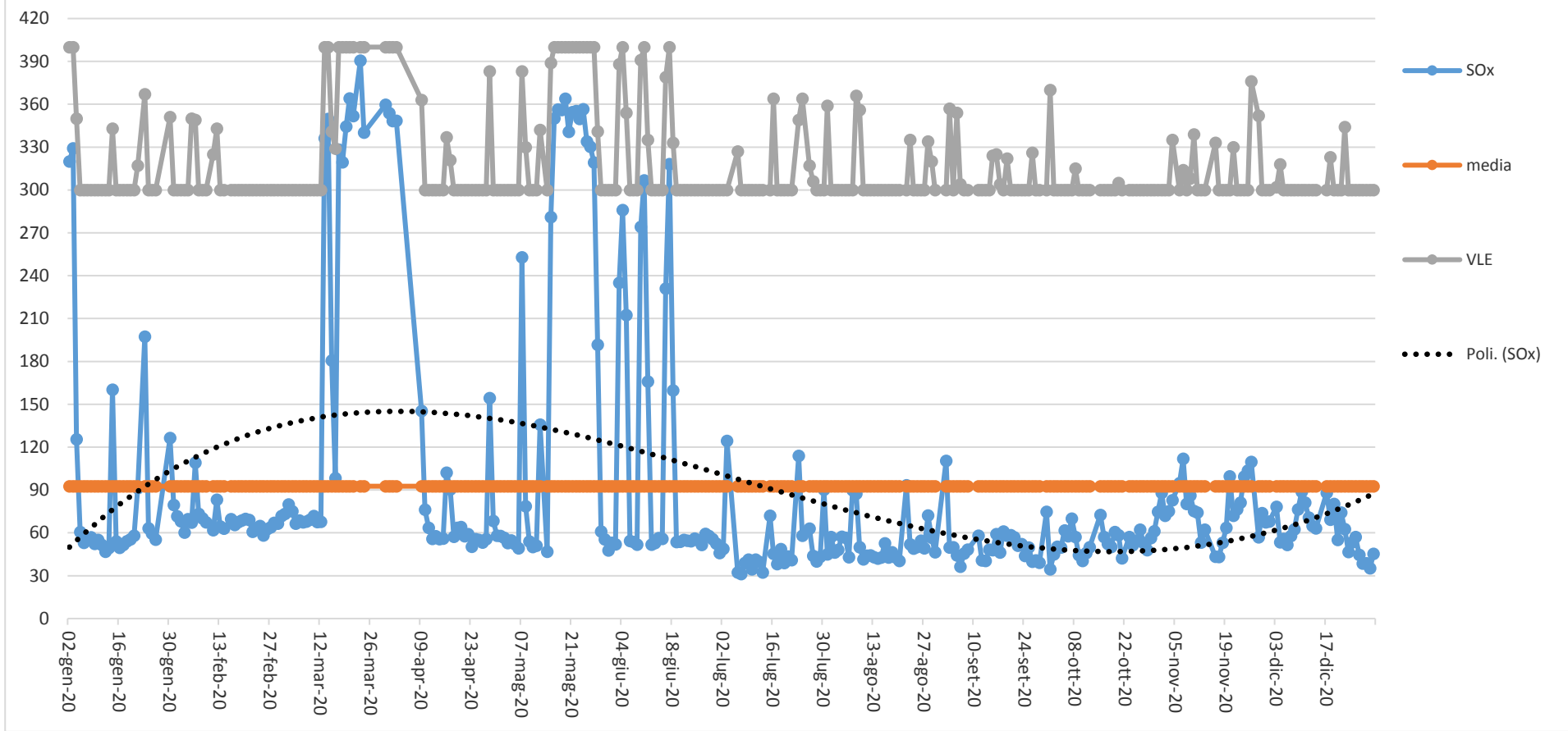
Concentrazione SOx (mg/Nm3, media giornaliera) camino E424 - ANNO 2018



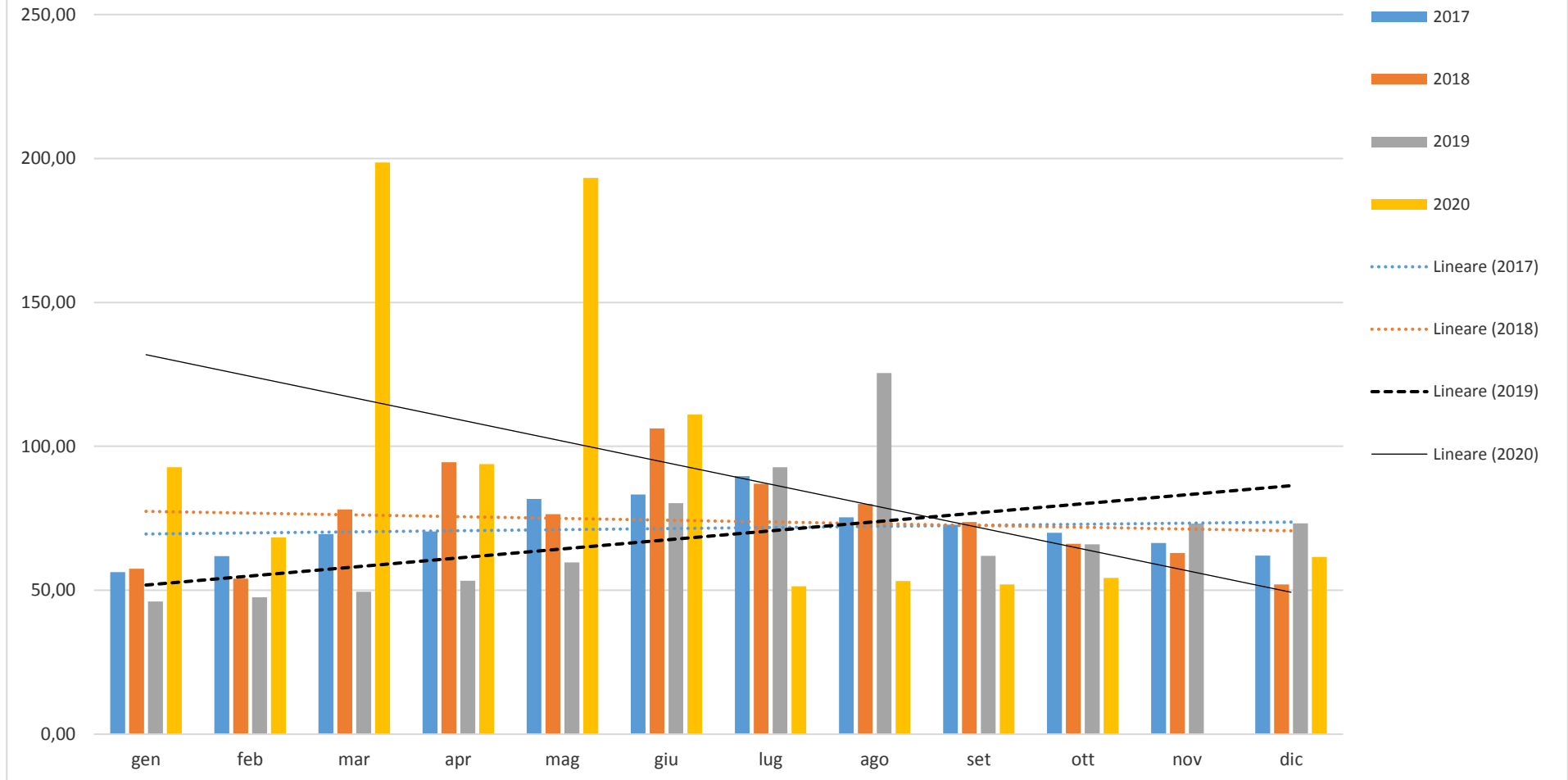
Concentrazione SOx (mg/Nm3, media giornaliera) camino E424 - ANNO 2019



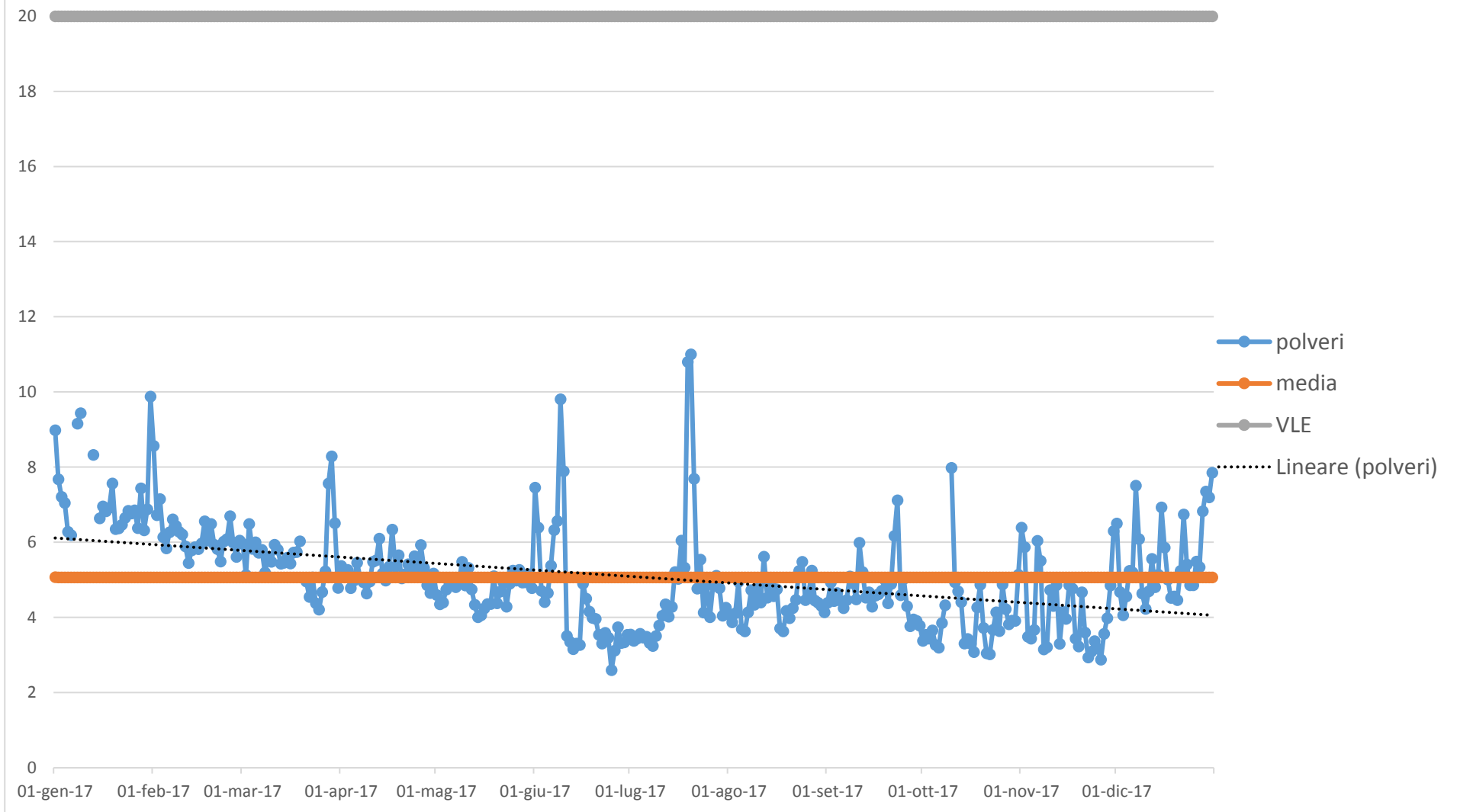
Concentrazione SOx (mg/Nm3, media giornaliera) camino E424 - ANNO 2020



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

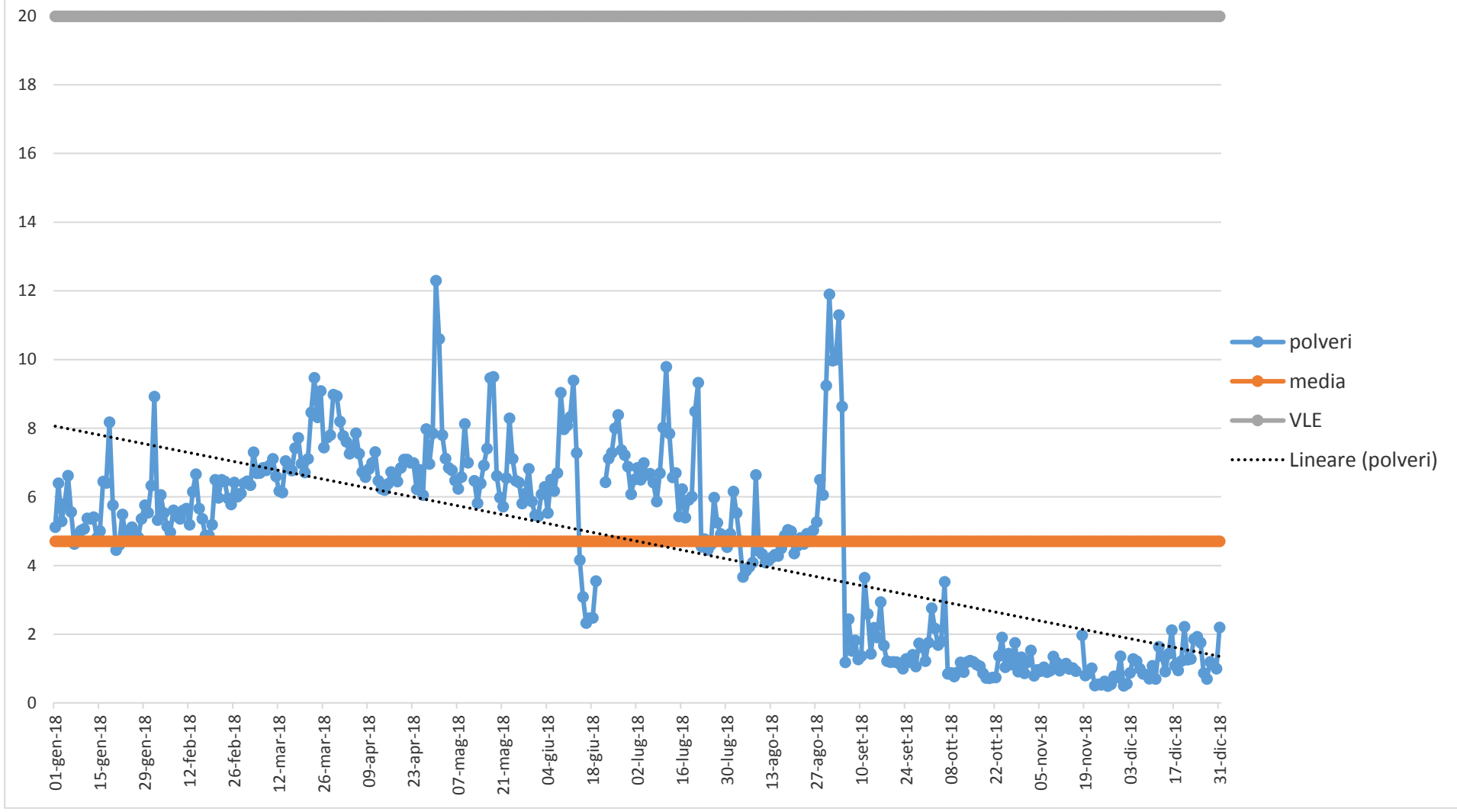


### Concentrazione polveri (mg/Nm3, media giornaliera) camino E424 - ANNO 2017

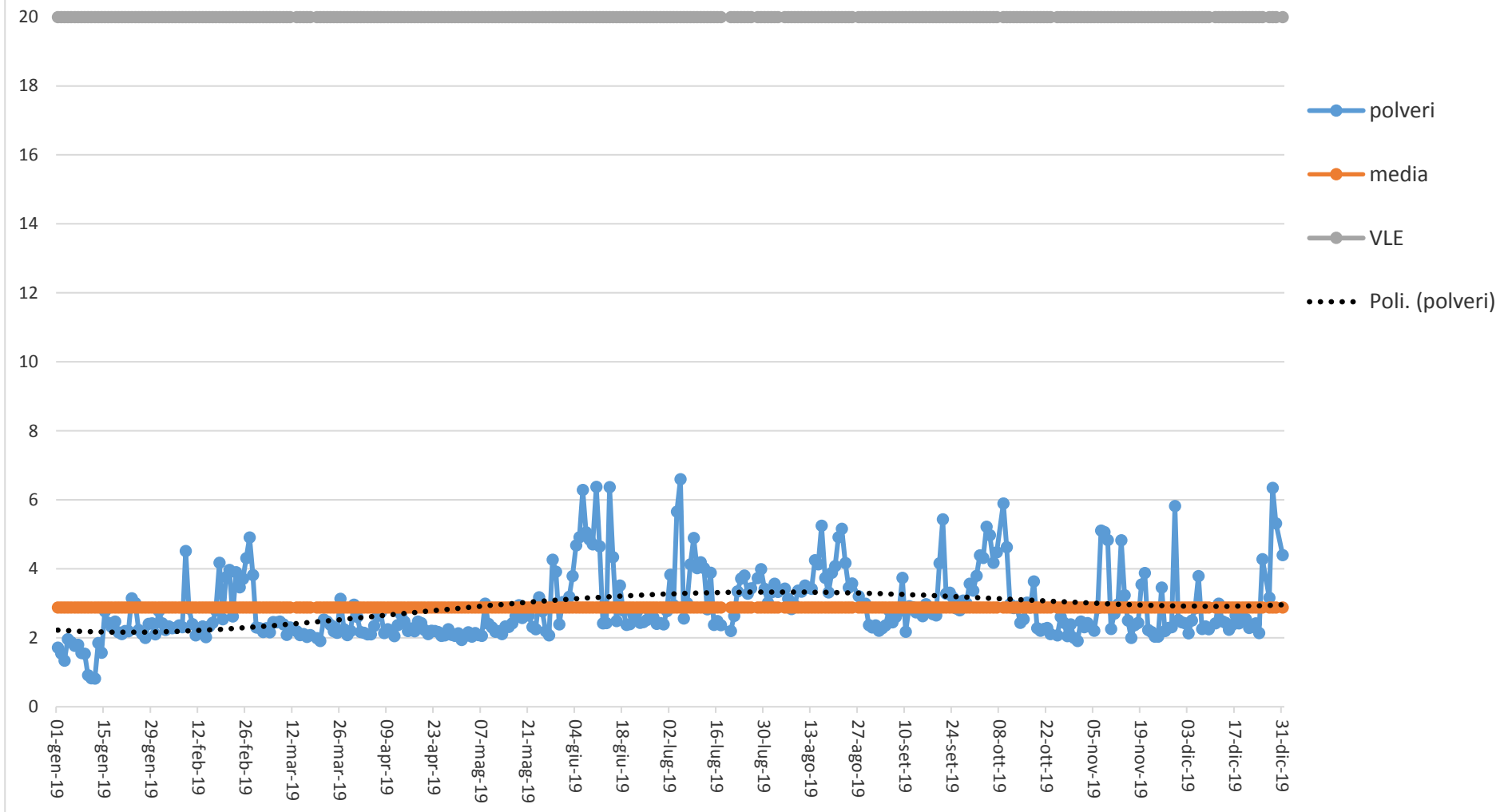




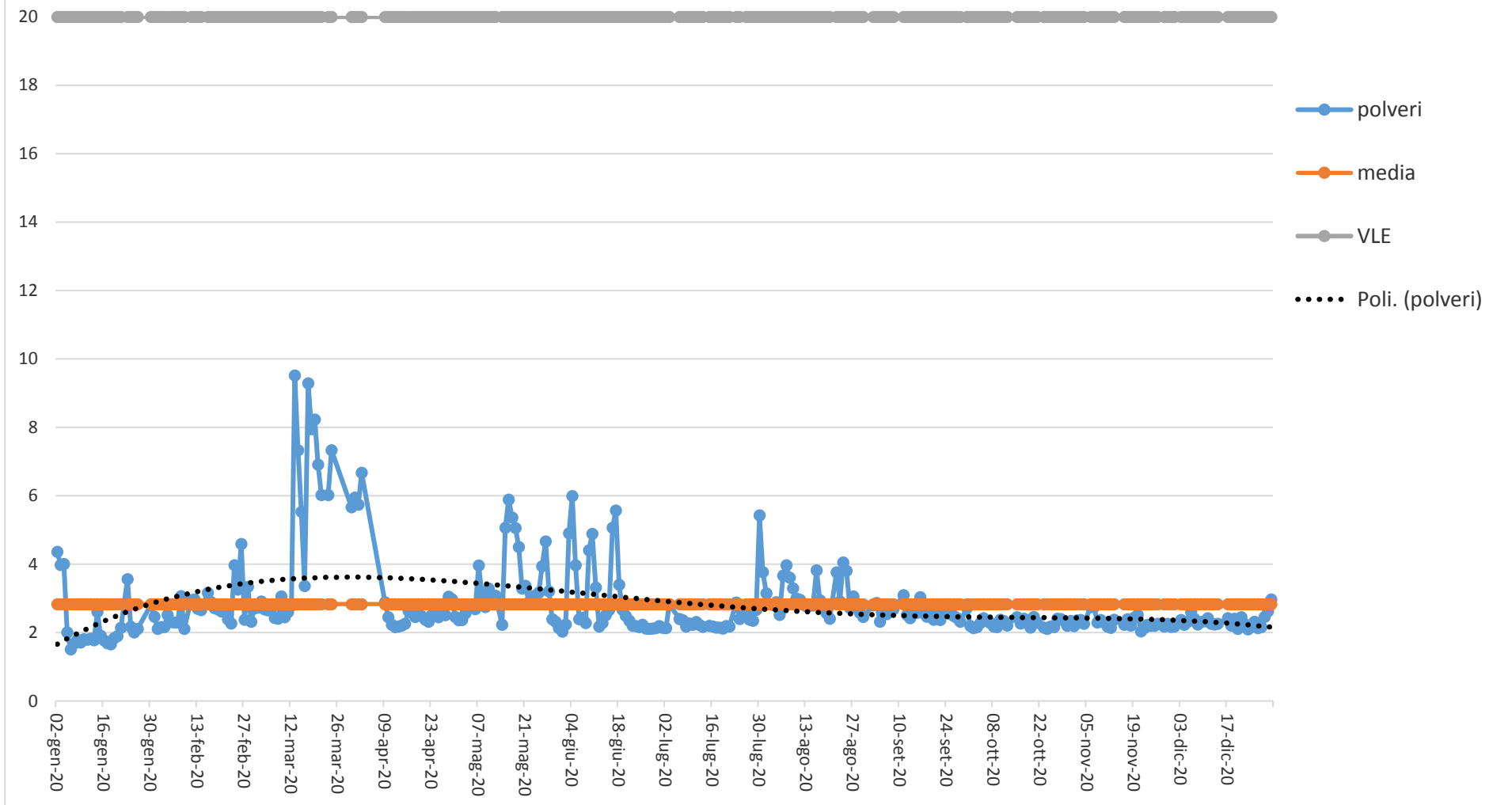
### Concentrazione polveri (mg/Nm3, media giornaliera) camino E424 - ANNO 2018



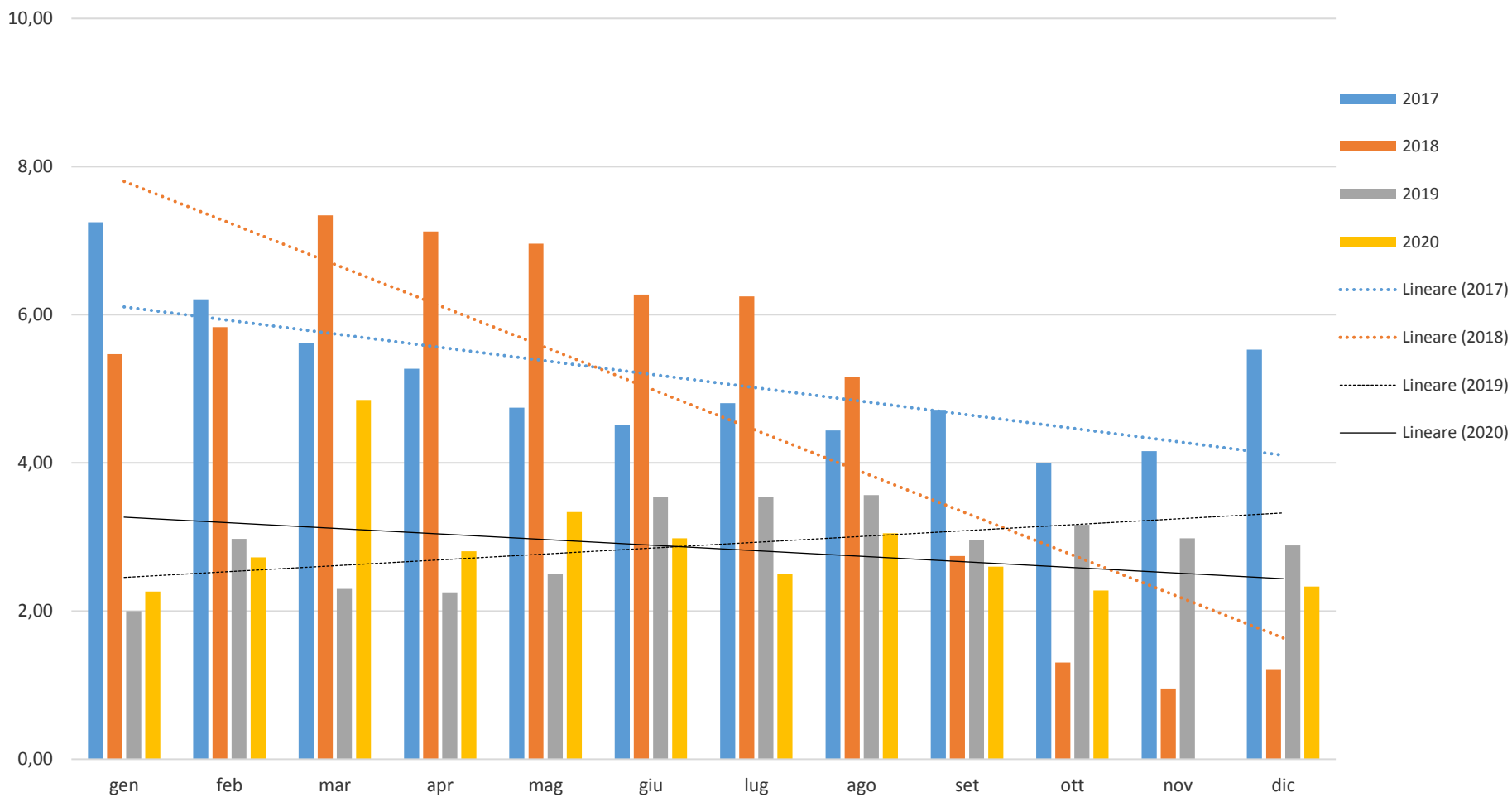
### Concentrazione polveri (mg/Nm3, media giornaliera) camino E424 - ANNO 2019



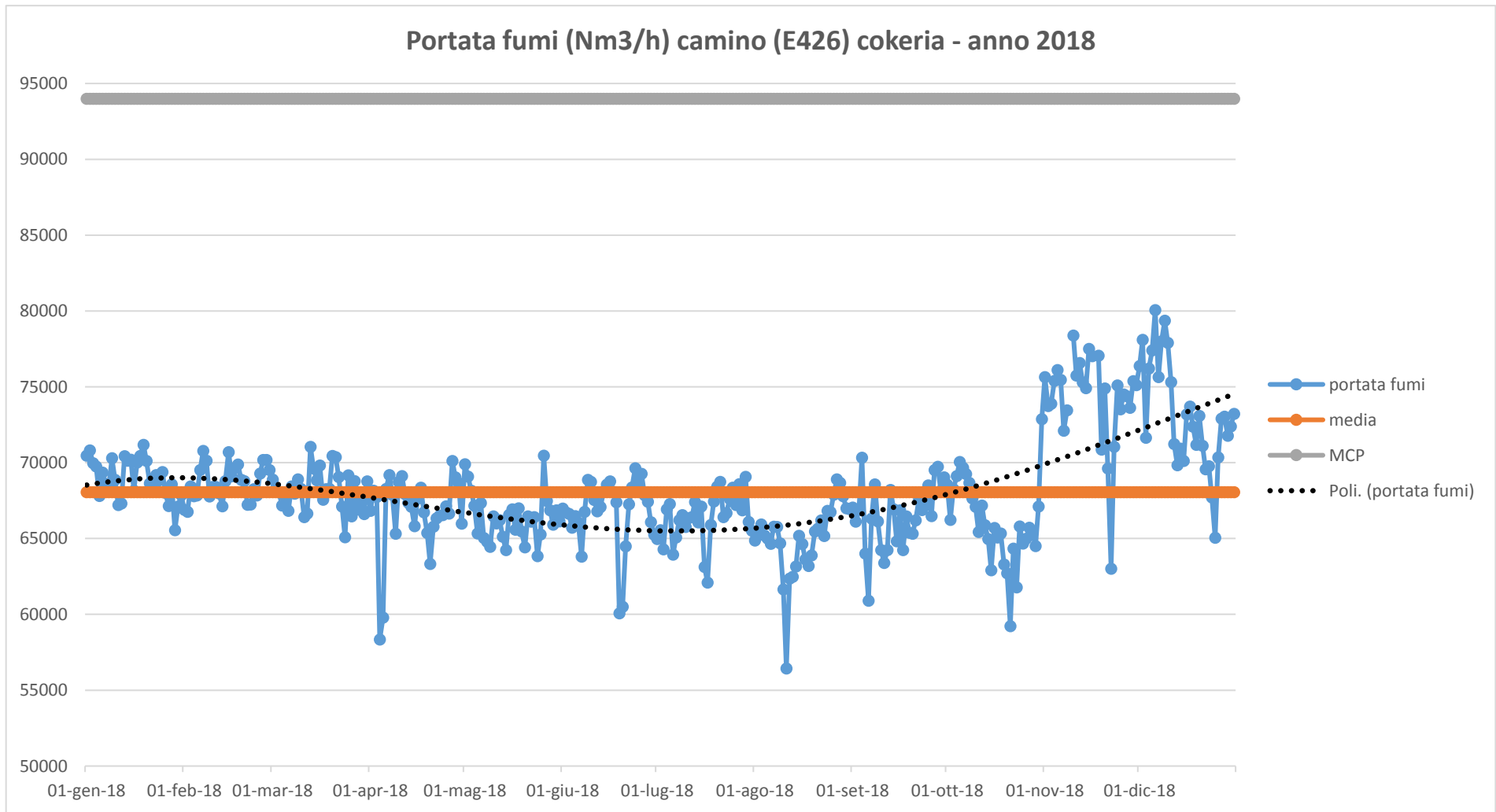
### Concentrazione polveri (mg/Nm3, media giornaliera) camino E424 - ANNO 2020



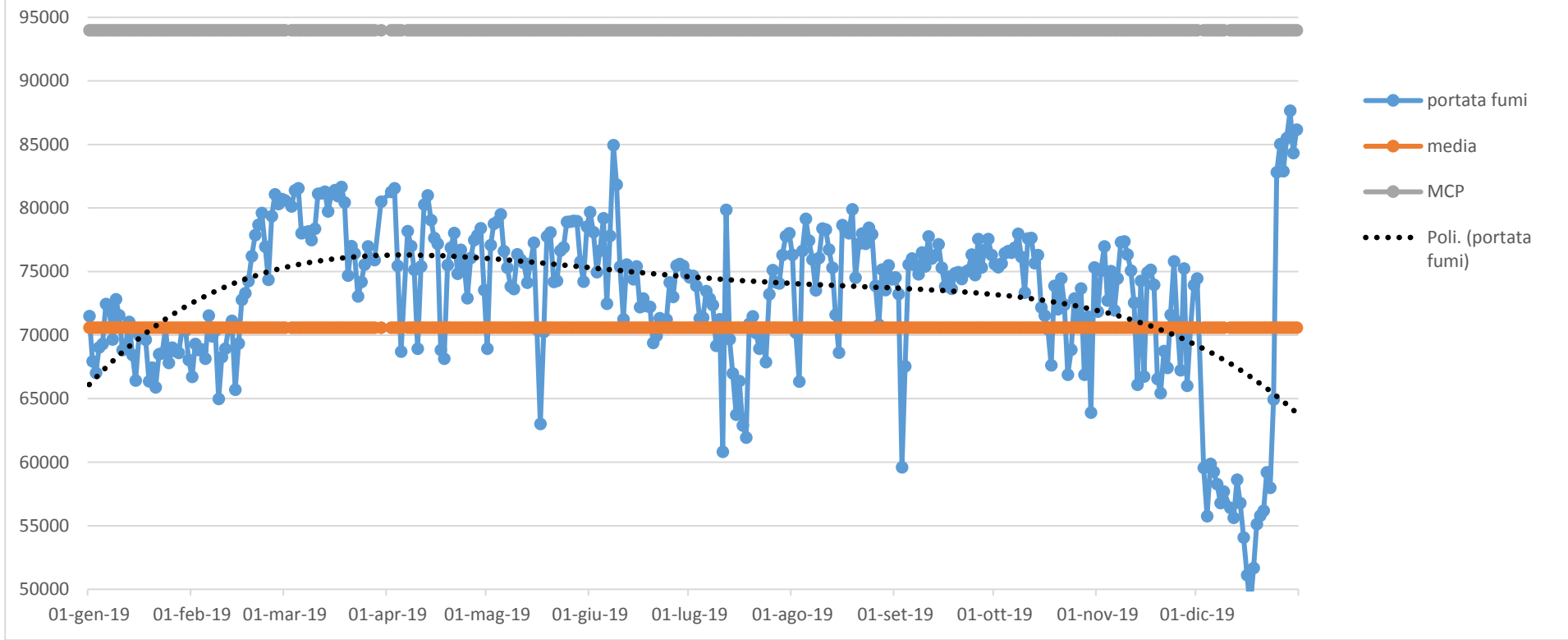
**Concentrazione polveri (mg/Nm<sup>3</sup>, medie mensili) camino E424 cokeria  
ANNI 2017-2018-2019-2020**



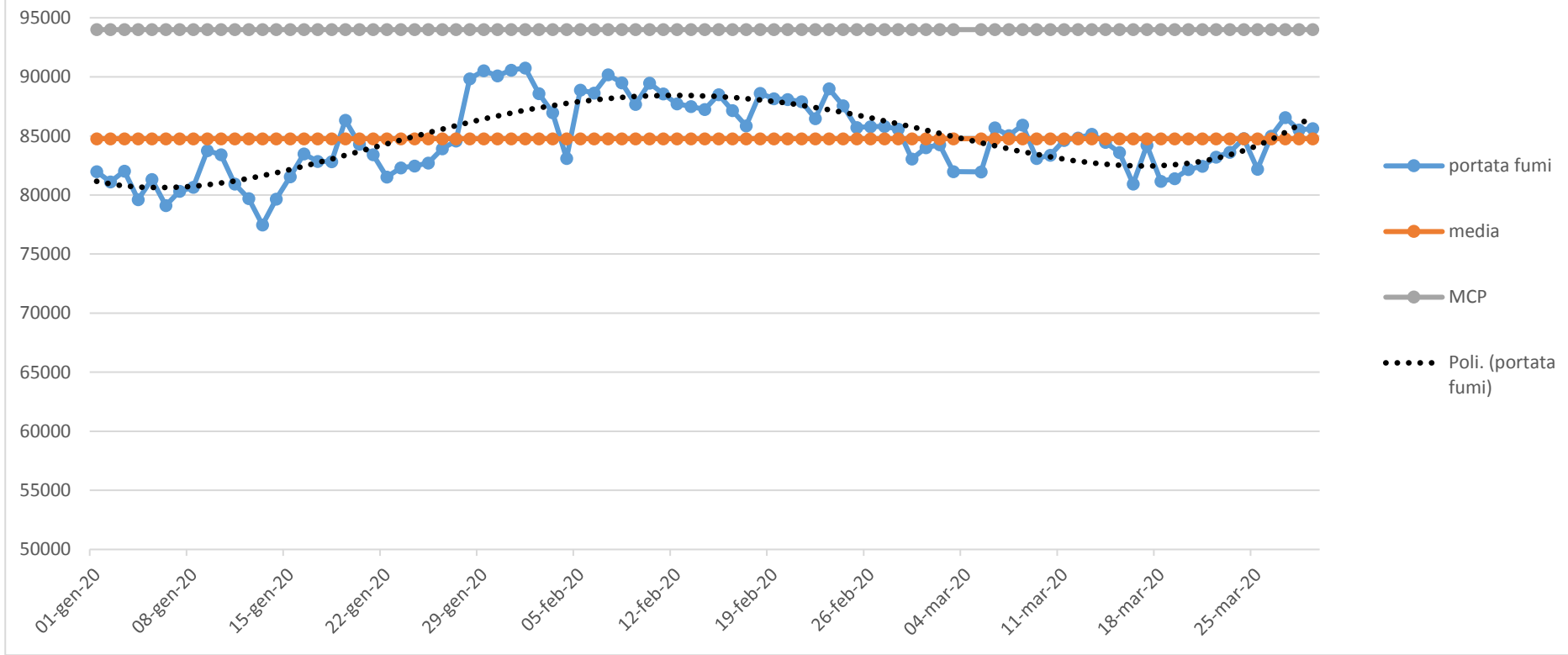
**FIG. 1 – Camino E424 - COKEFAZIONE**



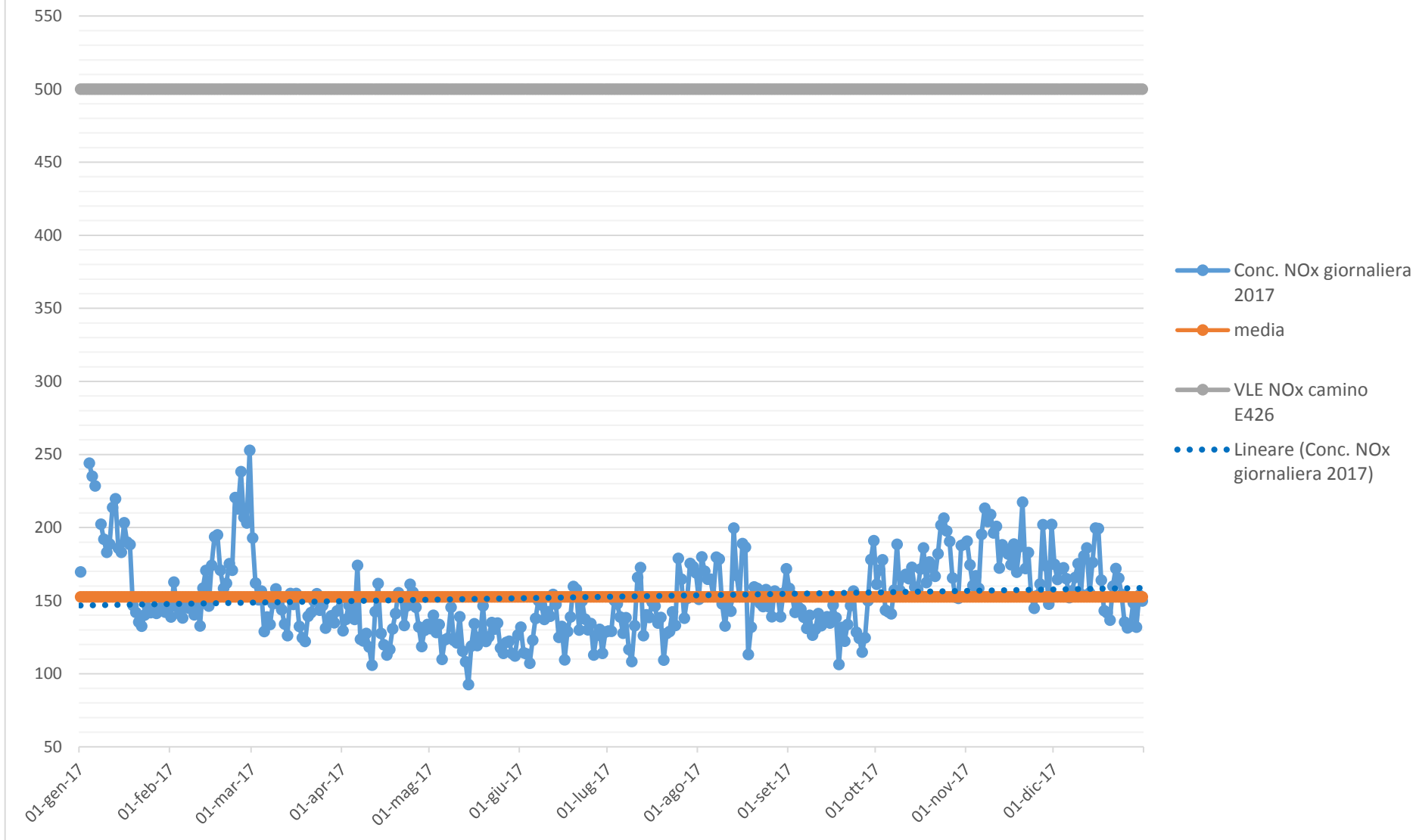
Portata fumi (Nm3/h) camino (E426) cokeria - anno 2019



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

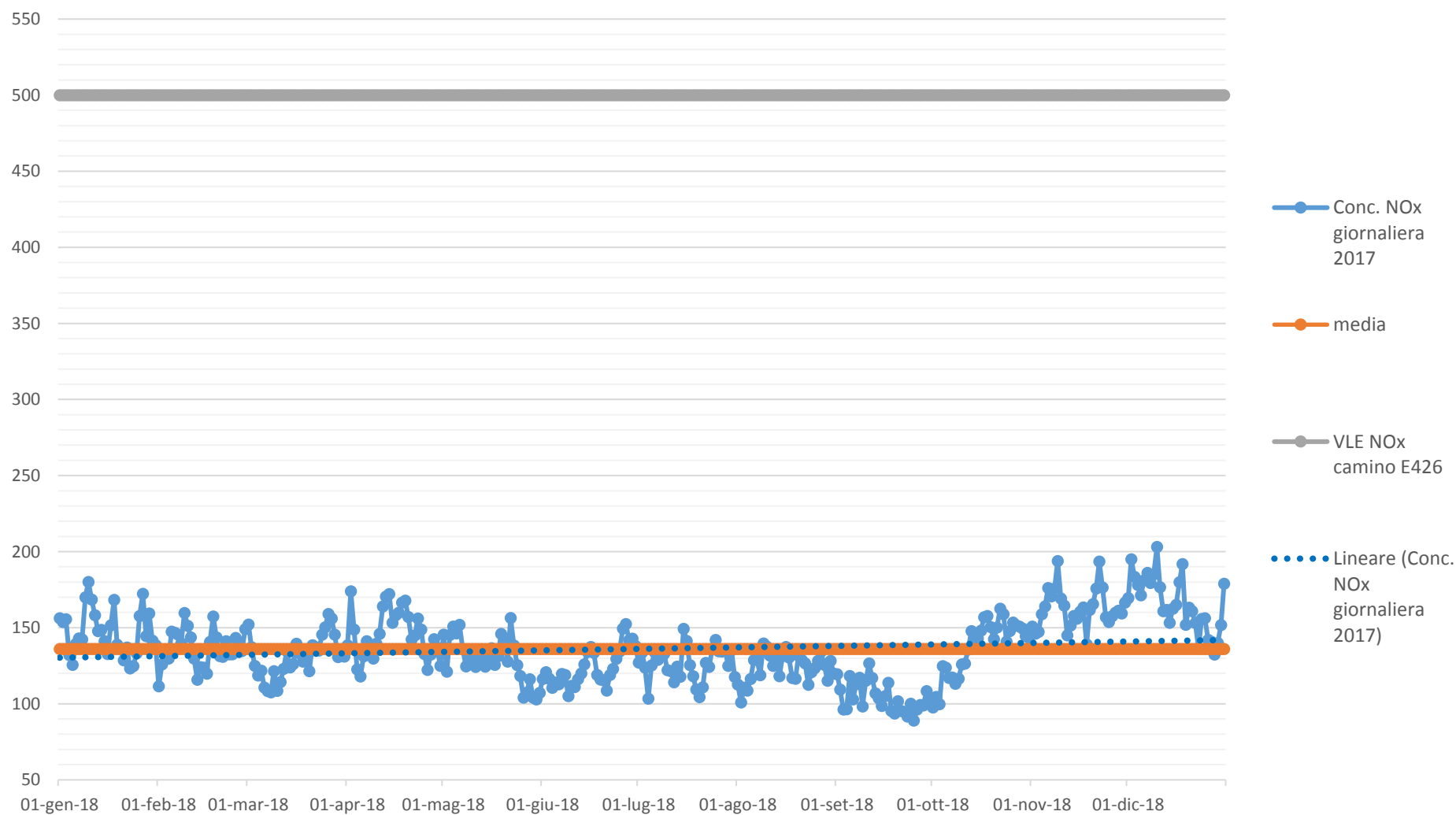


Concentrazione NOx (mg/Nm3, media giornaliera) camino E426 cokeria - ANNO 2017

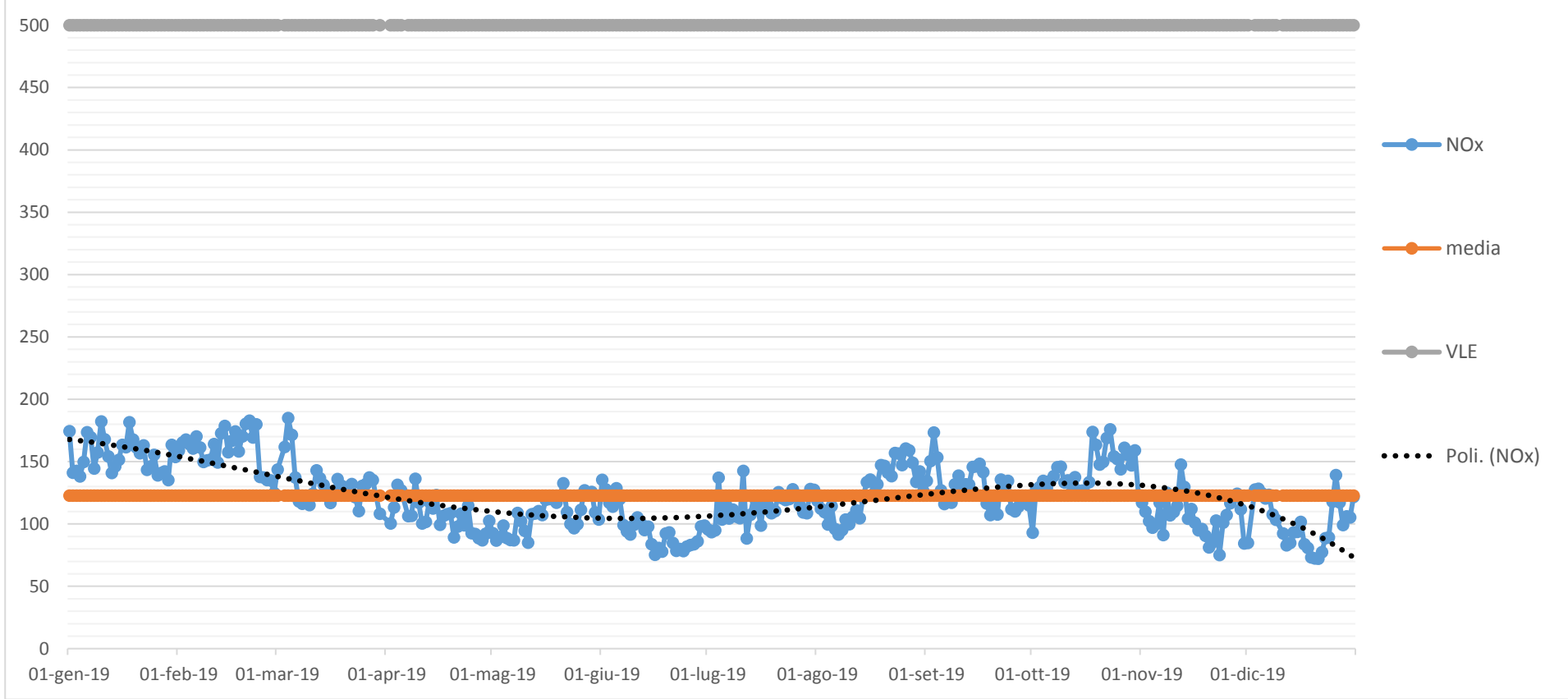




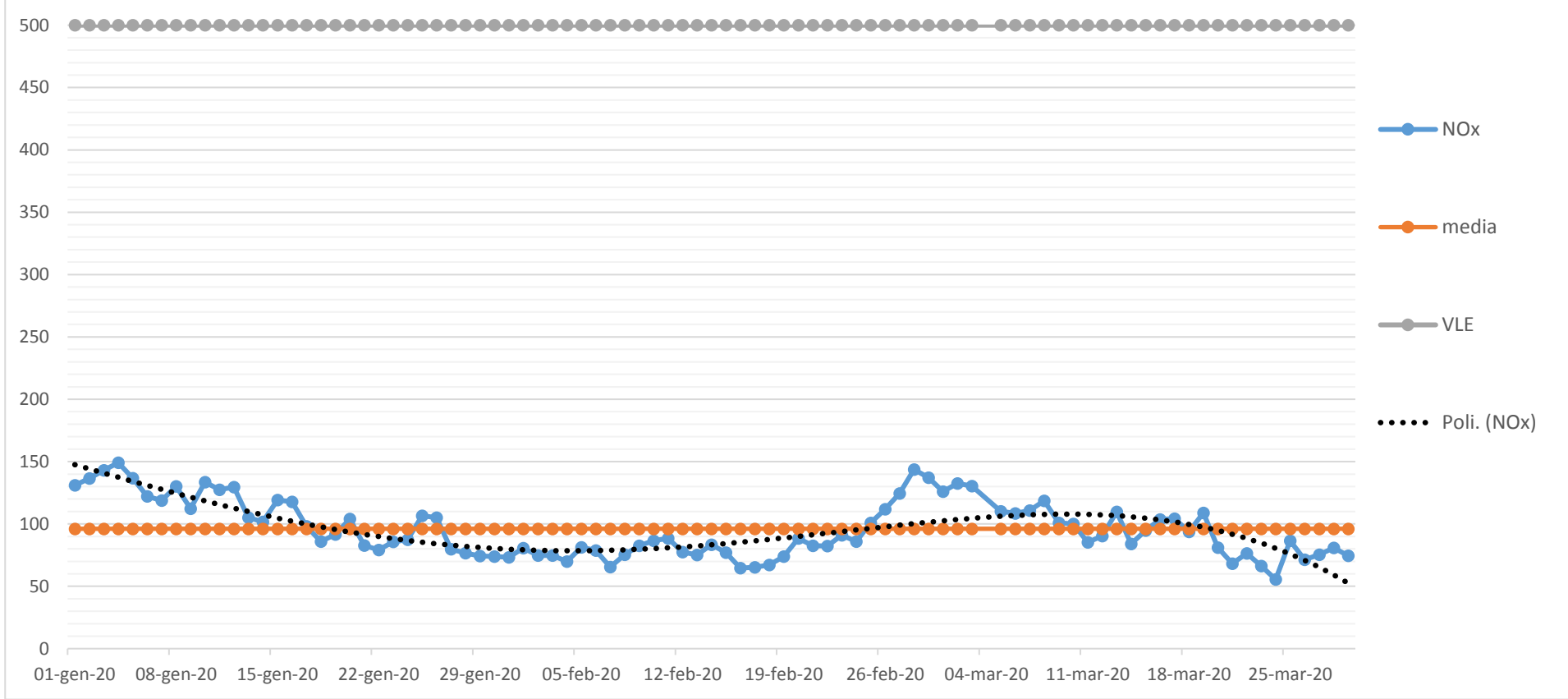
### Concentrazione NOx (mg/Nm3, media giornaliera) camino E426 cokeria - ANNO 2018



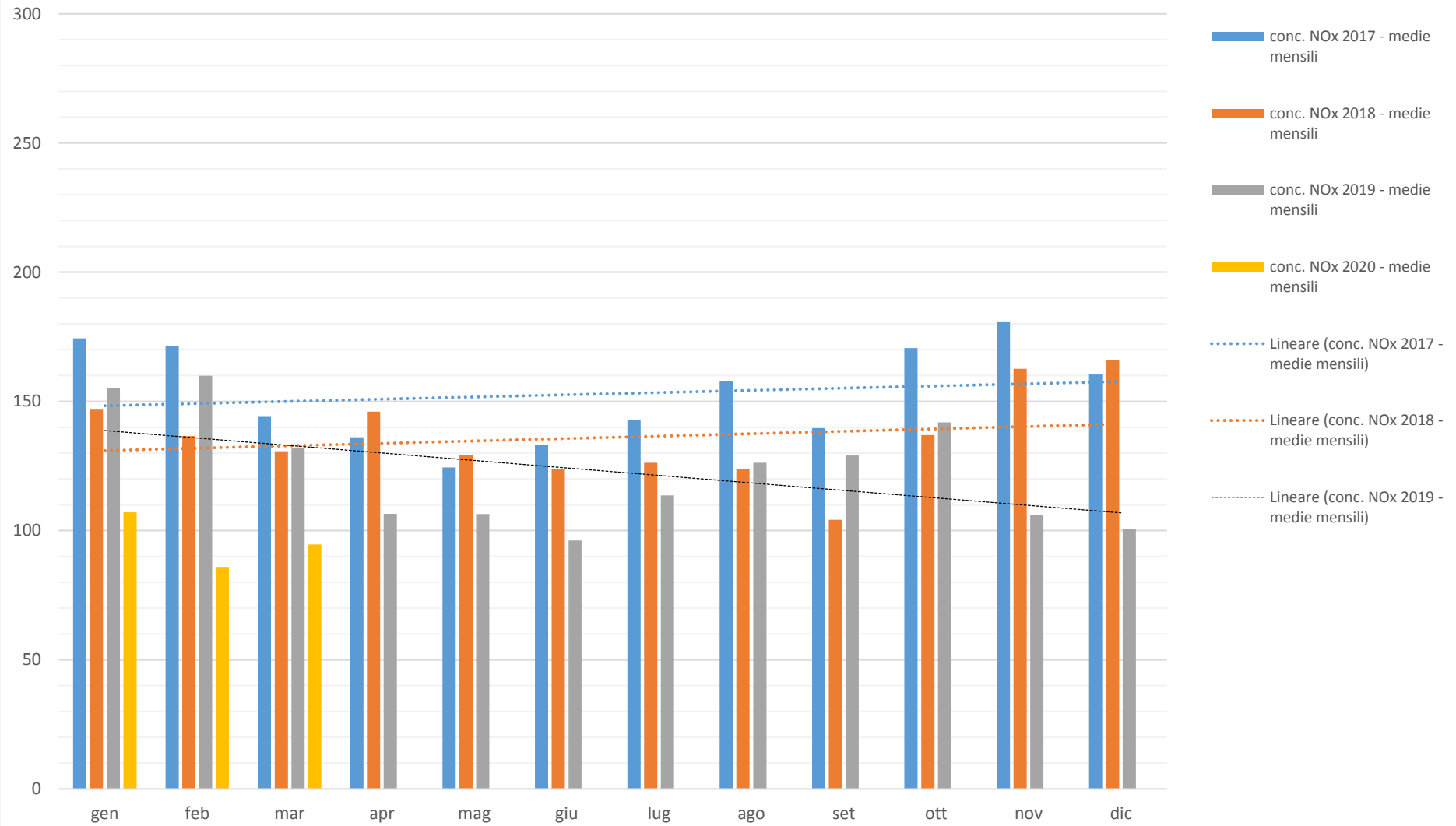
Concentrazione di NOx (mg/Nm3, media giornaliera) camino E426 cokeria - ANNO 2019



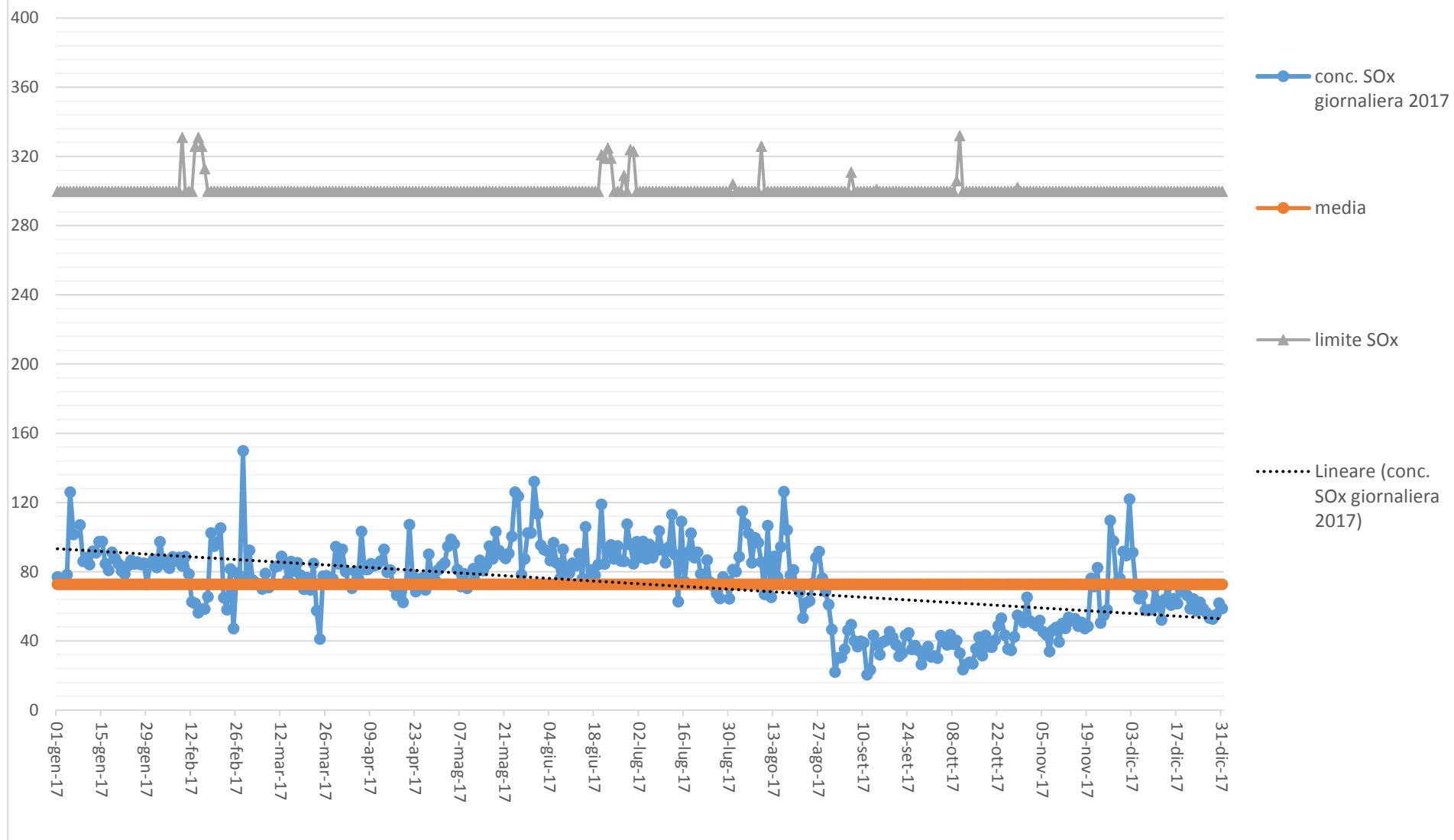
Concentrazione di NOx (mg/Nm3, media giornaliera) camino E426 cokeria - ANNO 2020



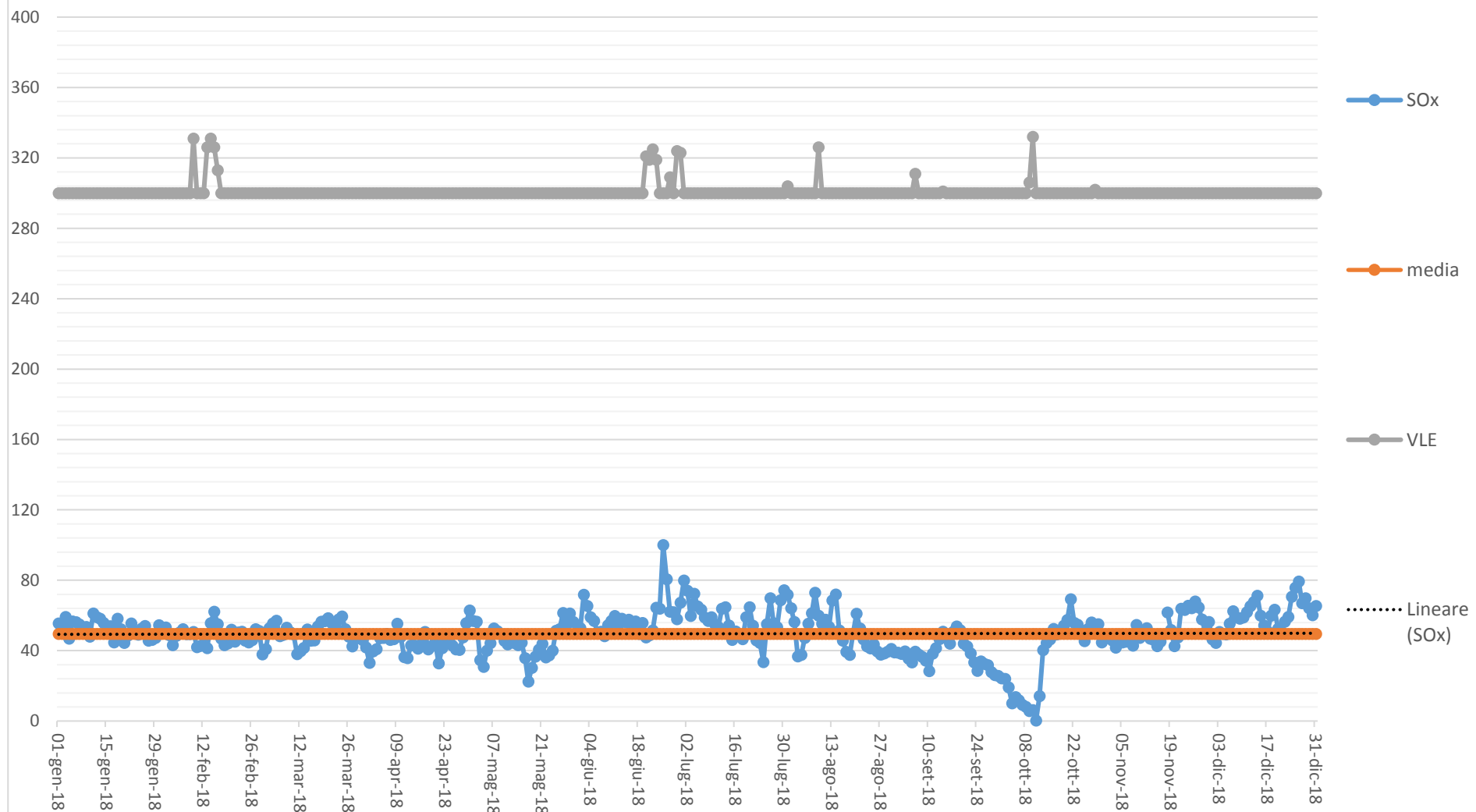
### Concentrazione NOx (mg/Nm3, medie mensili) camino E426 cokeria ANNI 2017-2018-2019-2020



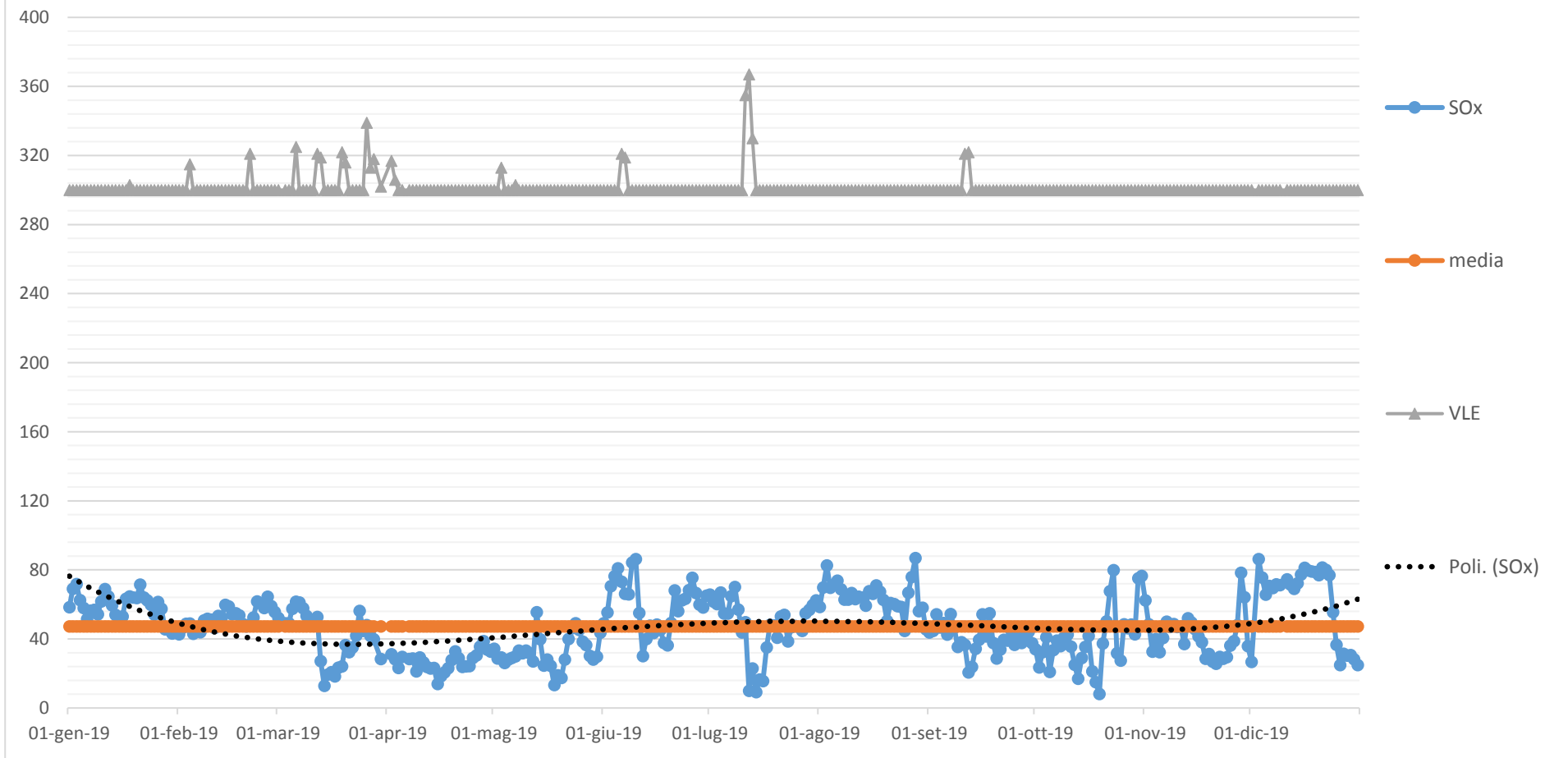
### Concentrazione SOx (mg/Nm3, media giornaliera) camino E426 - ANNO 2017



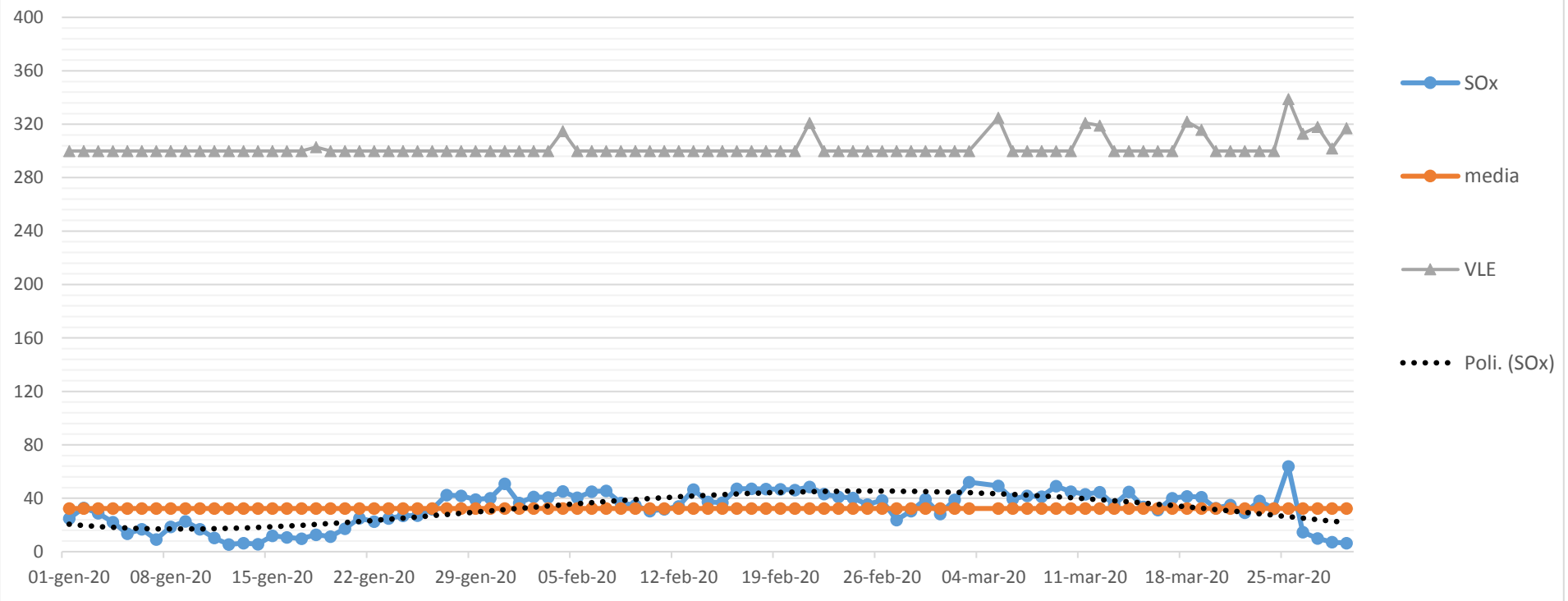
### Concentrazione SOx (mg/Nm3, media giornaliera) camino E426 - ANNO 2018



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

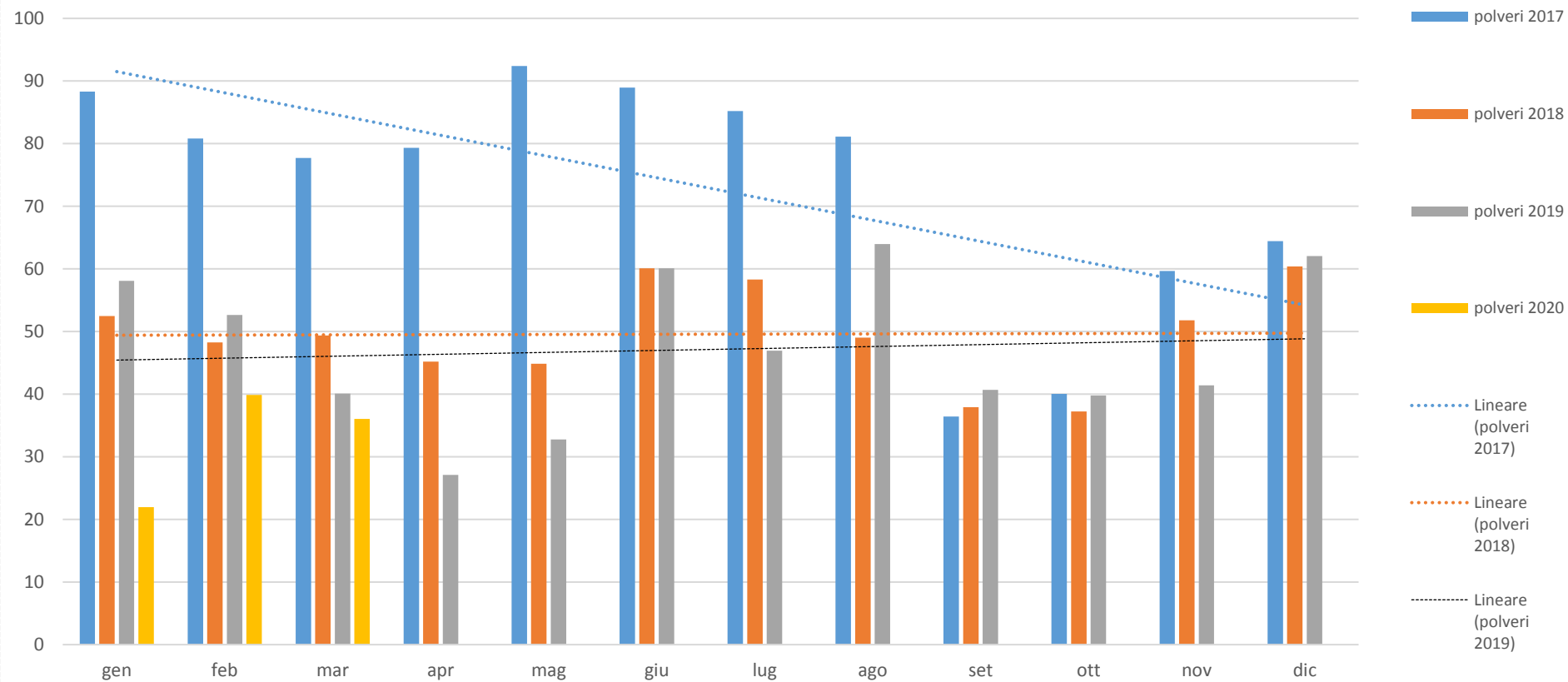


Concentrazione SOx (mg/Nm3, media giornaliera) camino E426 - ANNO 2020

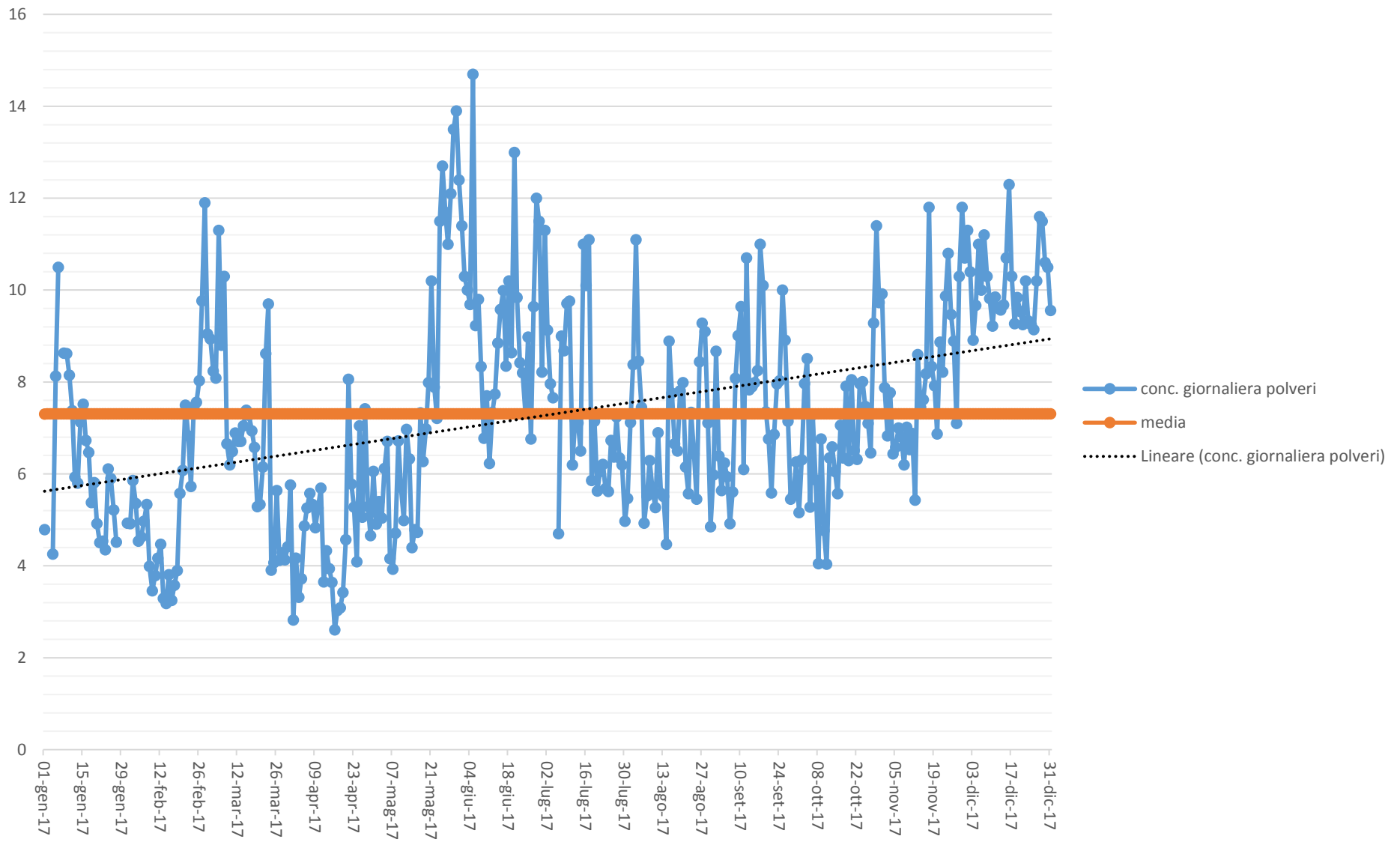




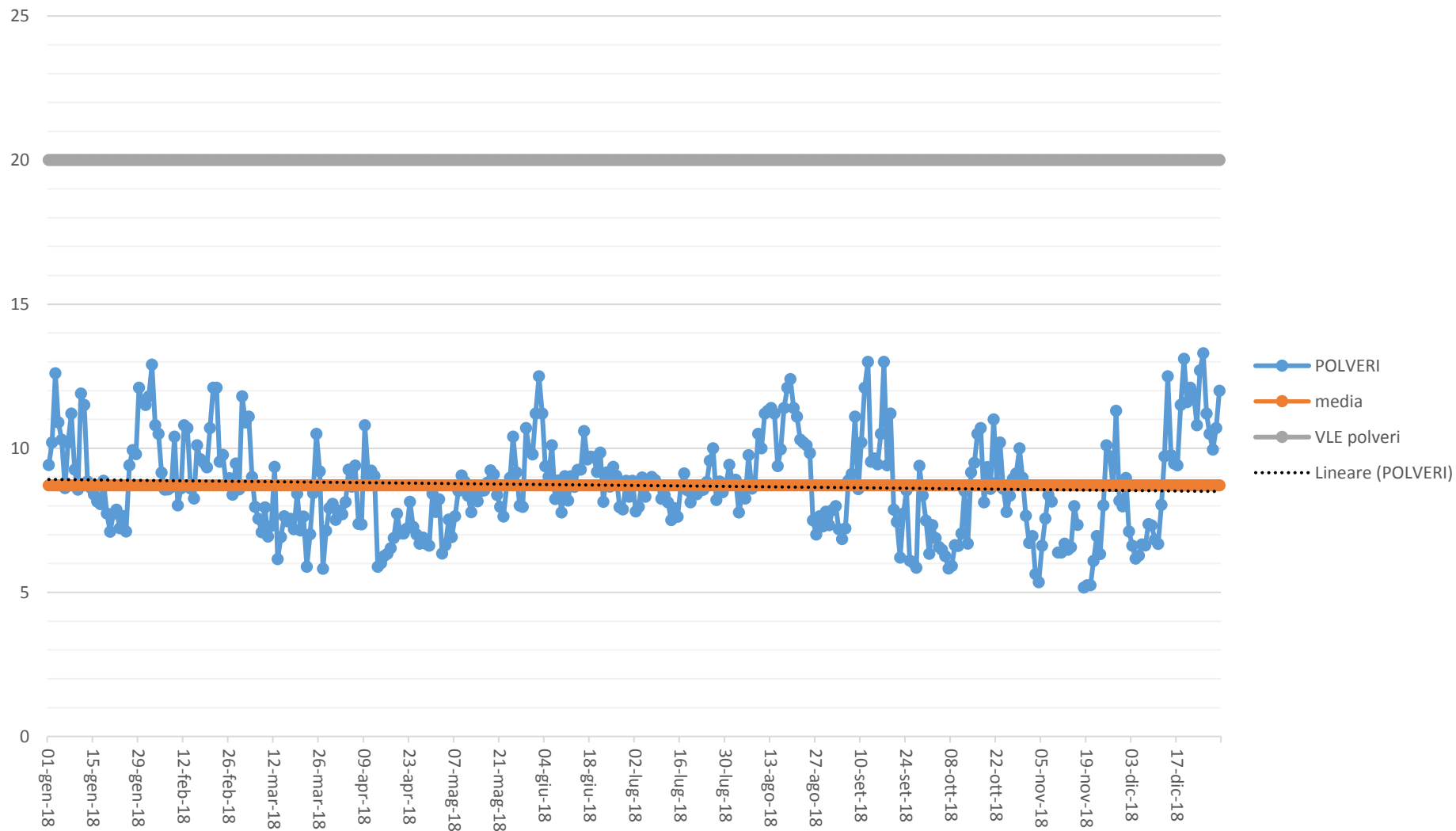
### Concentrazione SOx (mg/Nm3, medie mensili) camino E426 cokeria ANNI 2017-2018-2019- 2020



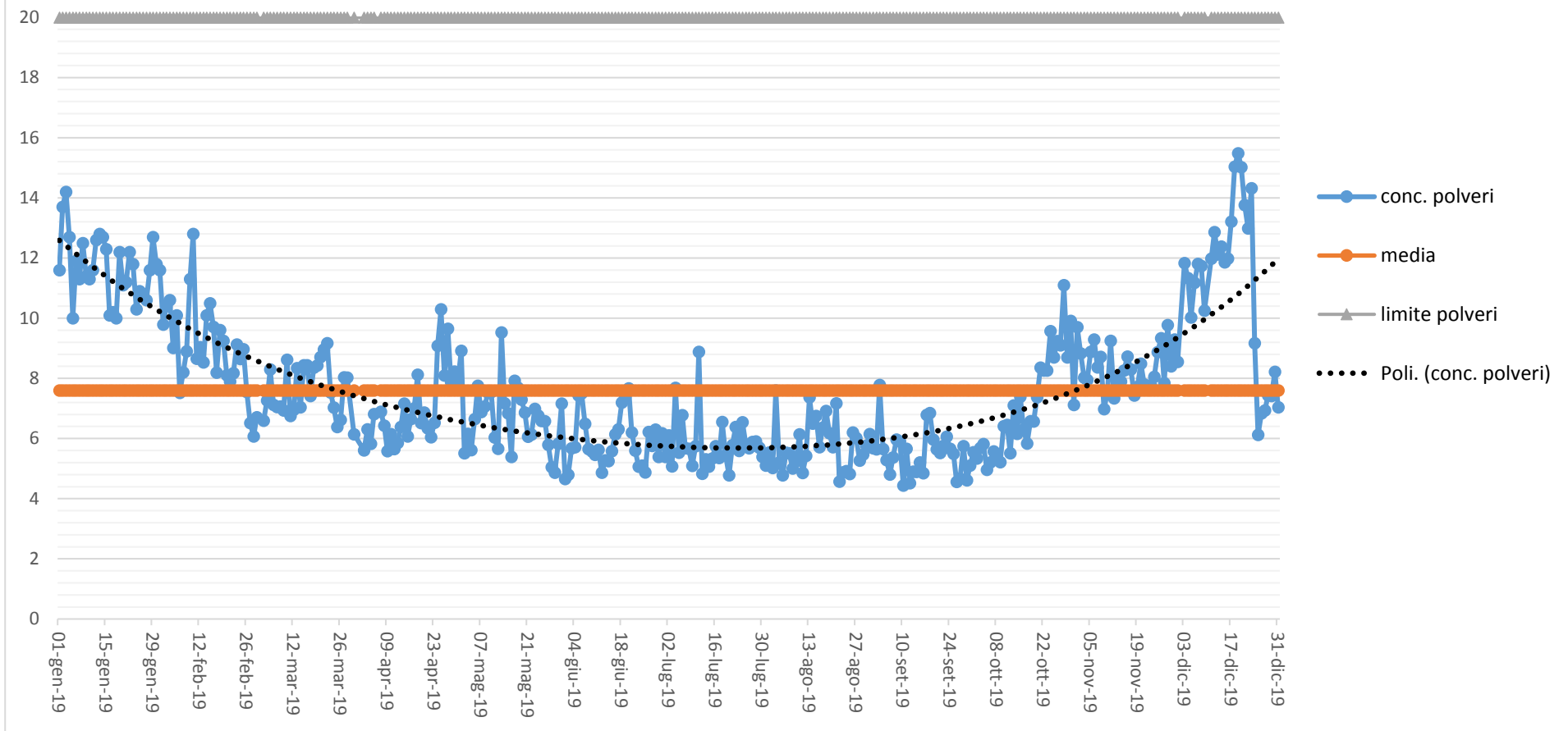
Concentrazione polveri (mg/Nm3, media giornaliera) camino E426 - ANNO 2017



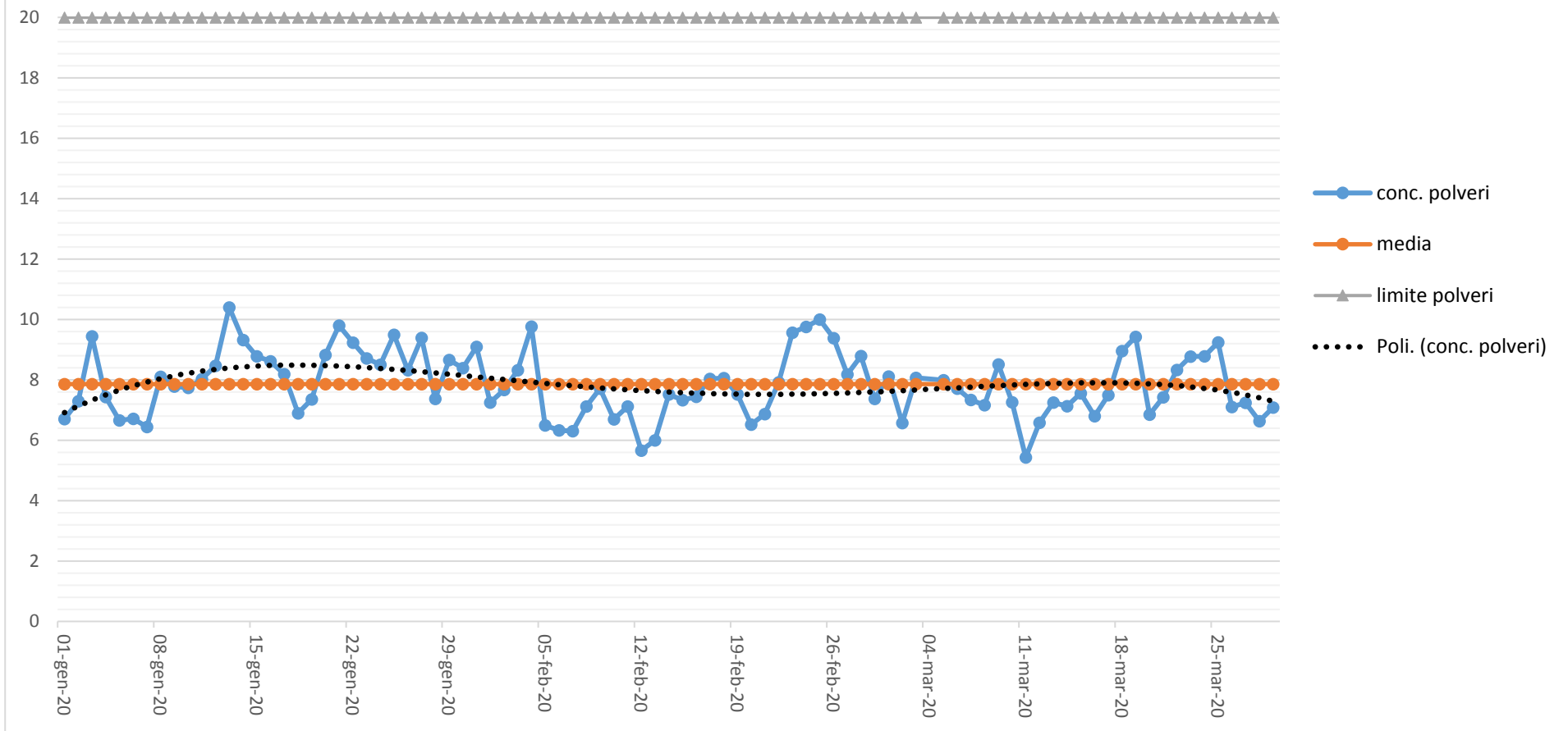
### Concentrazione polveri (mg/Nm3, media giornaliera) camino E426 - ANNO 2018



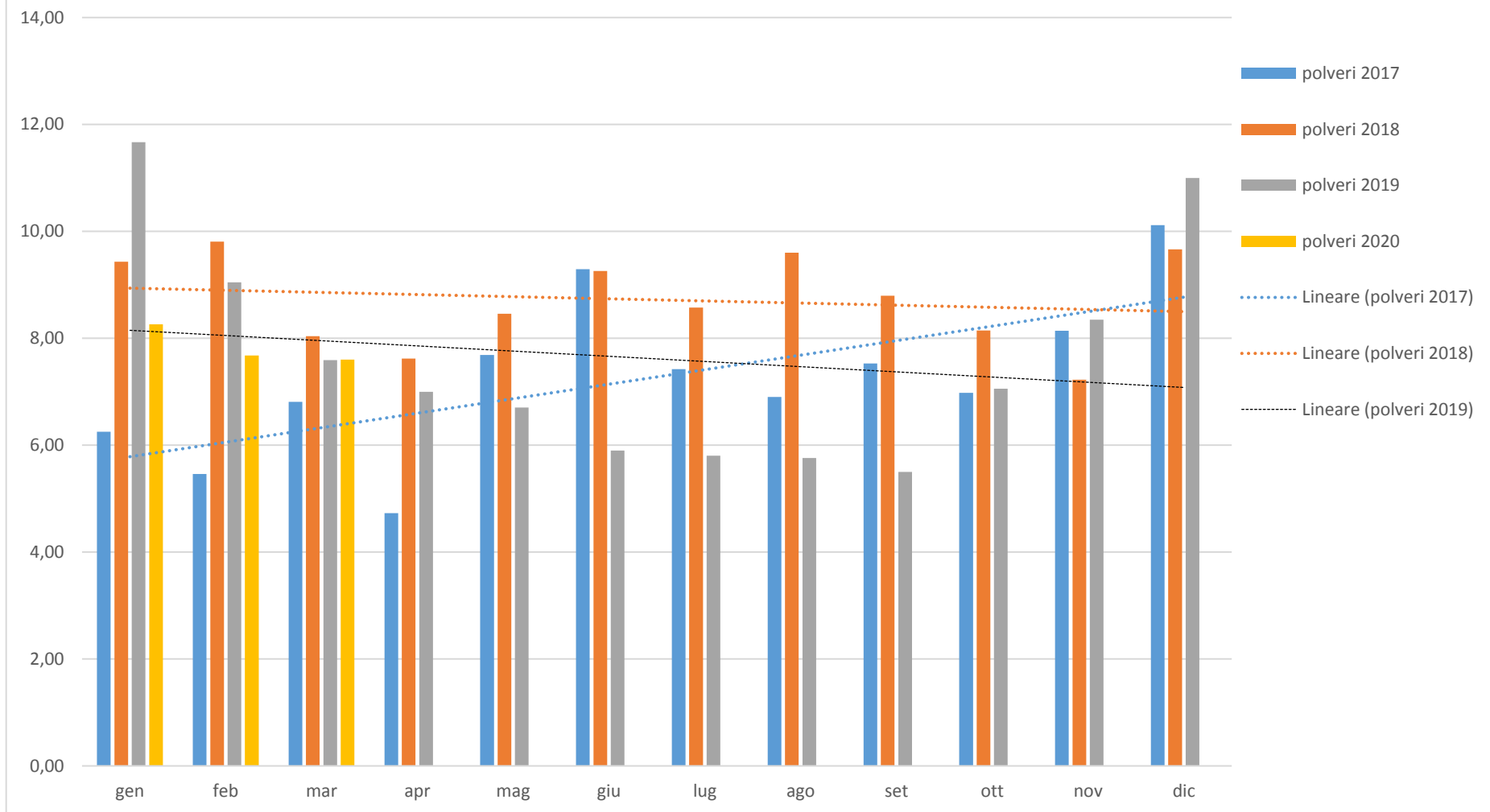
### Concentrazione polveri (mg/Nm3, media giornaliera) camino E426 - ANNO 2019



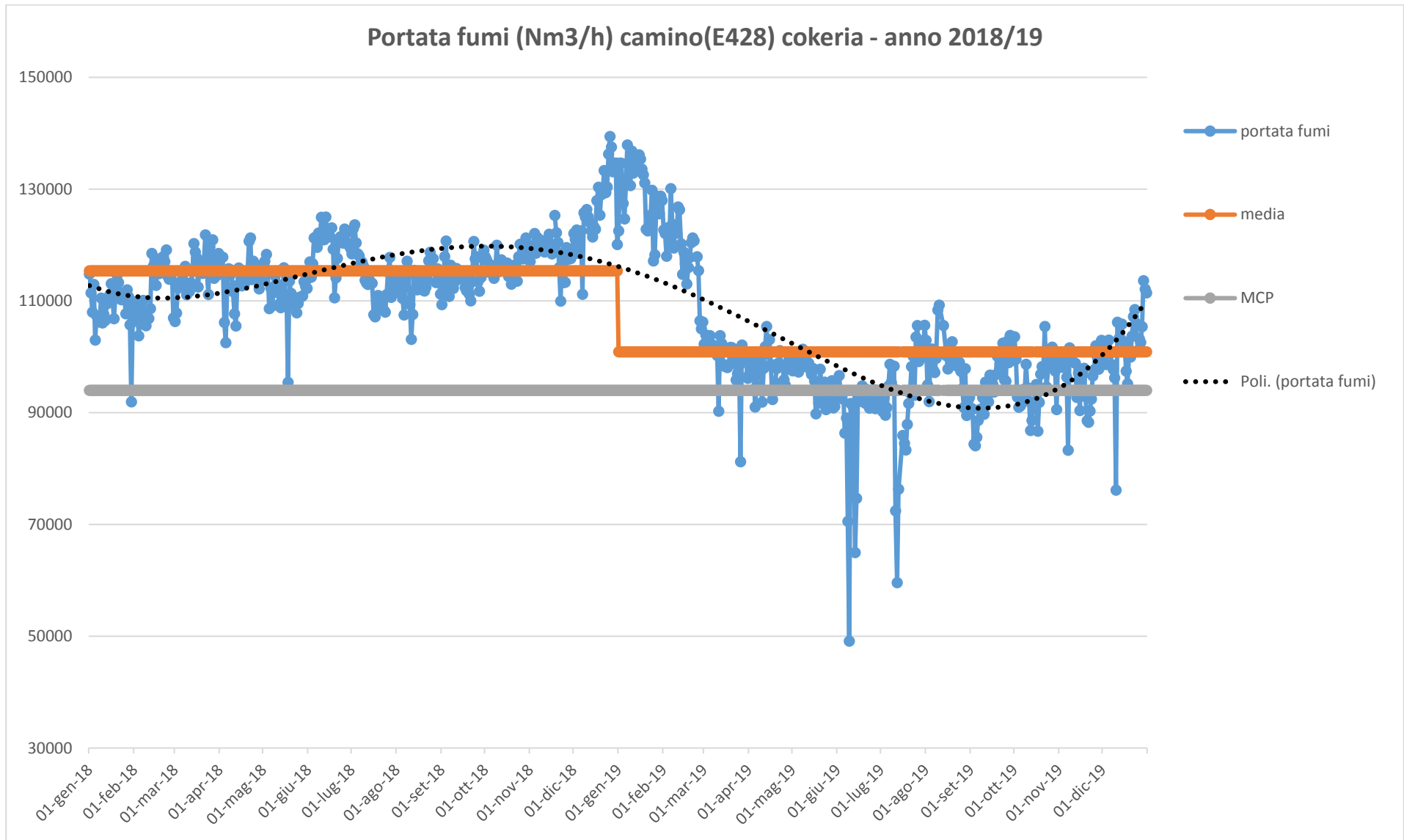
### Concentrazione polveri (mg/Nm3, media giornaliera) camino E426 - ANNO 2020



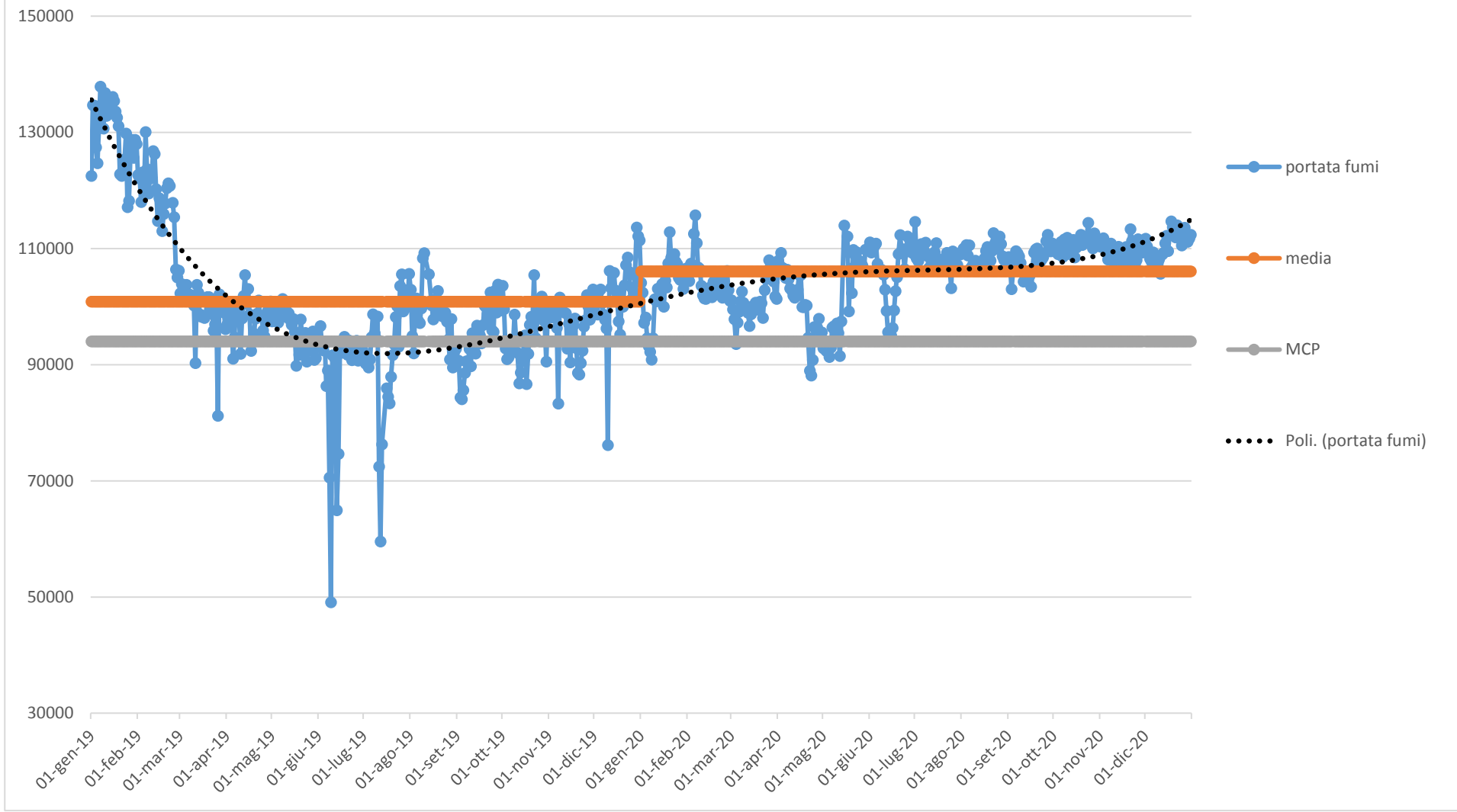
**Concentrazione polveri (mg/Nm<sup>3</sup>, medie mensili) camino E426 cokeria  
ANNI 2017-2018-2019-2020**



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

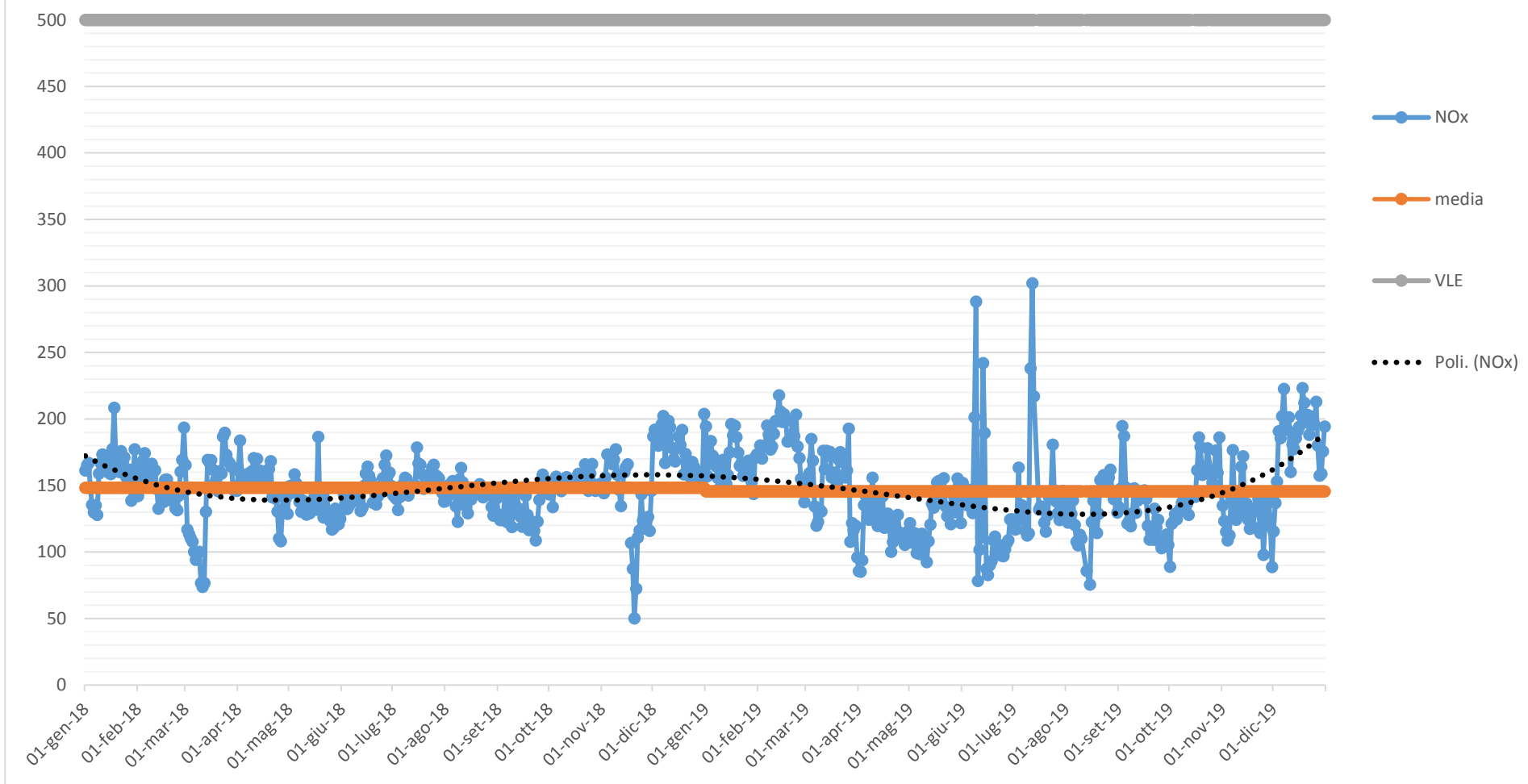


Portata fumi (Nm3/h) camino (E428) cokeria - anno 2019/2020

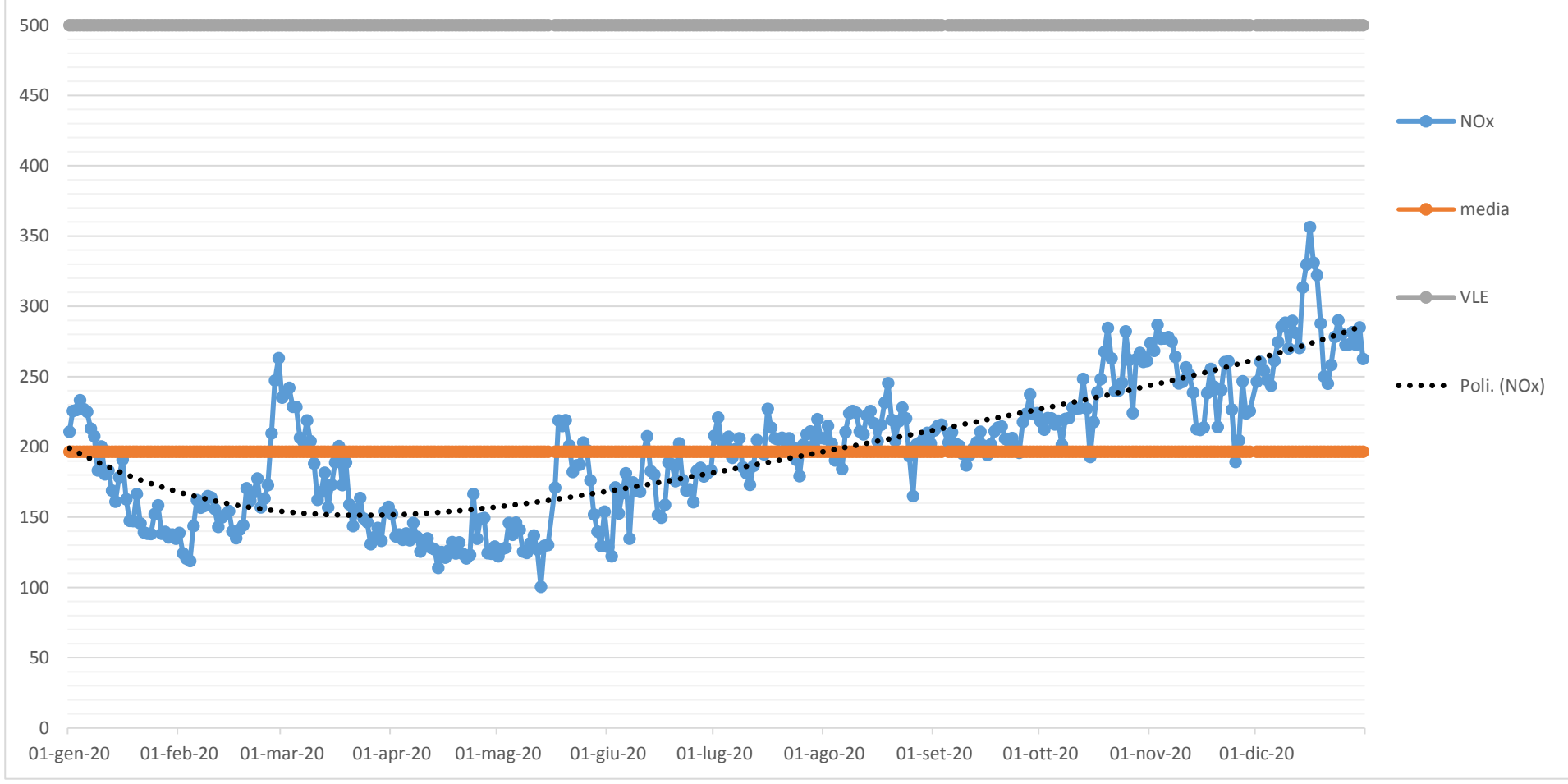




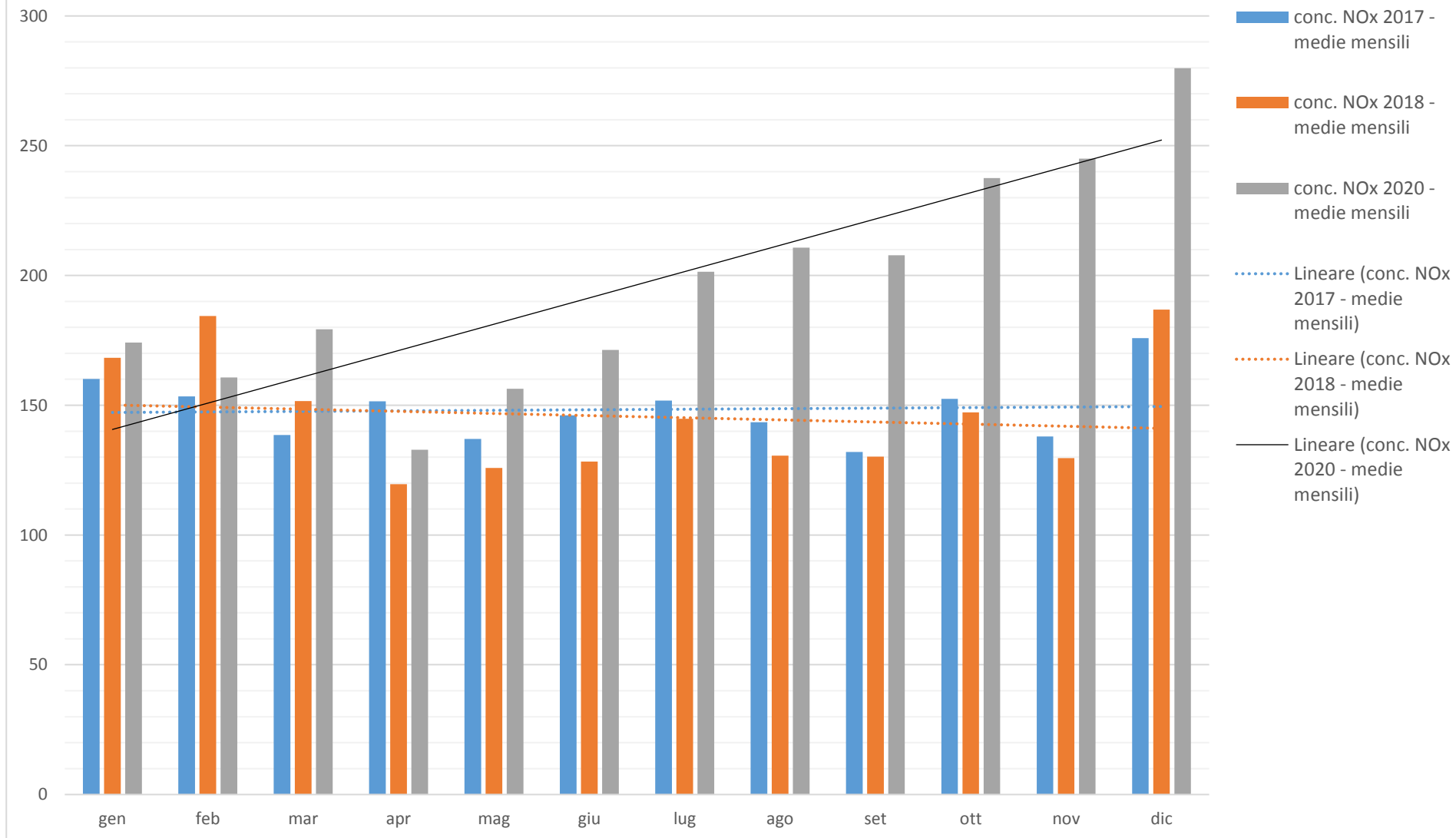
Concentrazione NOx (mg/Nm3, media giornaliera) camino E428 cokeria - ANNO 2018-2019



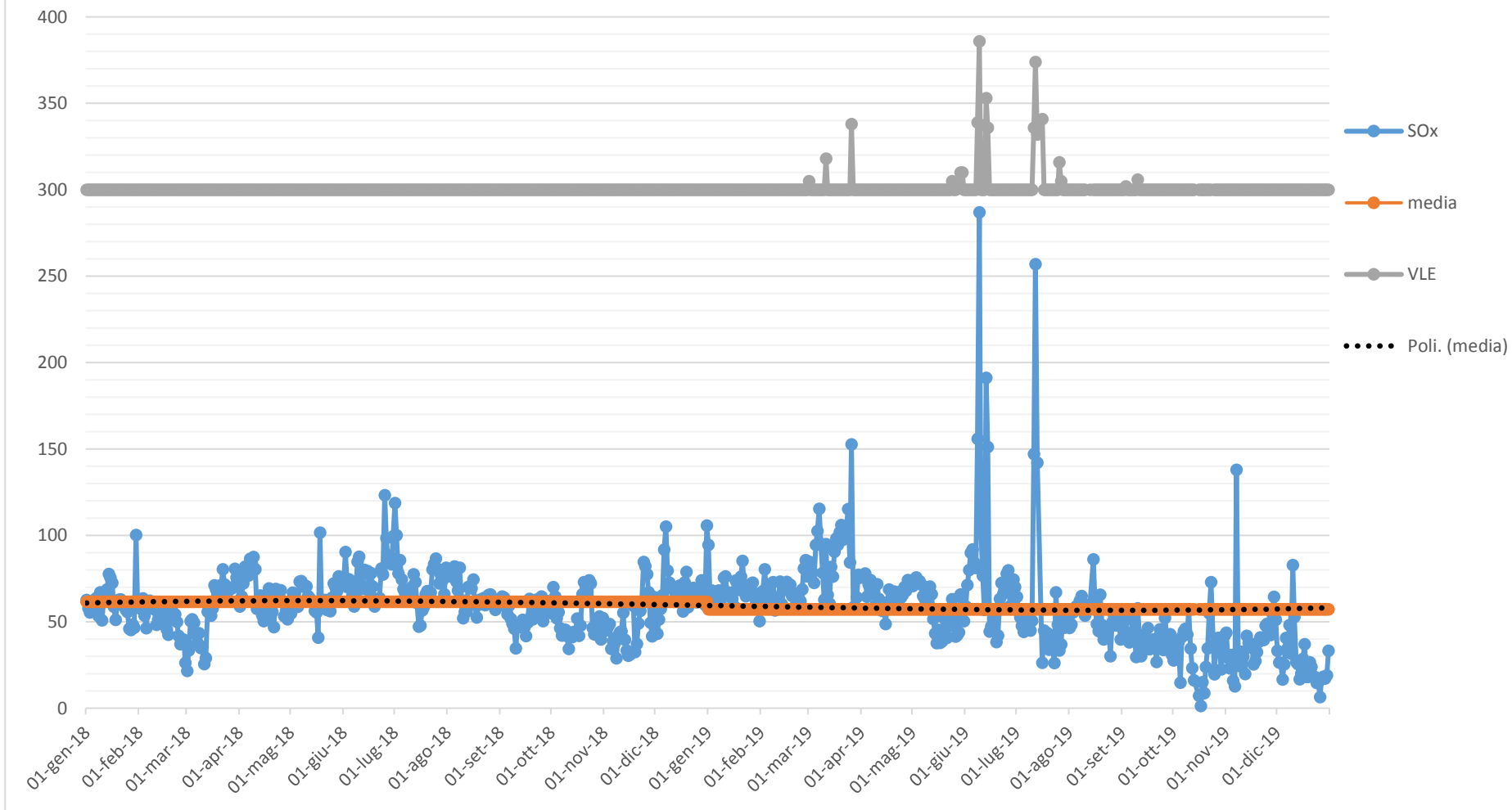
Concentrazione NOx (mg/Nm3, media giornaliera) camino E428 cokeria - ANNO 2020



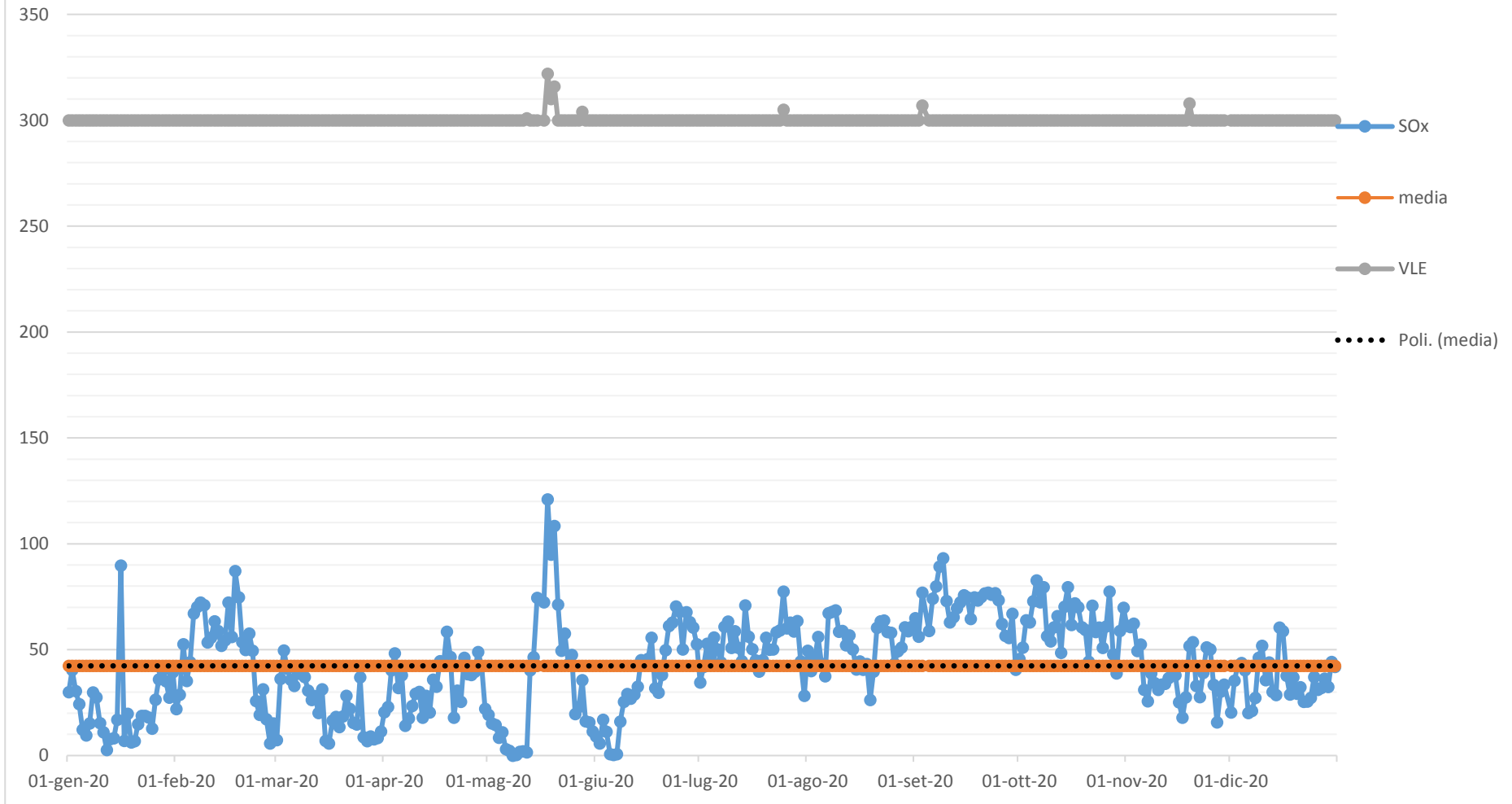
## Concentrazione NOx (mg/Nm<sup>3</sup>, medie mensili) camino E428 cokeria ANNI 2018-2019-2020



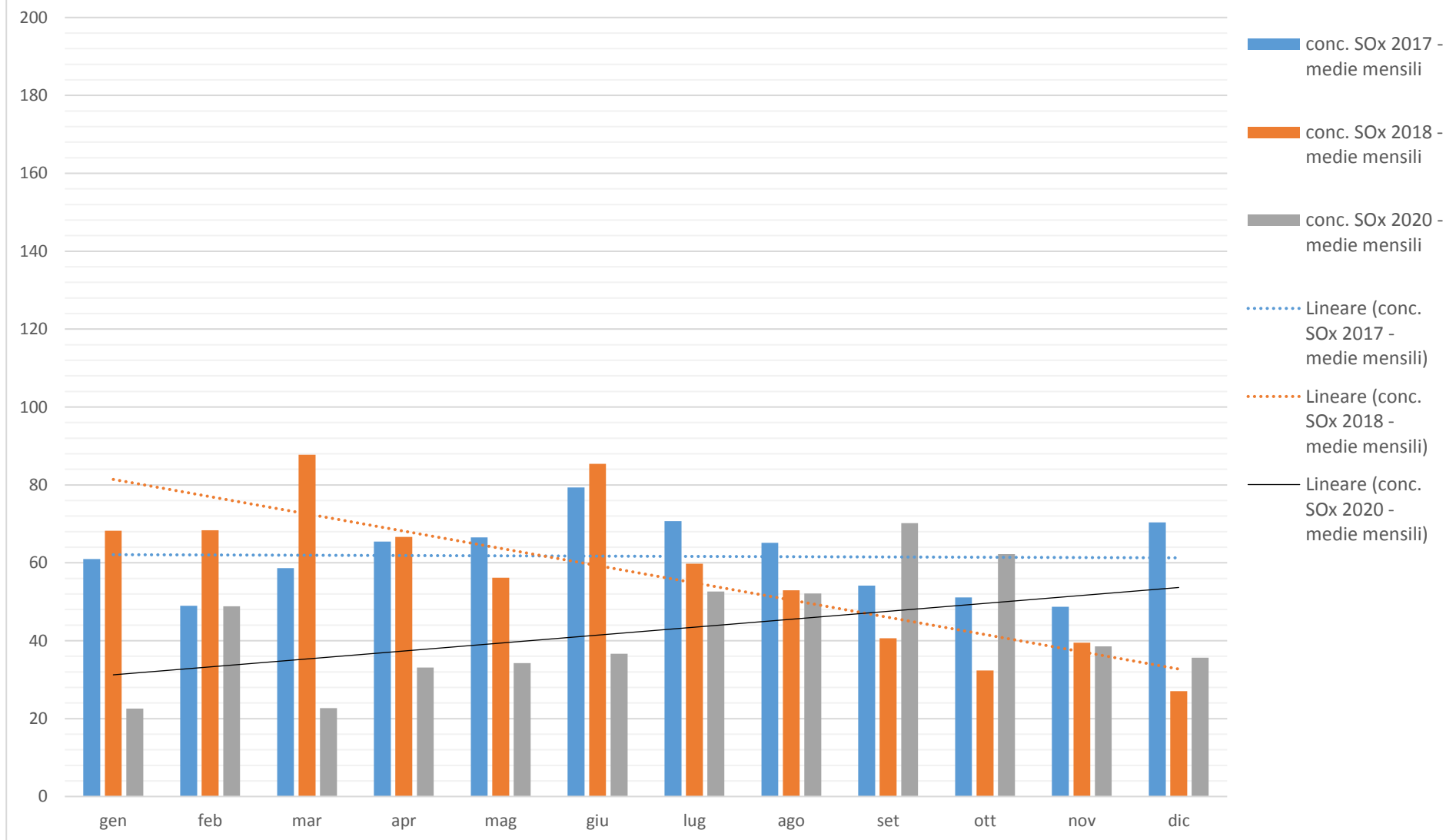
Concentrazione SOx (mg/Nm3, media giornaliera) camino E428 -ANNO 2018/19



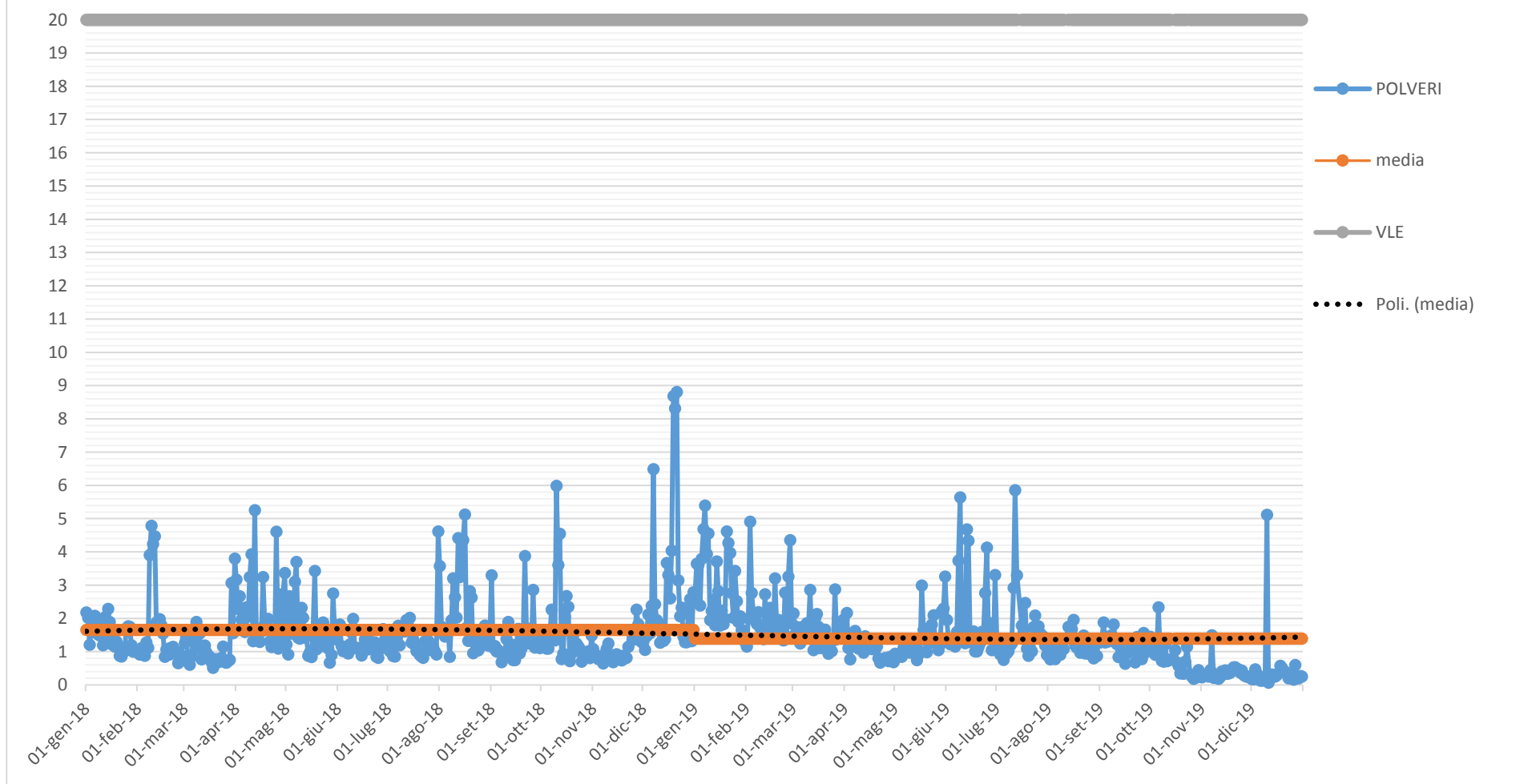
Concentrazione SOx (mg/Nm3, media giornaliera) camino E428 -ANNO 2020



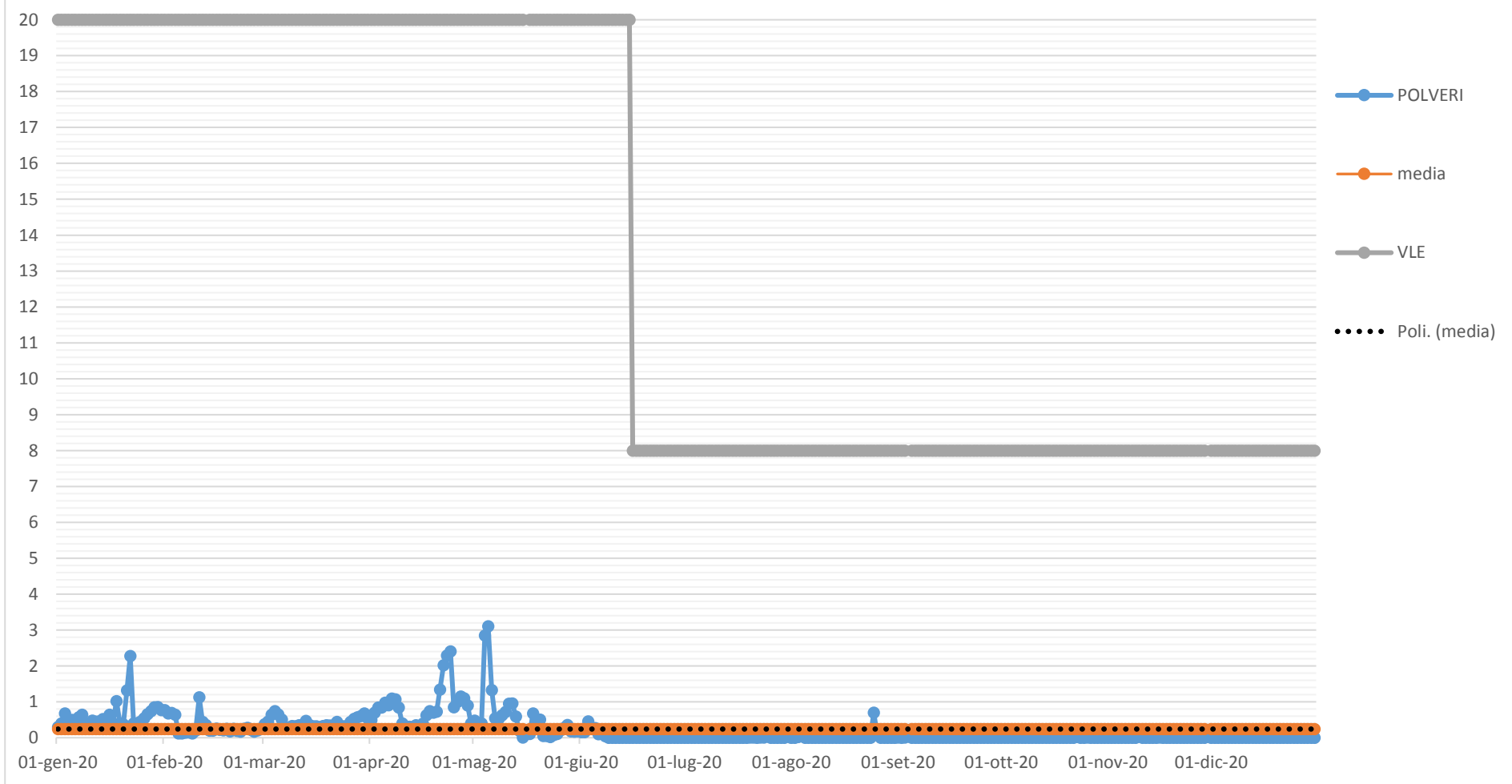
## Concentrazione SOx (mg/Nm<sup>3</sup>, medie mensili) camino E428 cokeria ANNI 2018-2019-2020



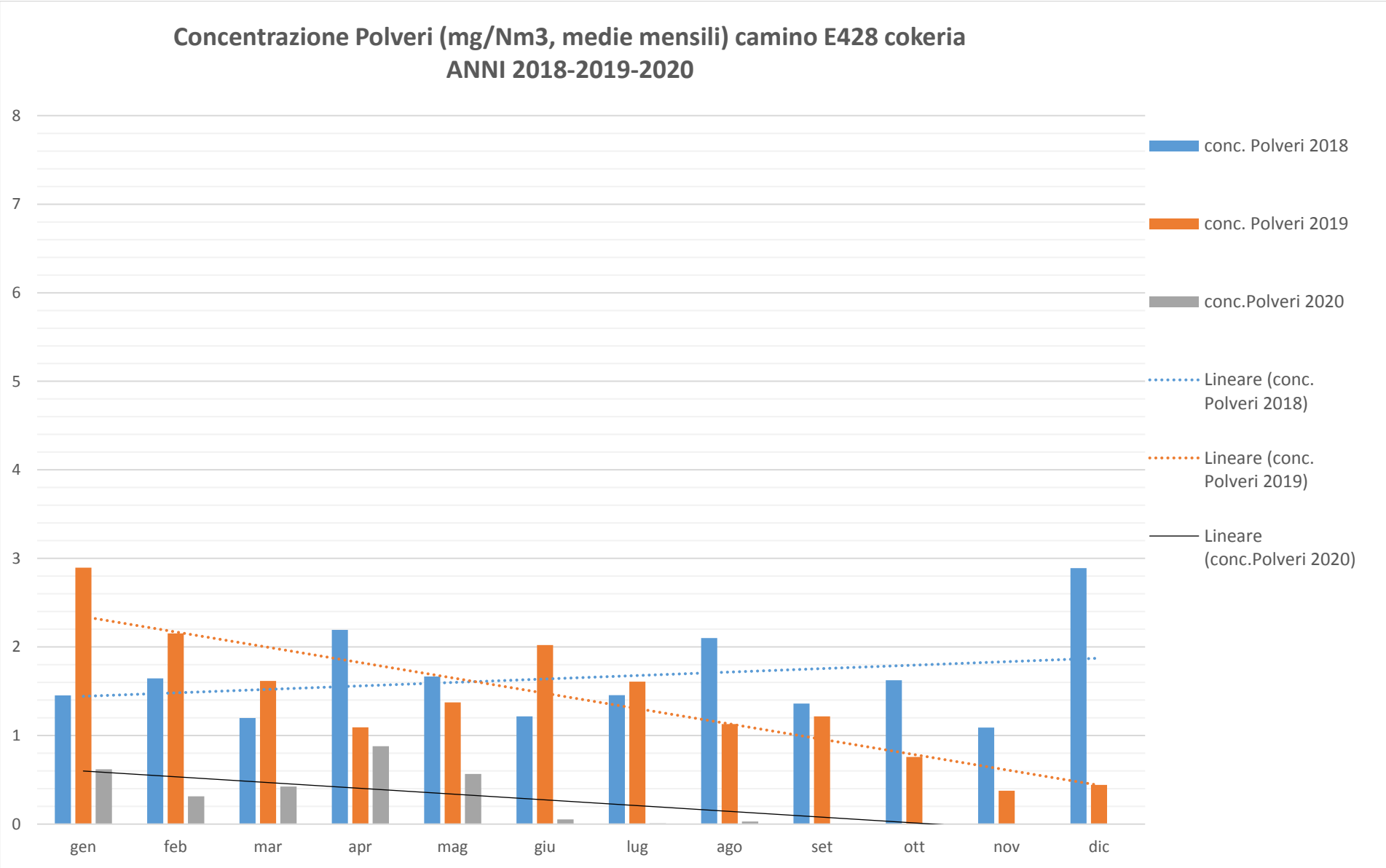
Concentrazione polveri (mg/Nm3, media giornaliera) camino E428 - ANNO 2018/2019



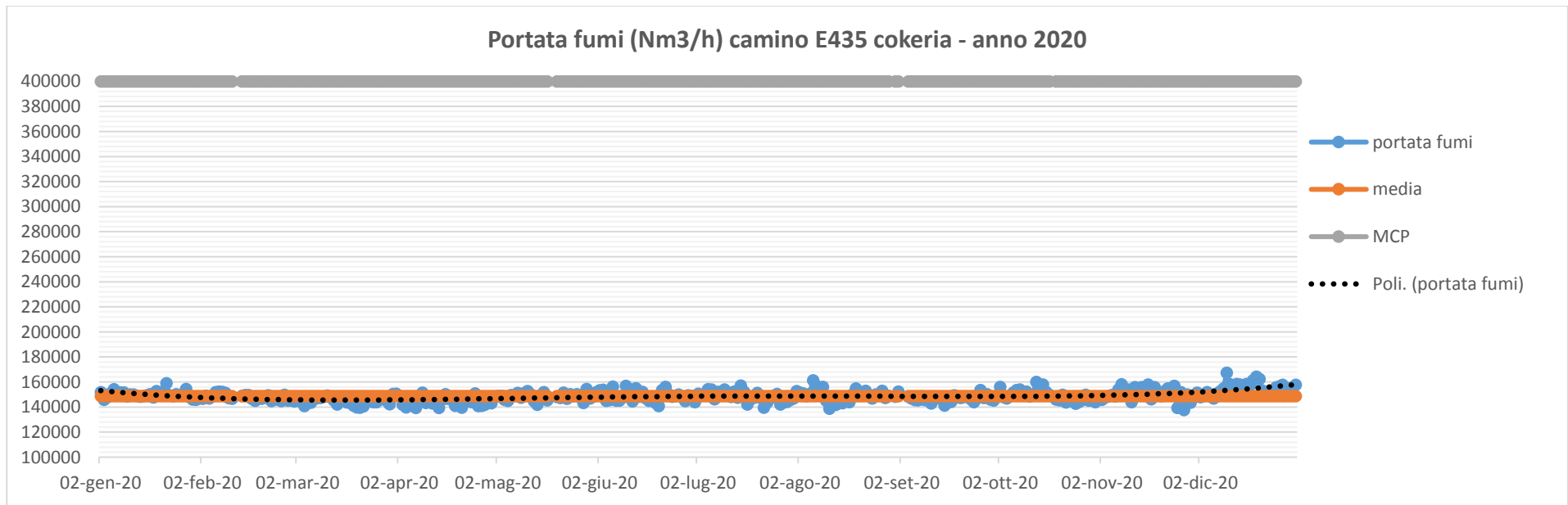
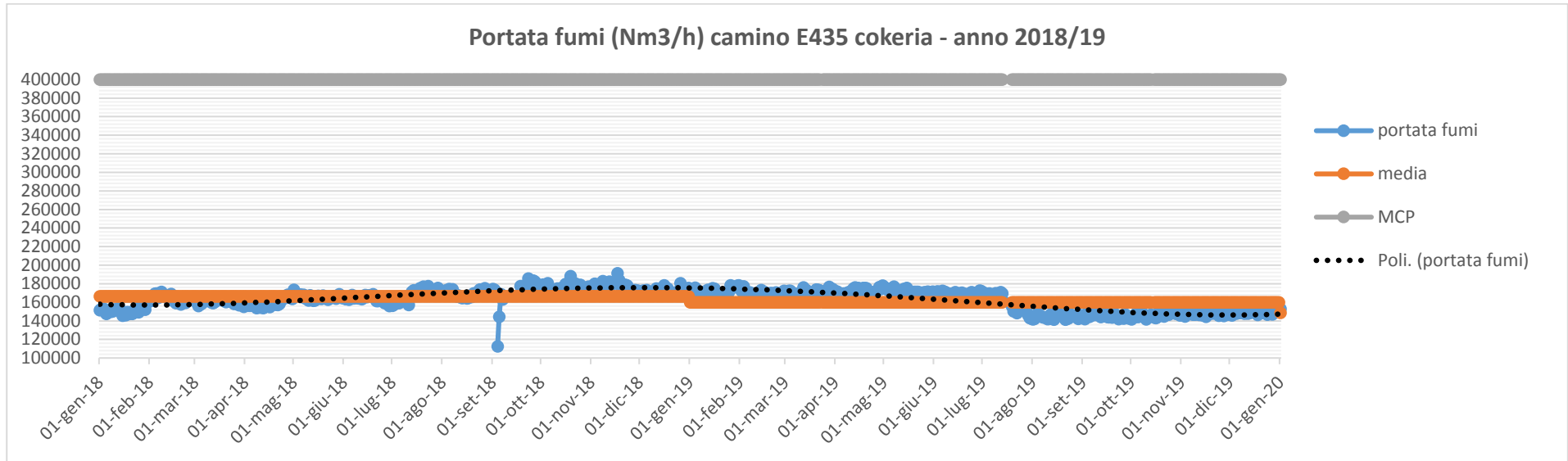
Concentrazione polveri (mg/Nm3, media giornaliera) camino E428 - ANNO 2020



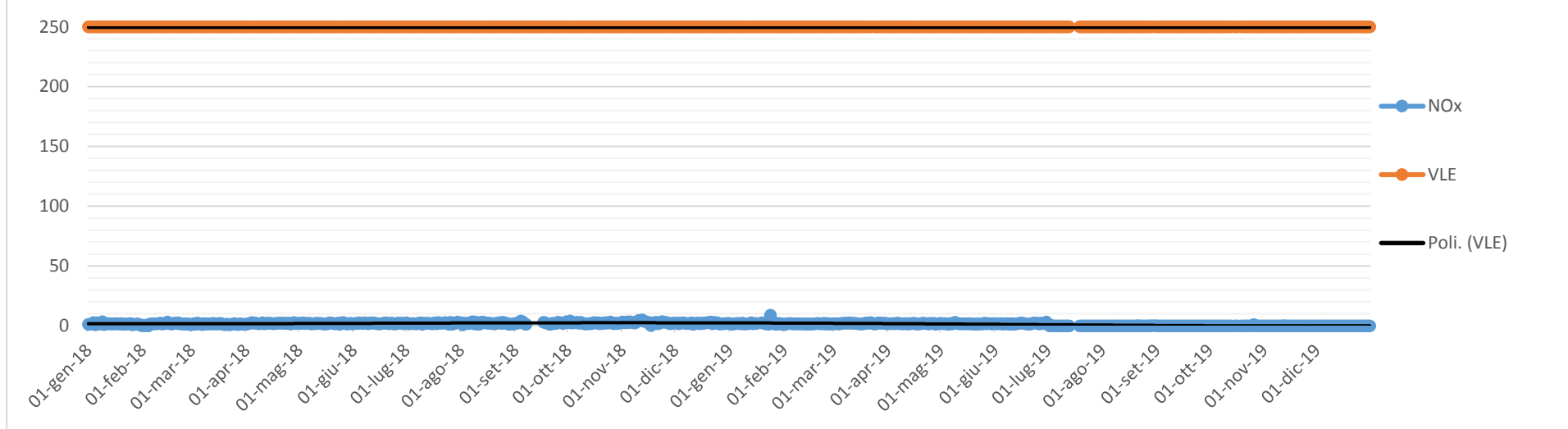




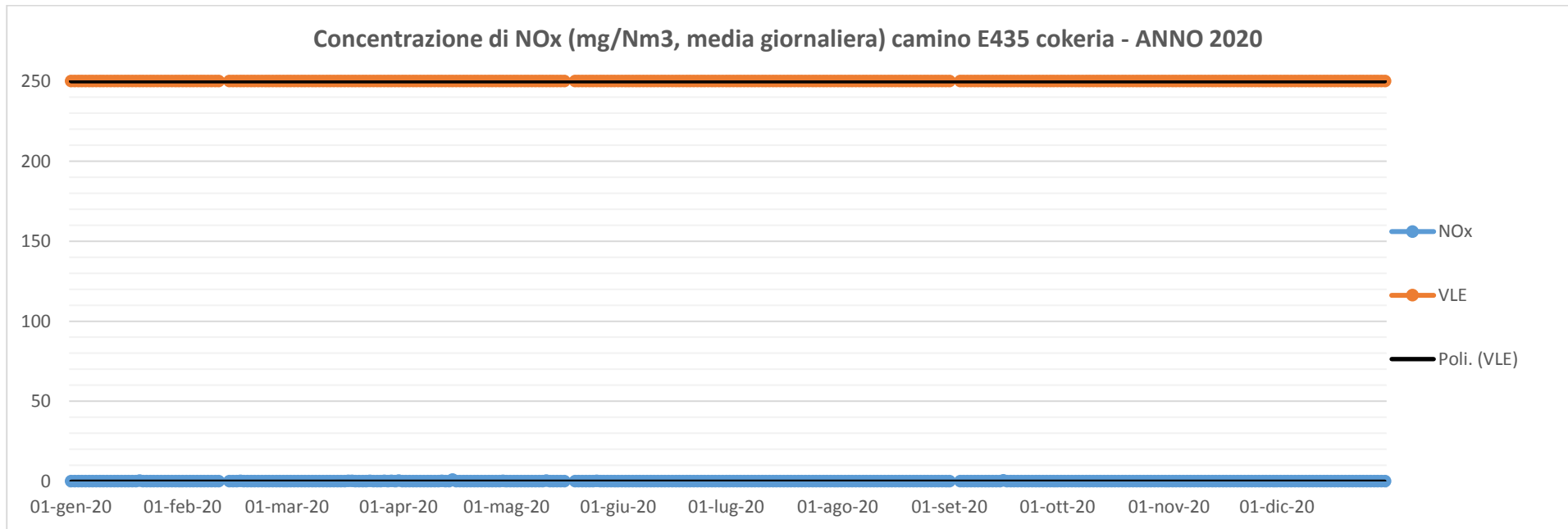
**FIG. 3 – Camino E428 - COKEFAZIONE**



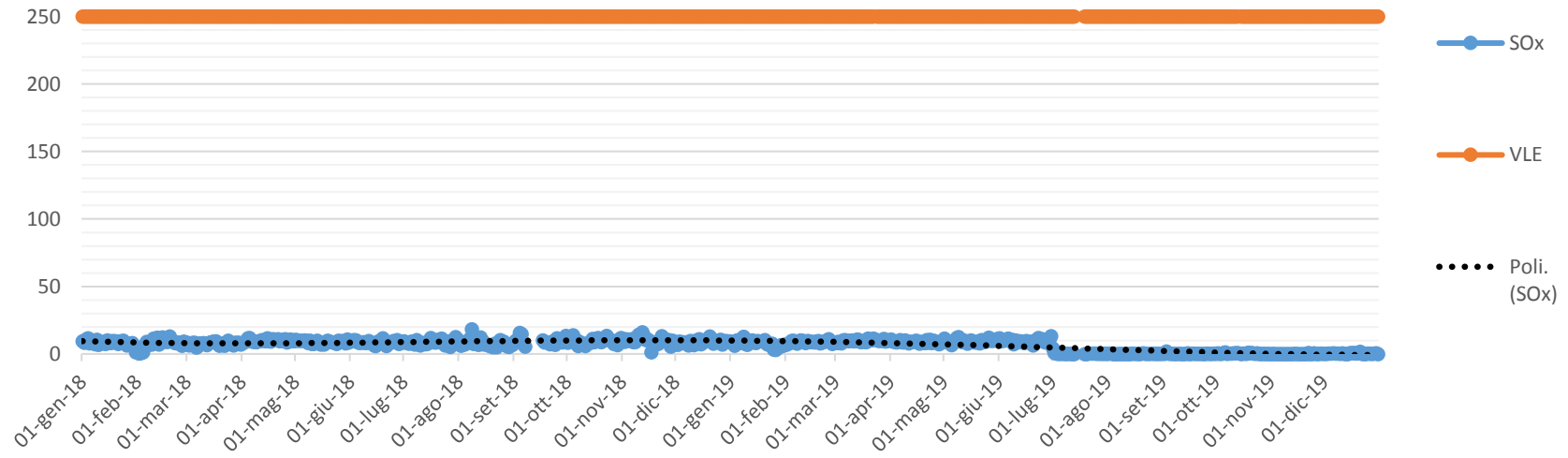
Concentrazione di NOx (mg/Nm3, media giornaliera) camino E435 cokeria - ANNO 2018/19



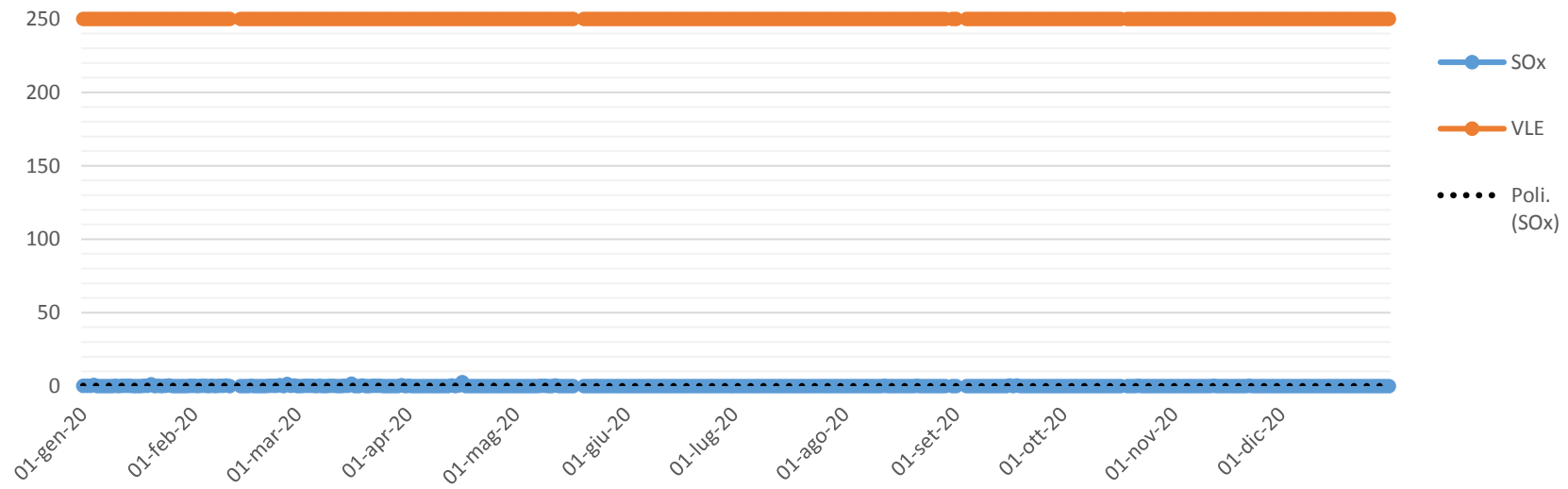
Concentrazione di NOx (mg/Nm3, media giornaliera) camino E435 cokeria - ANNO 2020

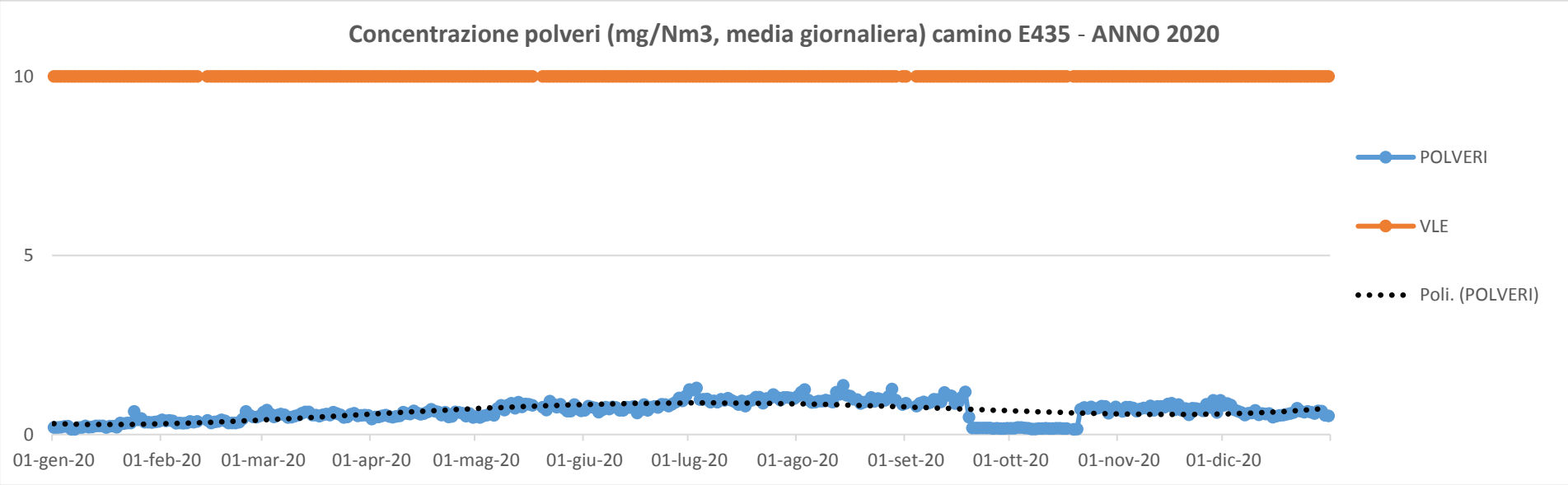
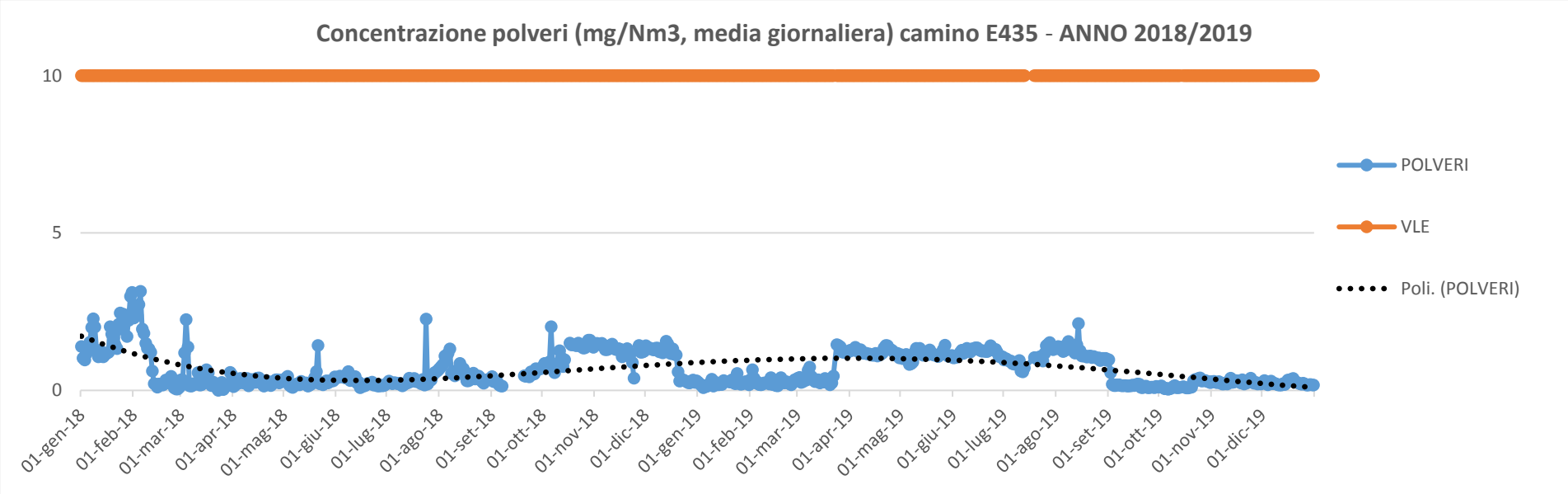


Concentrazione SOx (mg/Nm3, media giornaliera) camino E435 - ANNO 2018/19



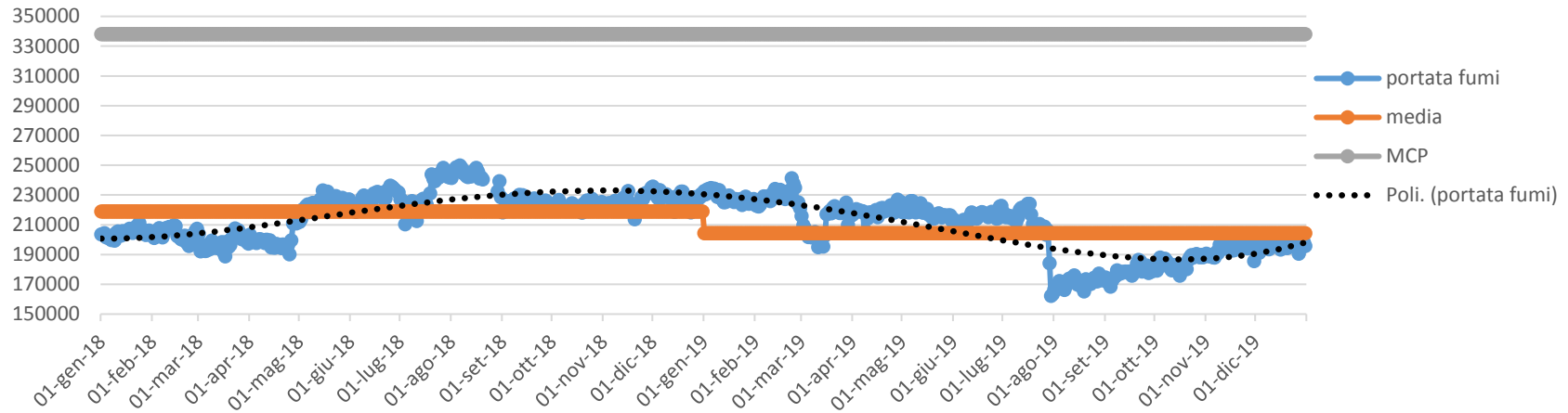
Concentrazione SOx (mg/Nm3, media giornaliera) camino E435 - ANNO 2020



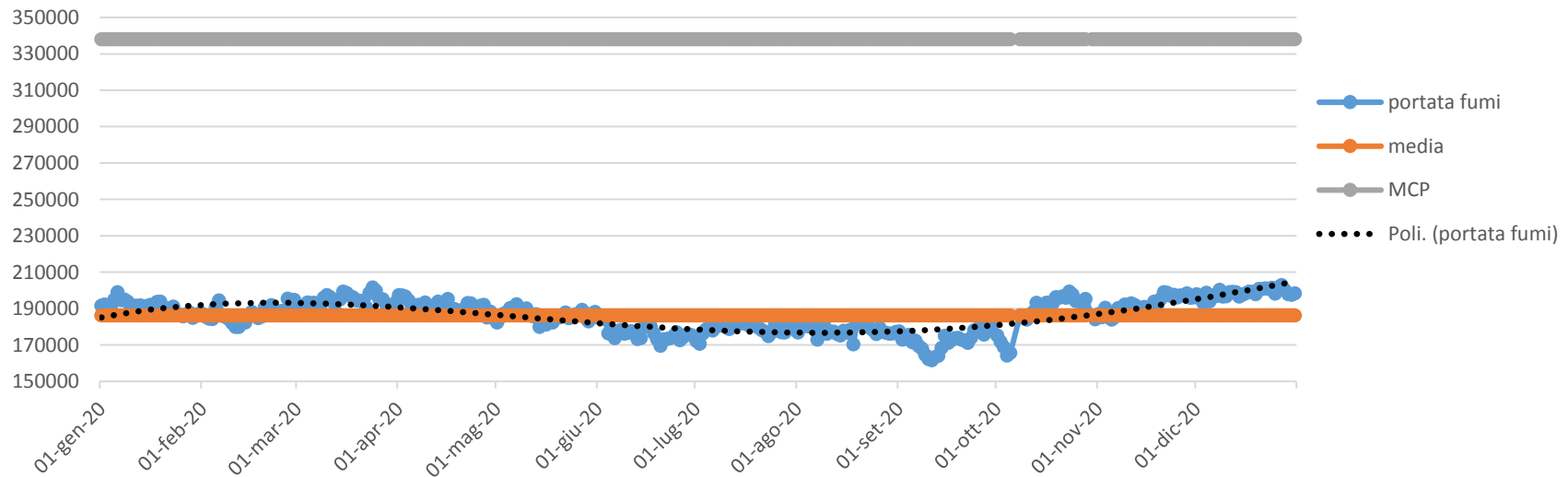


**FIG. 4 – Camino E435 – SFORNAMENTO COKE**

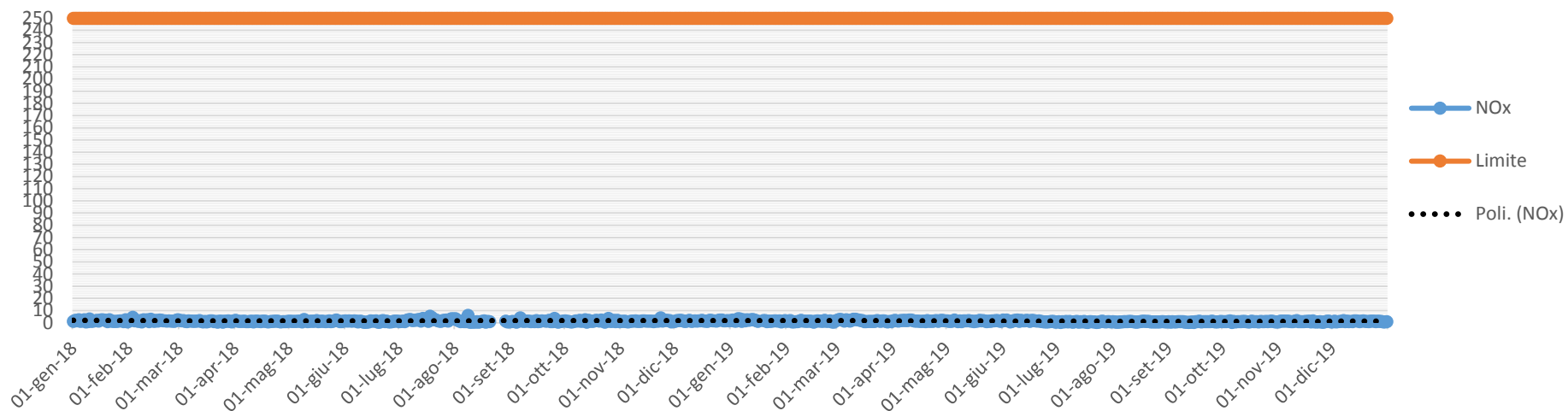
Portata fumi (Nm3/h) camino E436 cokeria - anno 2018/19



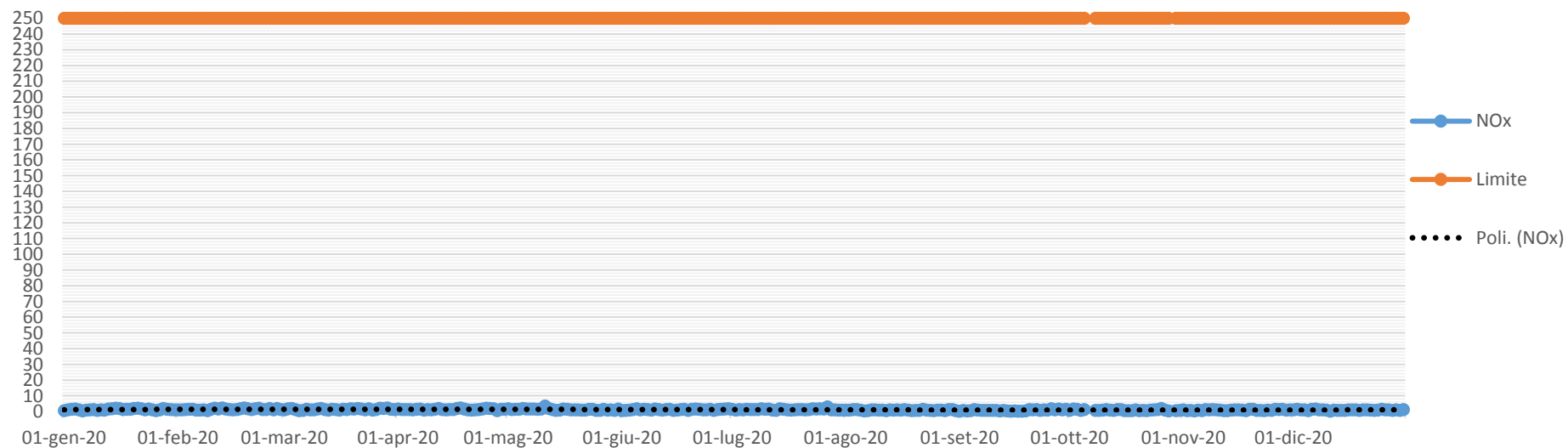
Portata fumi (Nm3/h) camino E436 cokeria - anno 2020



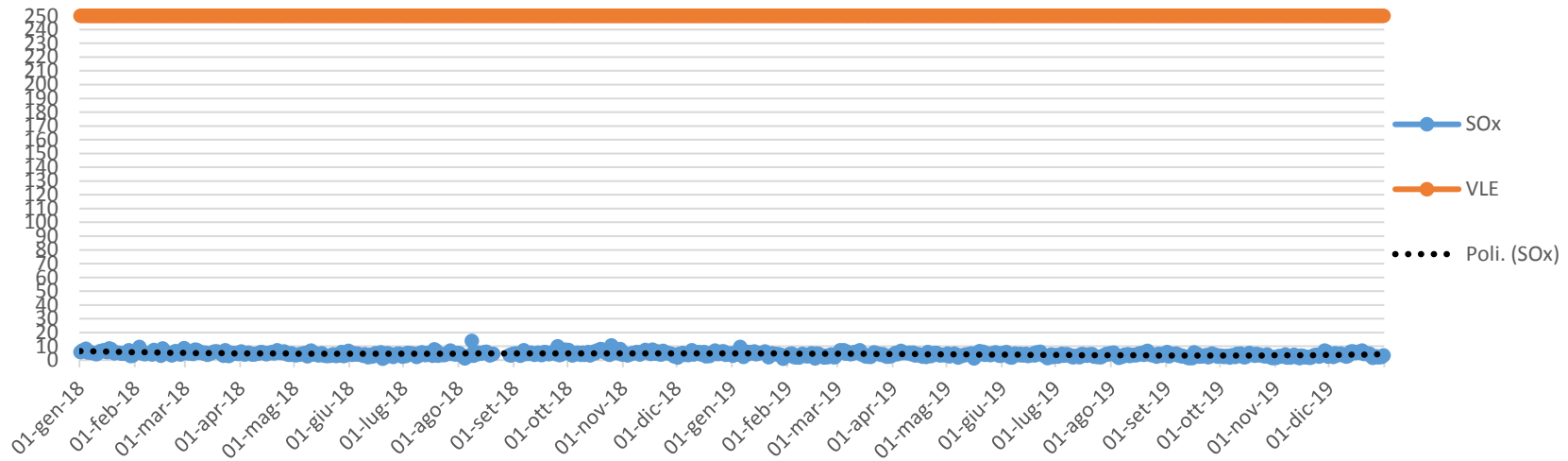
### Concentrazione di NOx (mg/Nm3, media giornaliera) camino E436 cokeria - ANNO 2018/19



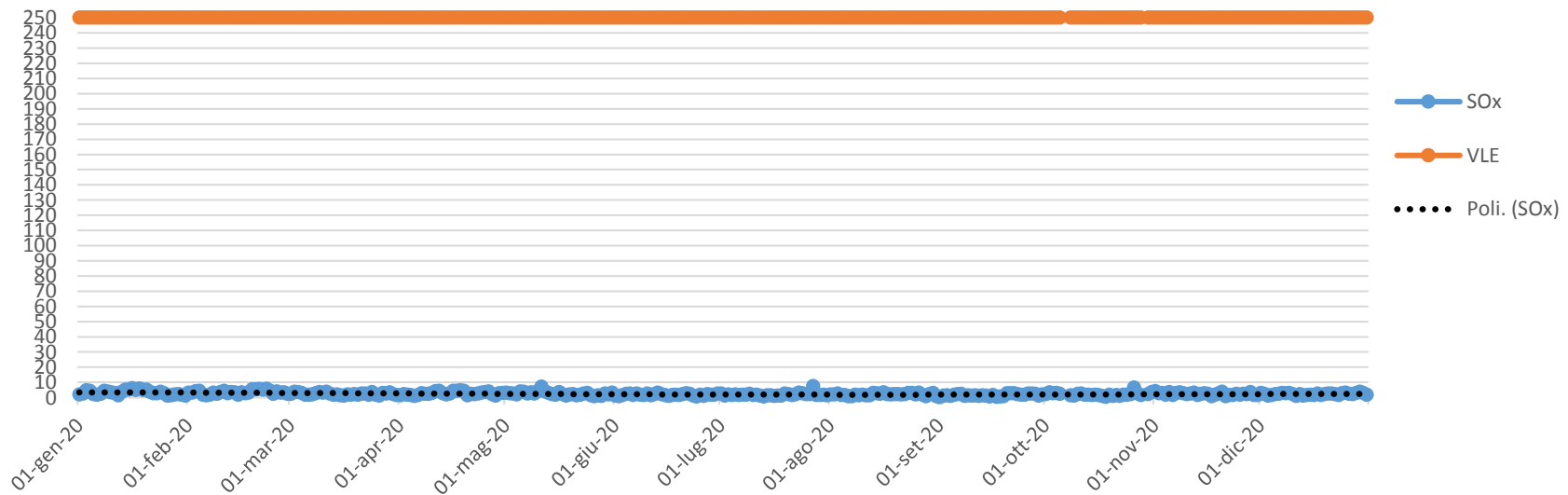
### Concentrazione di NOx (mg/Nm3, media giornaliera) camino E436 cokeria - ANNO 2020



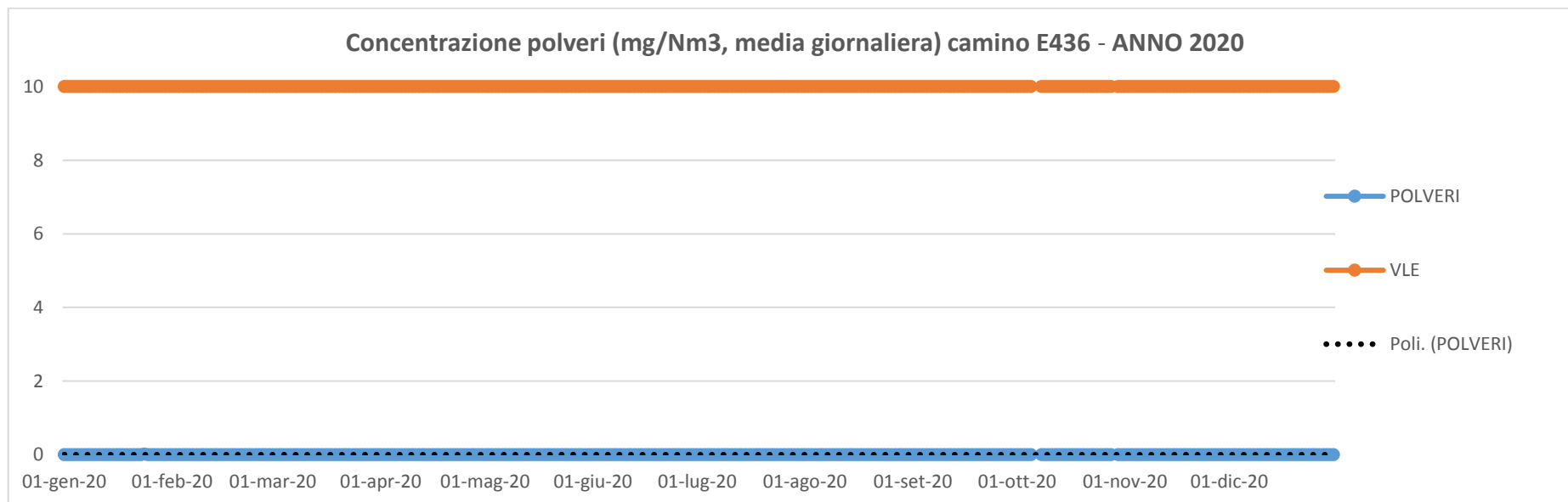
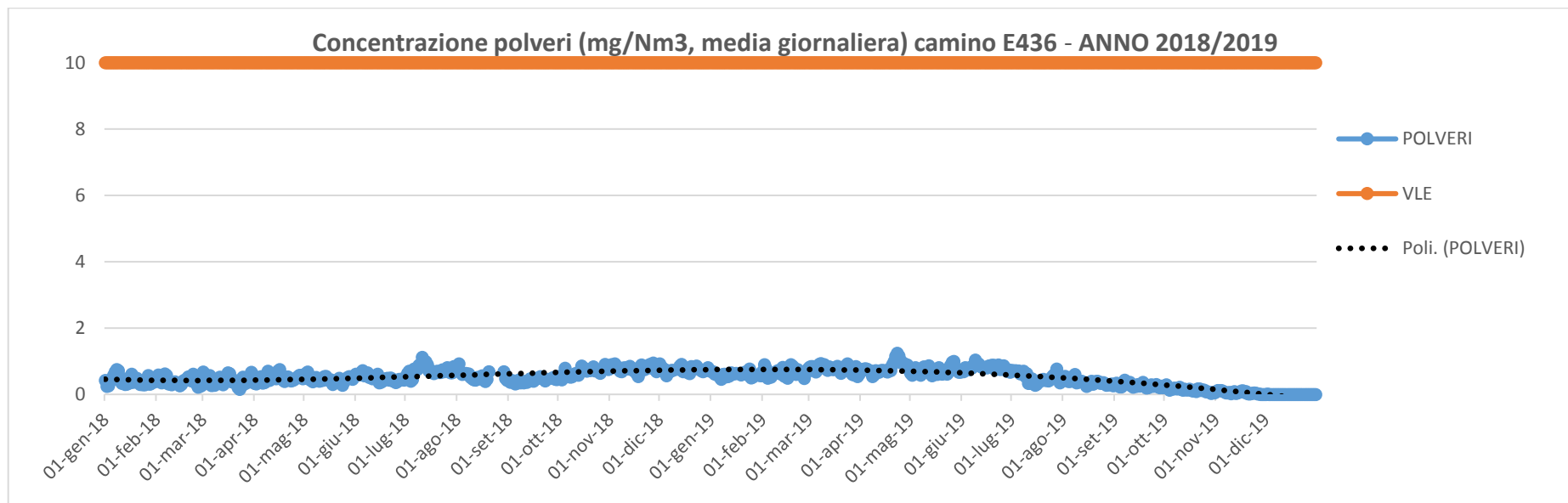
Concentrazione SOx (mg/Nm3, media giornaliera) camino E436 - ANNO 2018/19



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

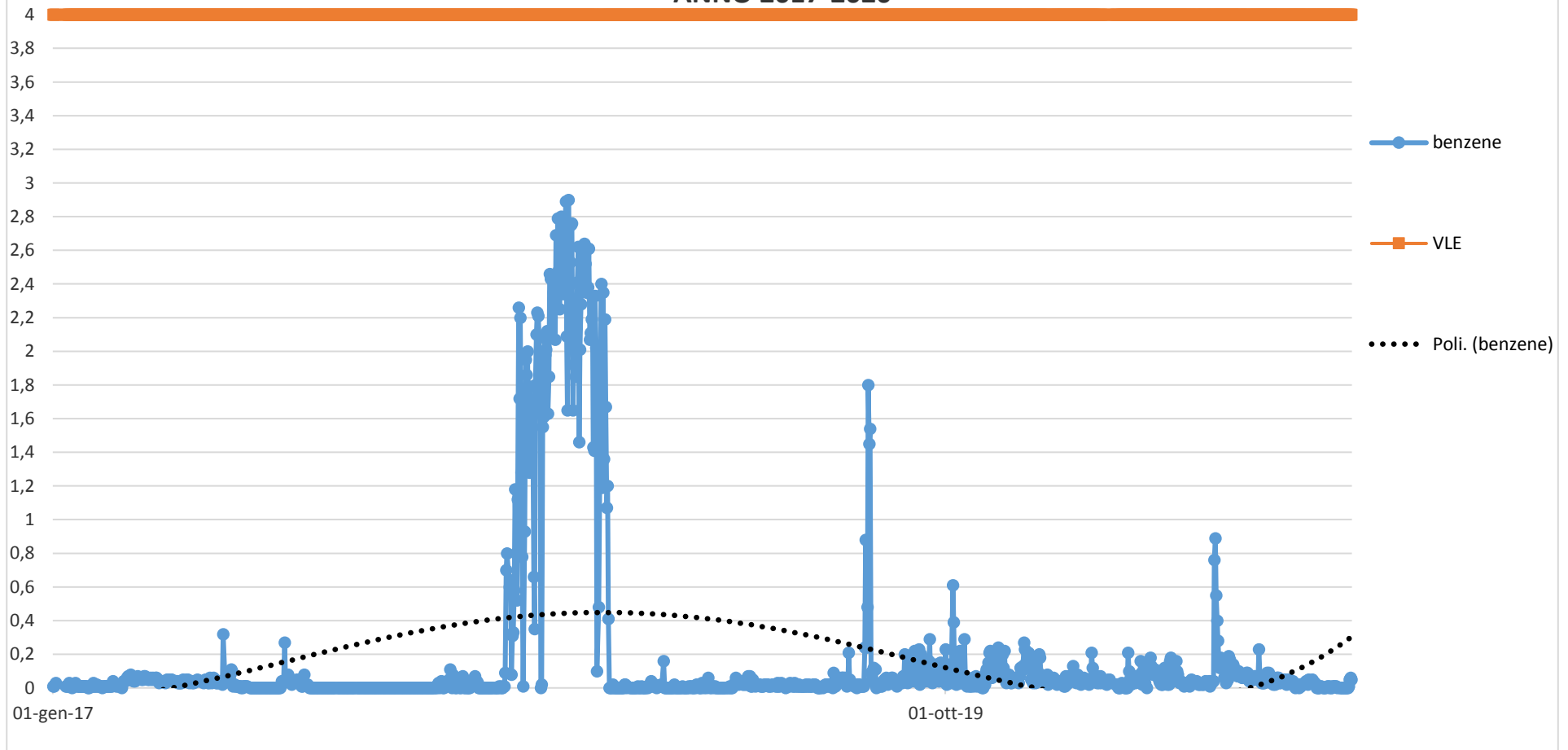




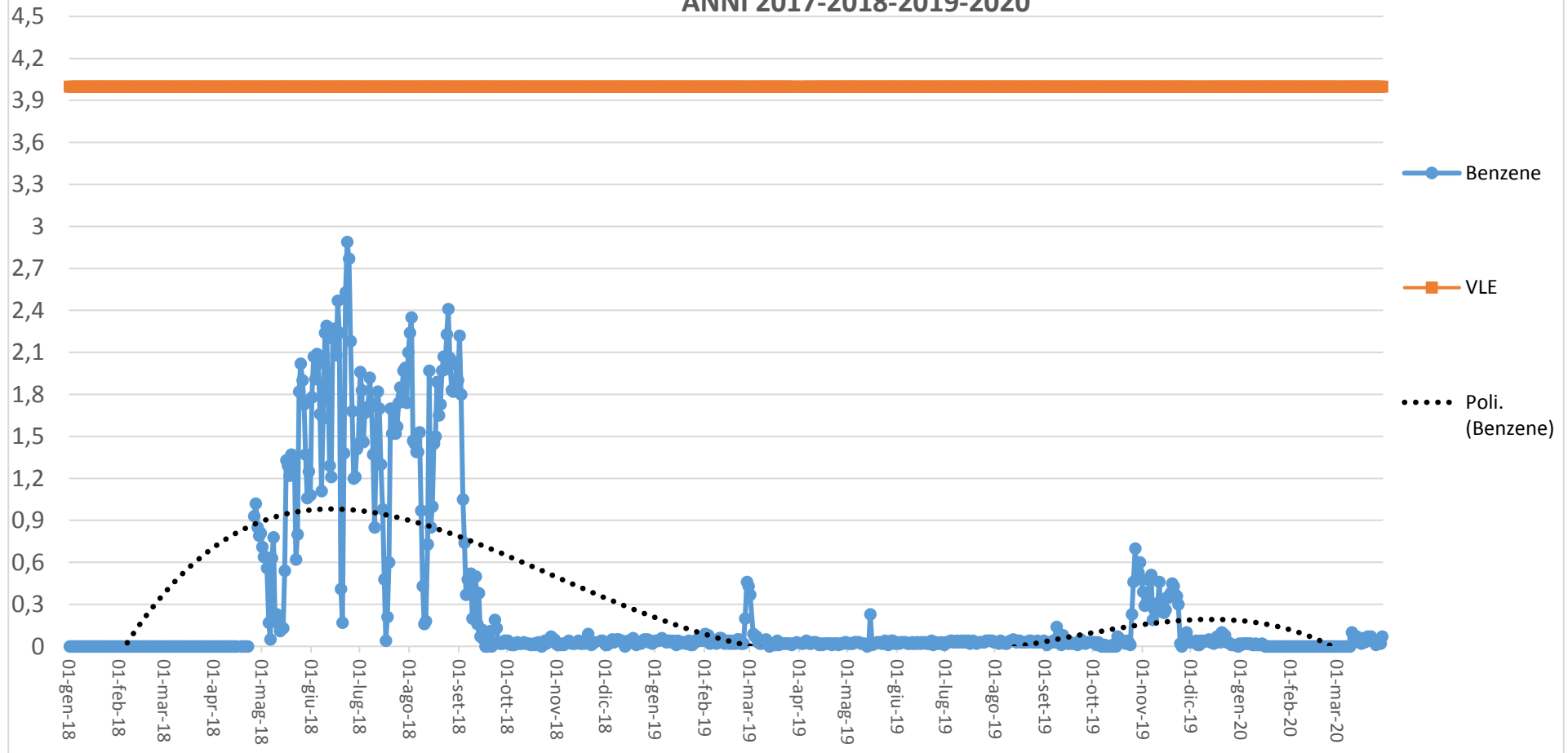


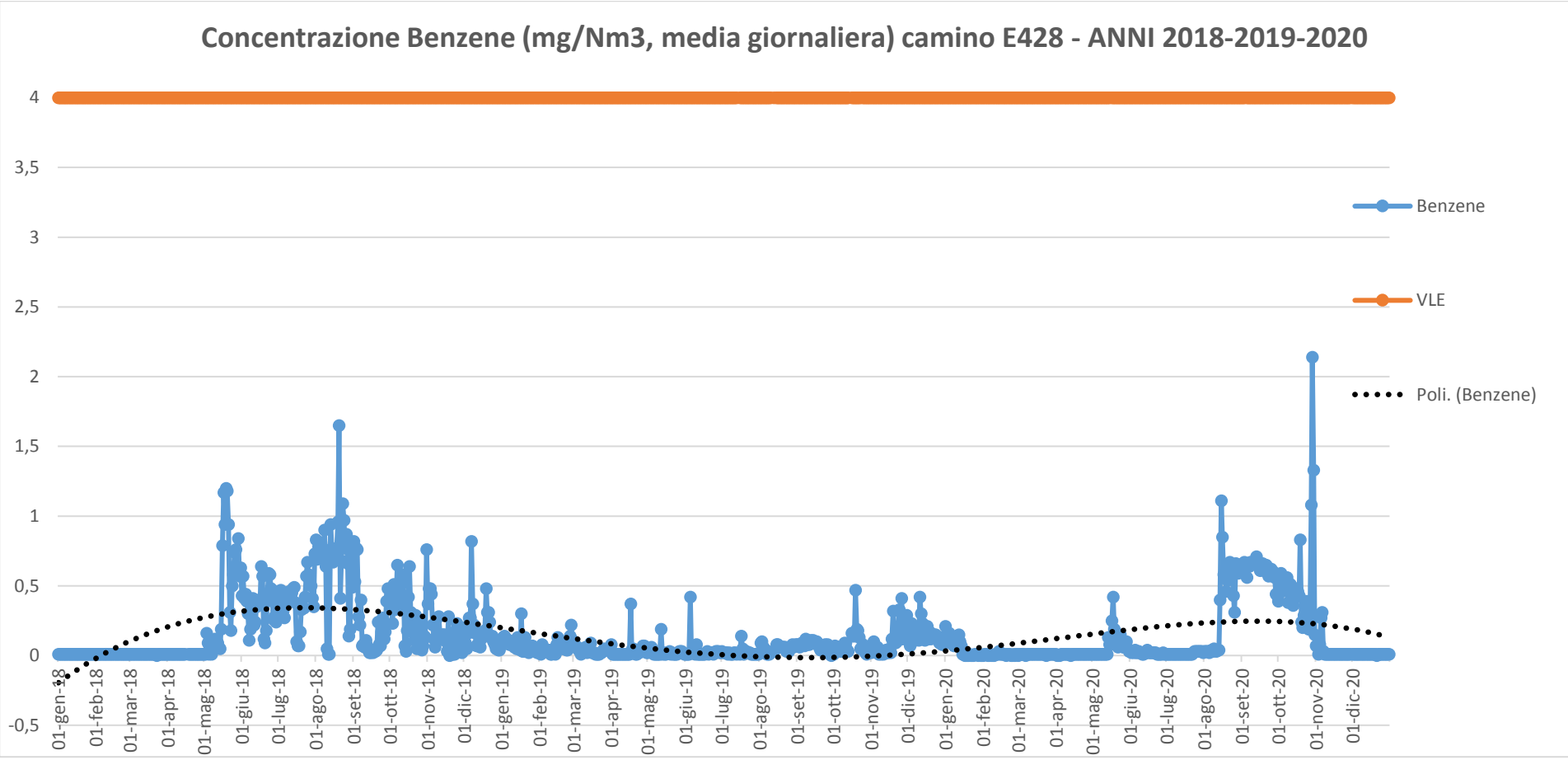
**FIG. 5 – Camino E436 – SFORNAMENTO COKE**

### Concentrazione Benzene (mg/Nm<sup>3</sup>, media giornaliera) camino E424 ANNO 2017-2020



Concentrazione Benzene (mg/Nm<sup>3</sup>, media giornaliera) camino E426  
ANNI 2017-2018-2019-2020



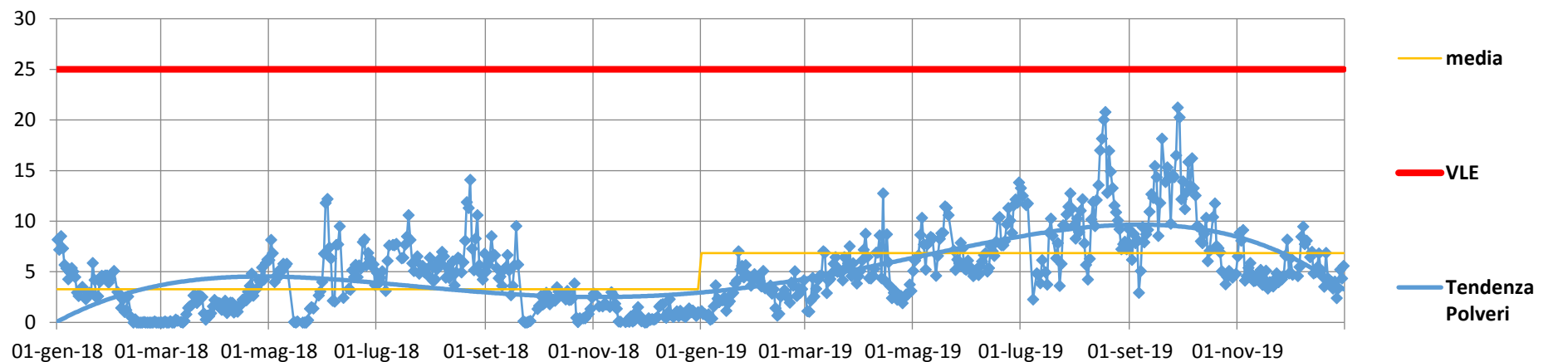


**FIG. 7 – Trend Benzene camini cokefazione**

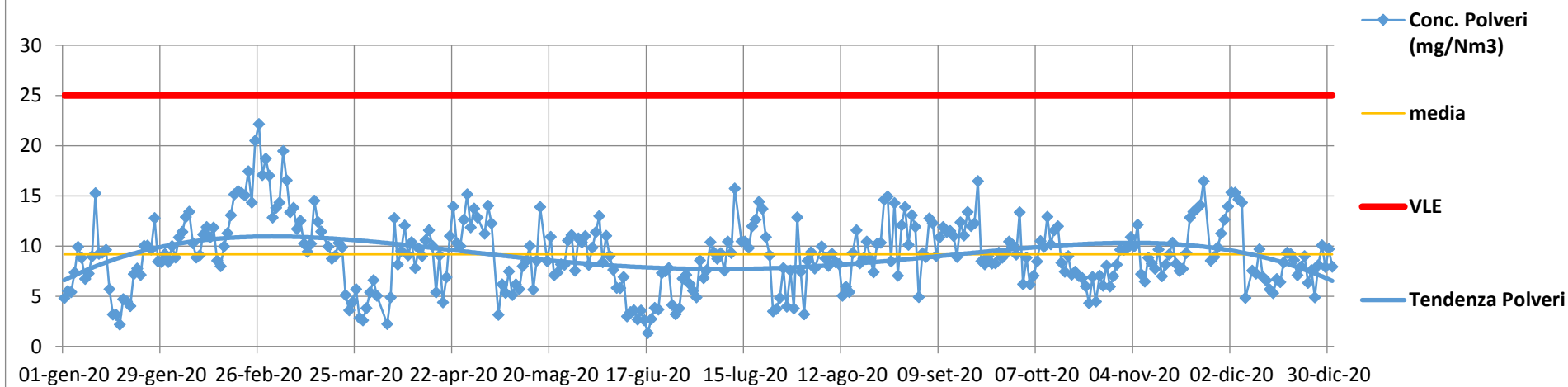
**TAVOLA 2 Camini area agglomerato**

**(E312 E314b E315b E324 e E325)**

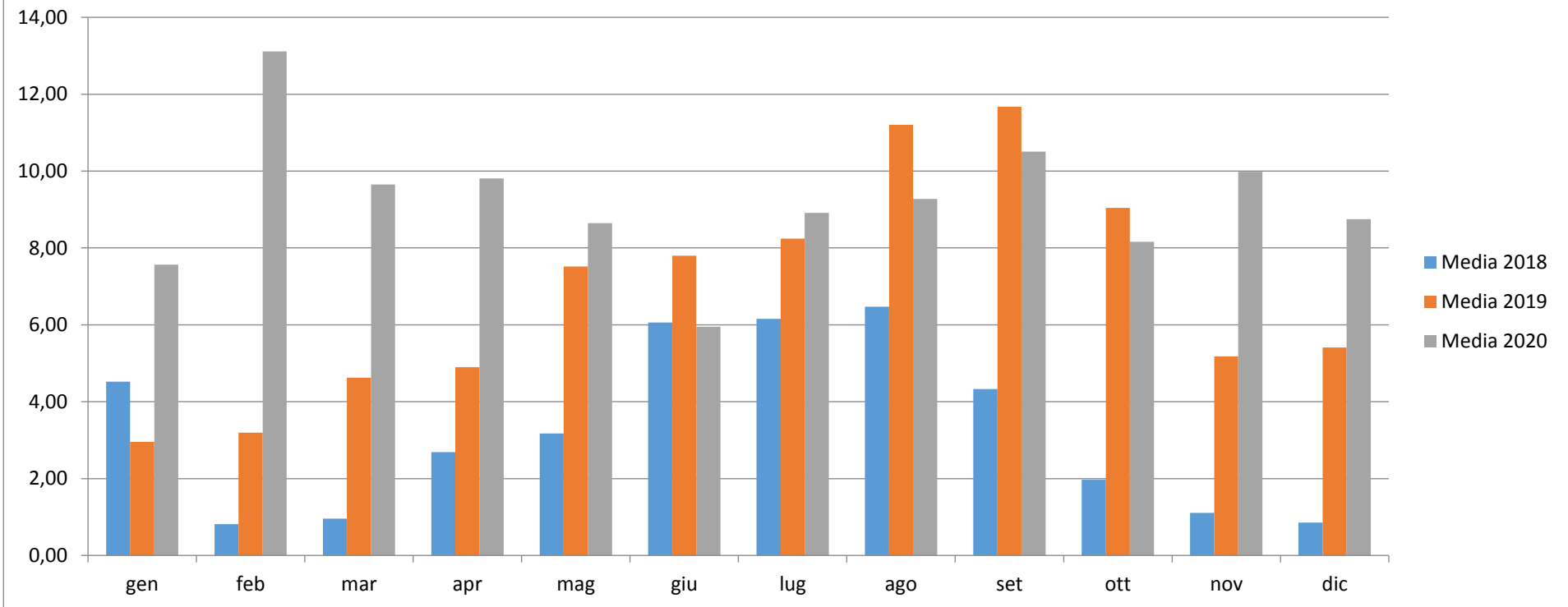
### Concentrazione polveri (mg/Nm3) camino E312 - Anni 2018-2019



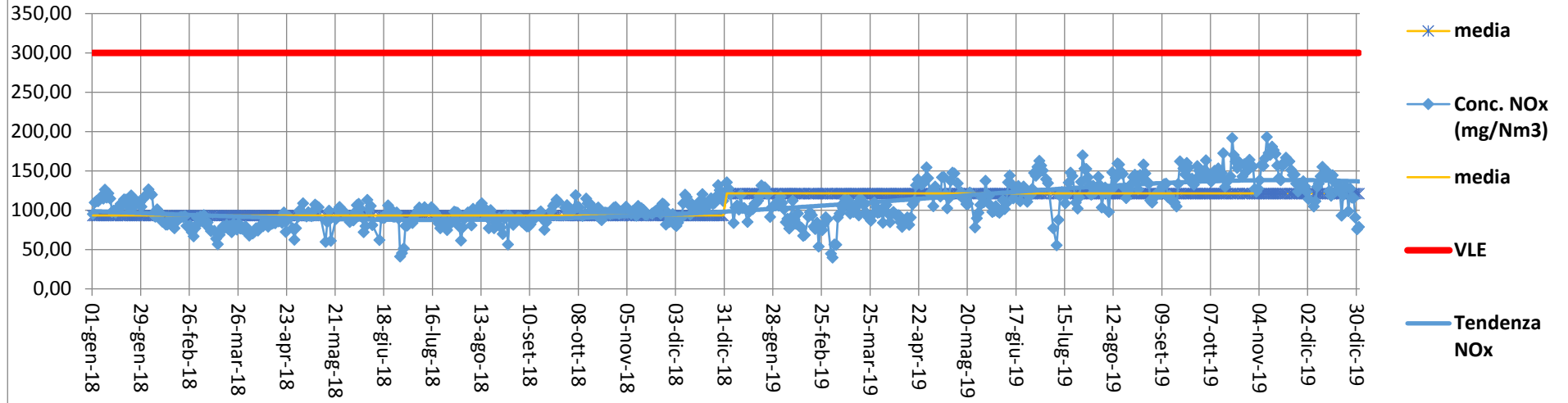
### Concentrazione polveri (mg/Nm3) camino E312 - Anno 2020



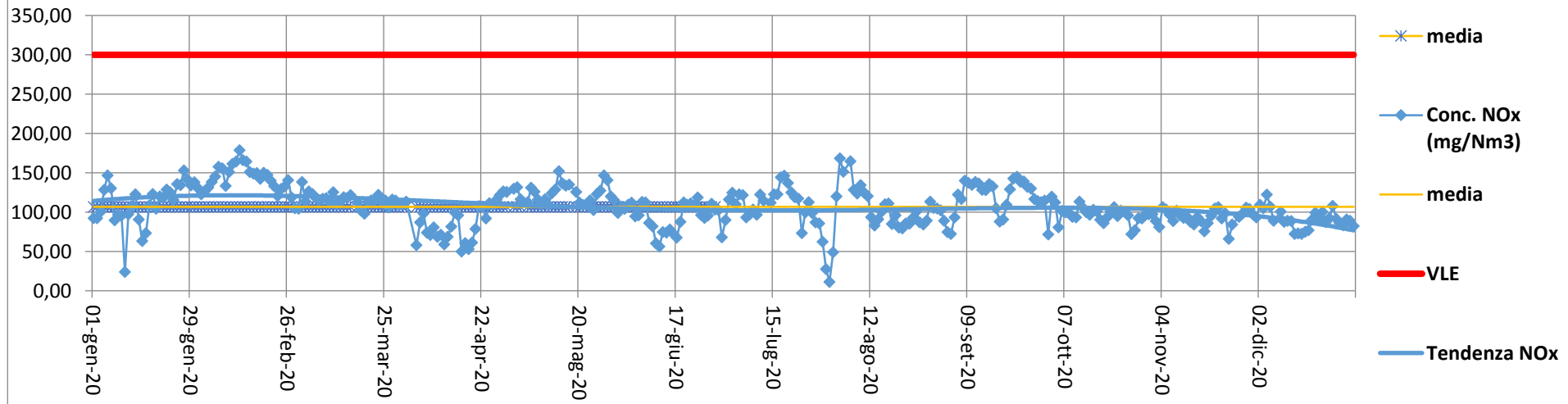
## Concentrazione polveri (mg/Nm<sup>3</sup>) camino E312 medie mensili



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

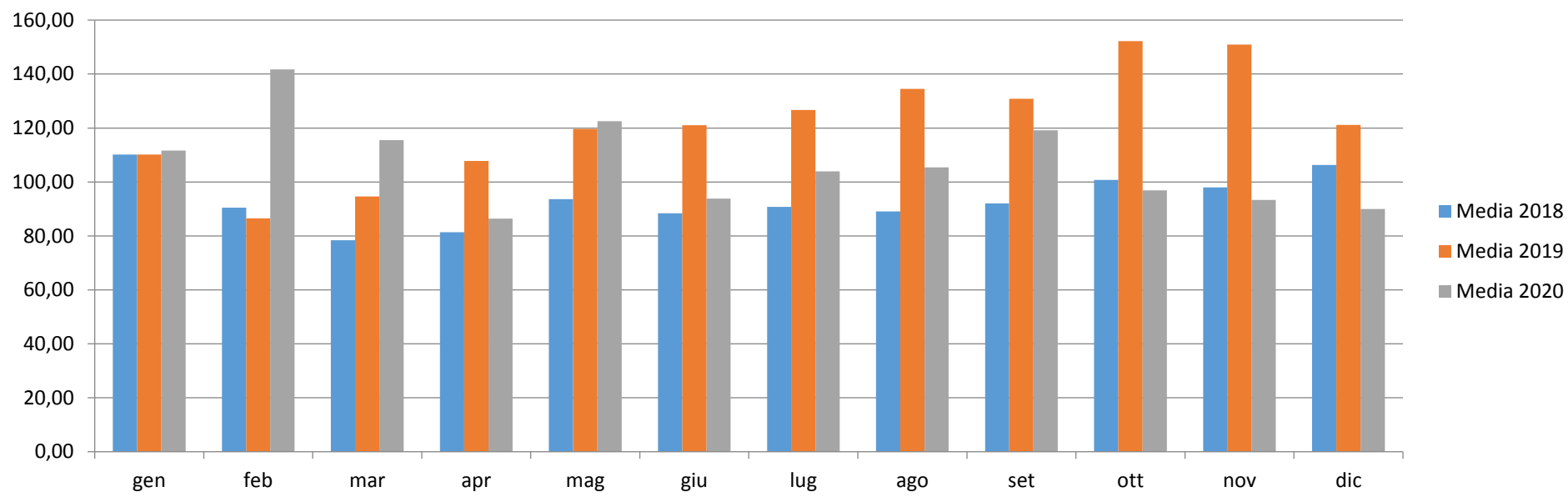


Concentrazione NOx (mg/Nm3) - camino E312 - Anno 2020

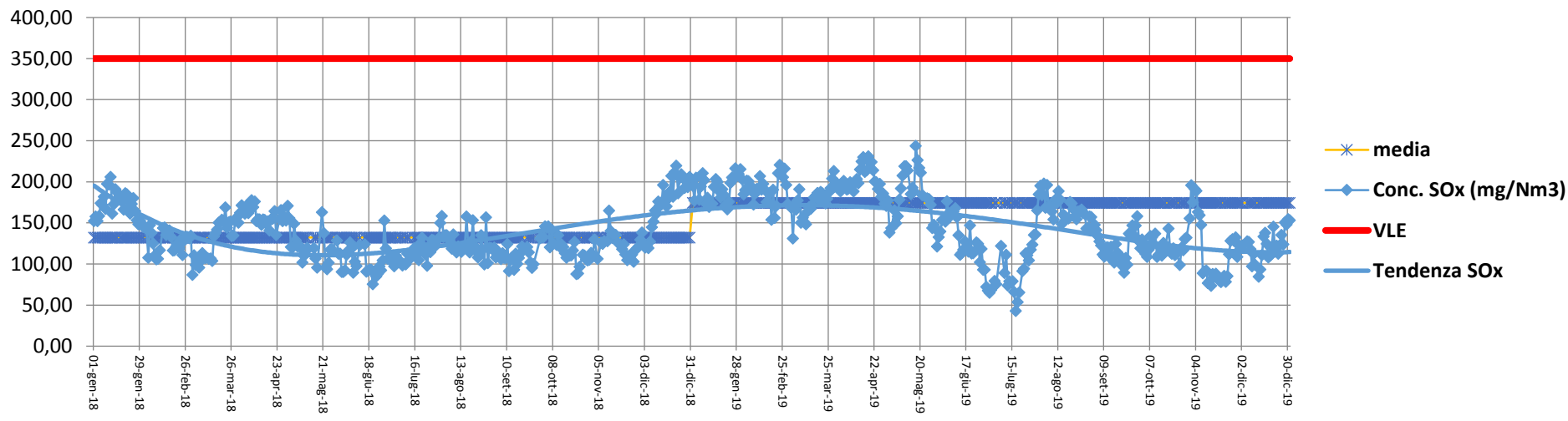




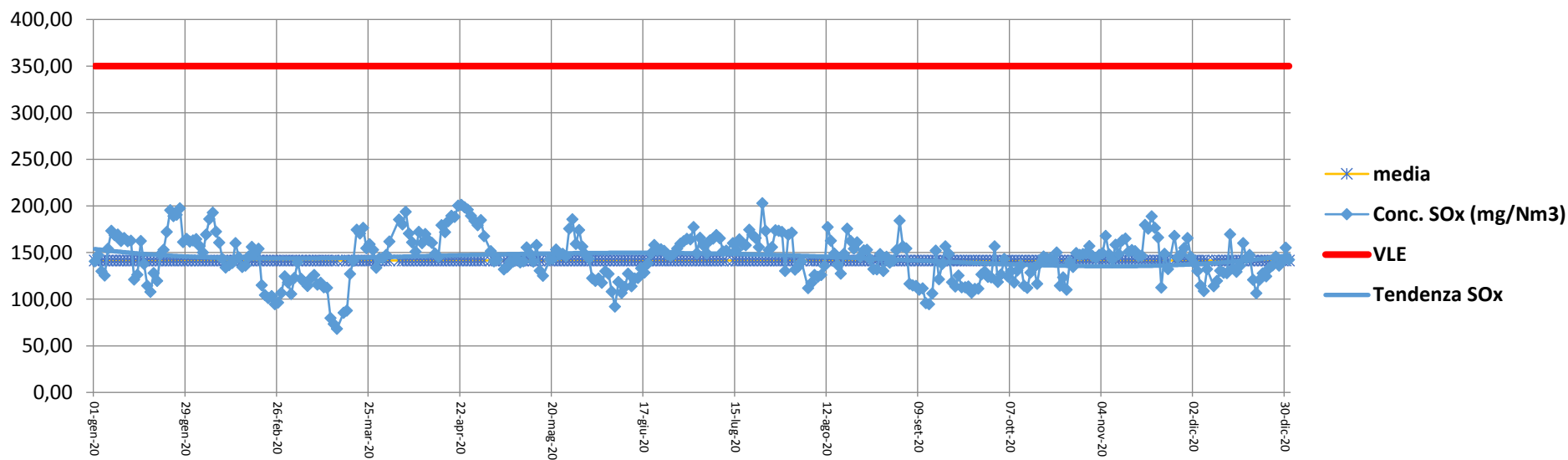
## Concentrazione NOx (mg/Nm<sup>3</sup>) camino E312 medie mensili



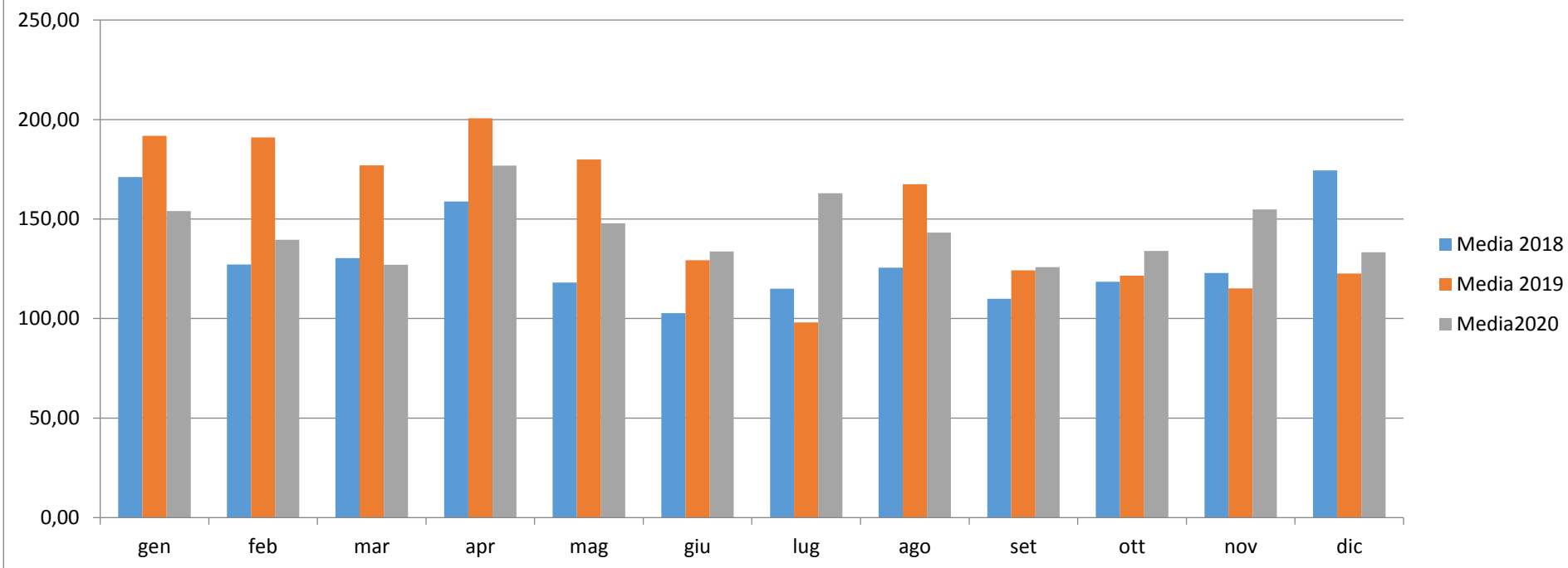
Concentrazione SOx (mg/Nm3) - Camino E312 - Anni 2018 - 2019



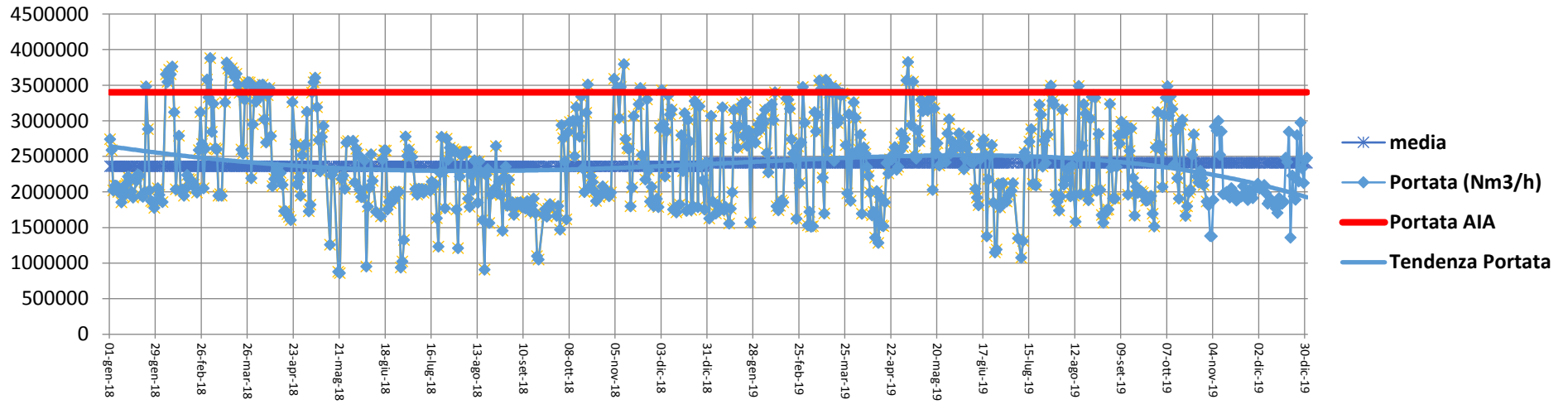
Concentrazione SOx (mg/Nm3) - Camino E312 - Anno 2020



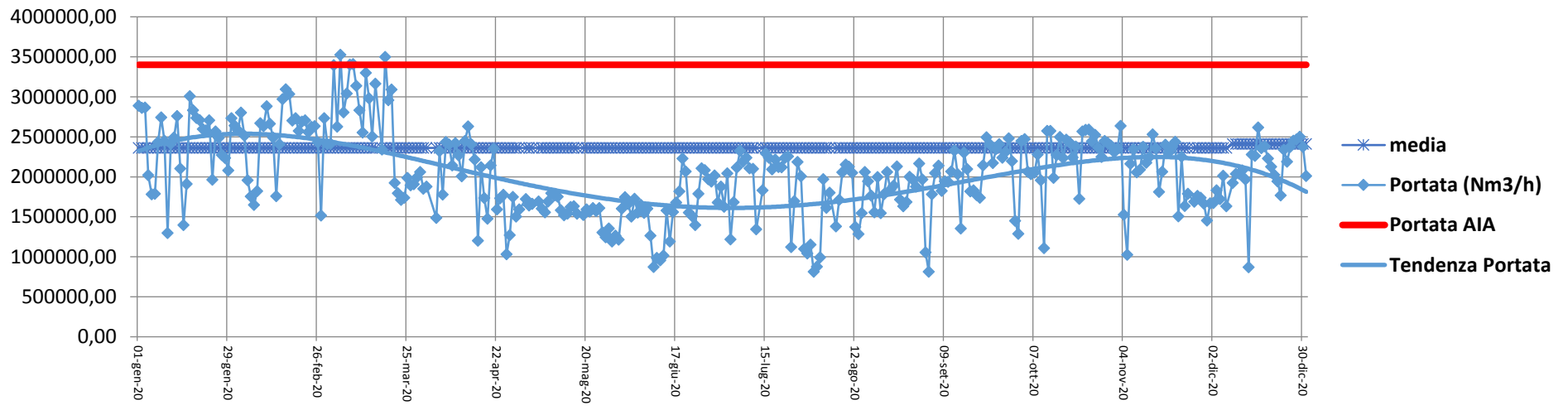
### Concentrazione SOx (mg/Nm3) camino E312 medie mensili



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



Portata fumi (Nm3/h) - Camino E312 - Anno 2020



### Portata fumi (Nm<sup>3</sup>/h) camino E312 medie mensili

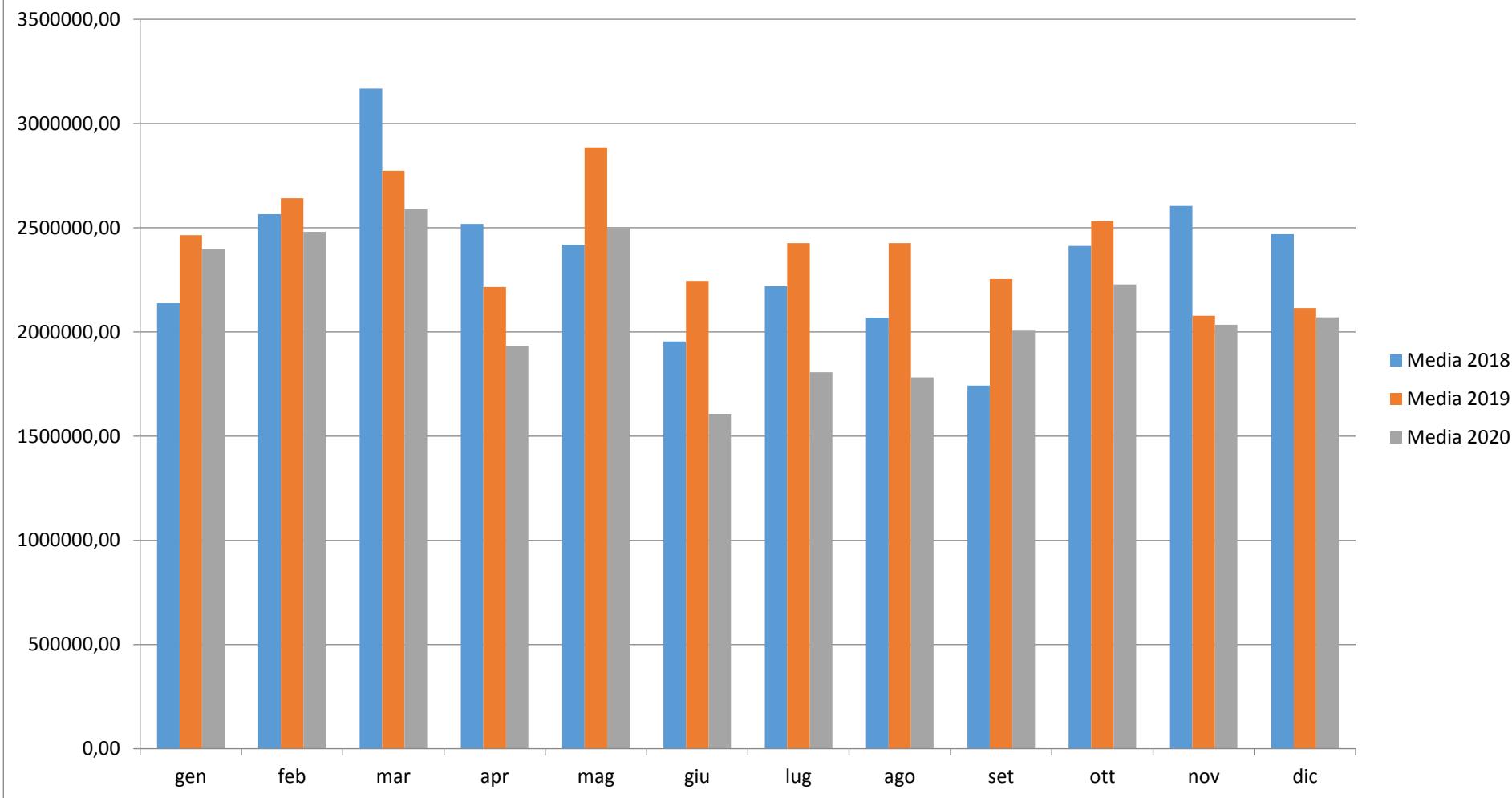
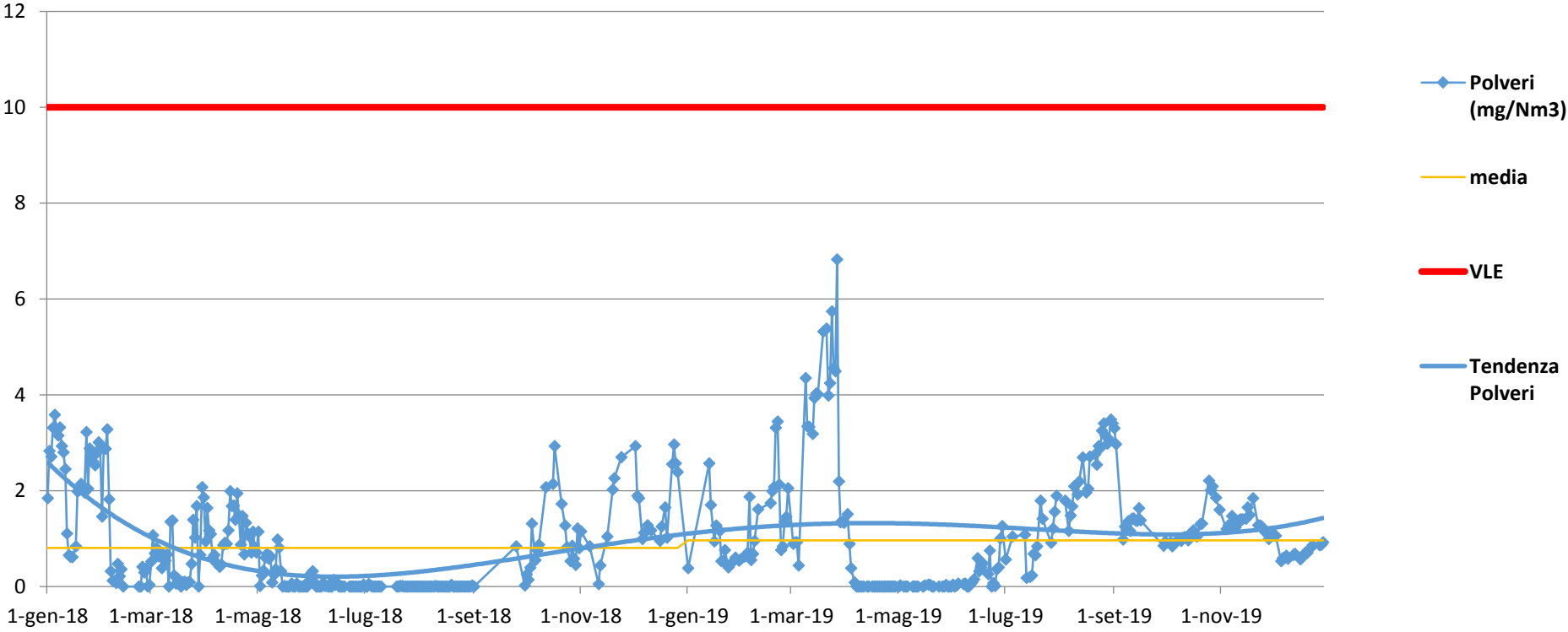
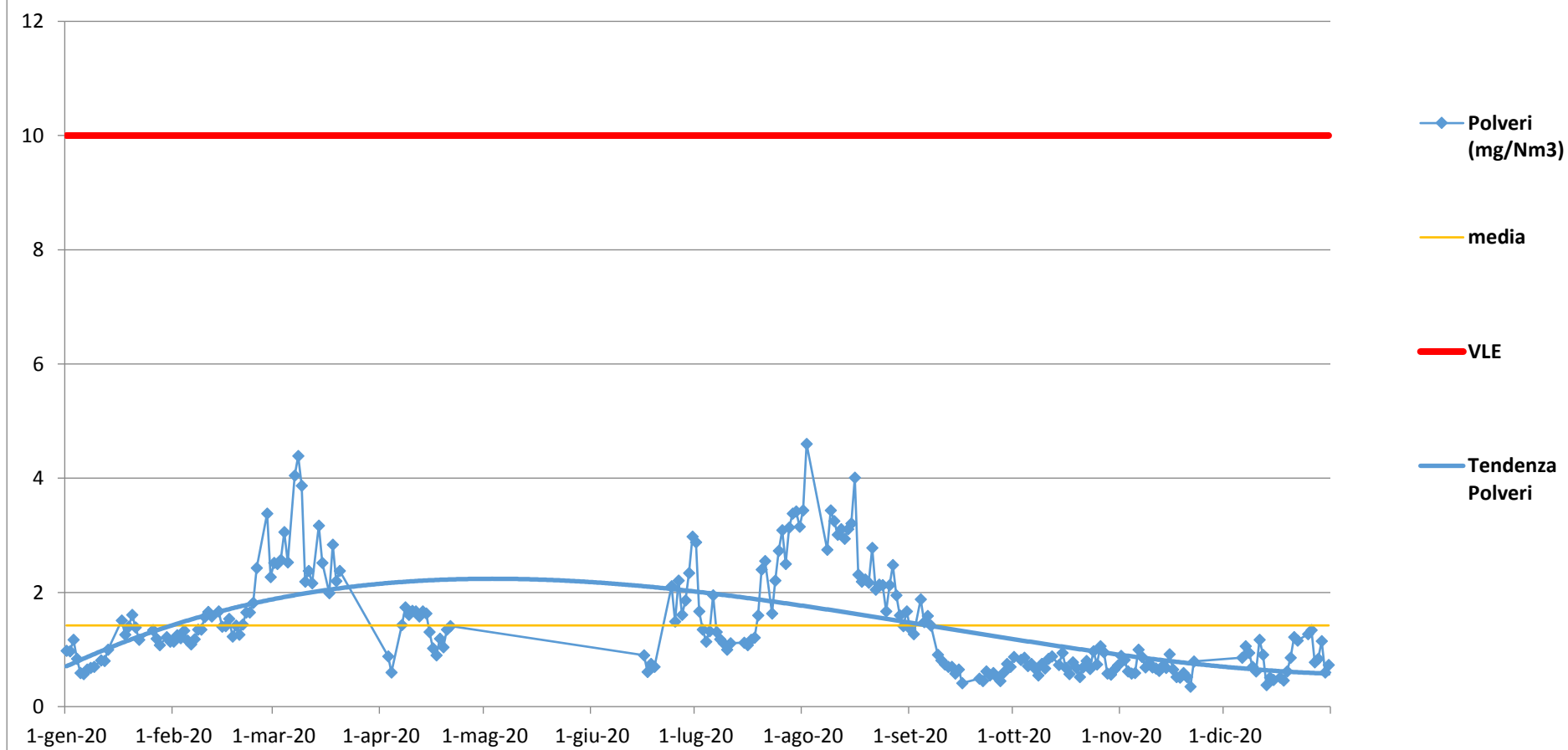


Figura 8. Esercizio Camino E312 Area Agglomerato, periodo gennaio 2018 – dicembre 2020

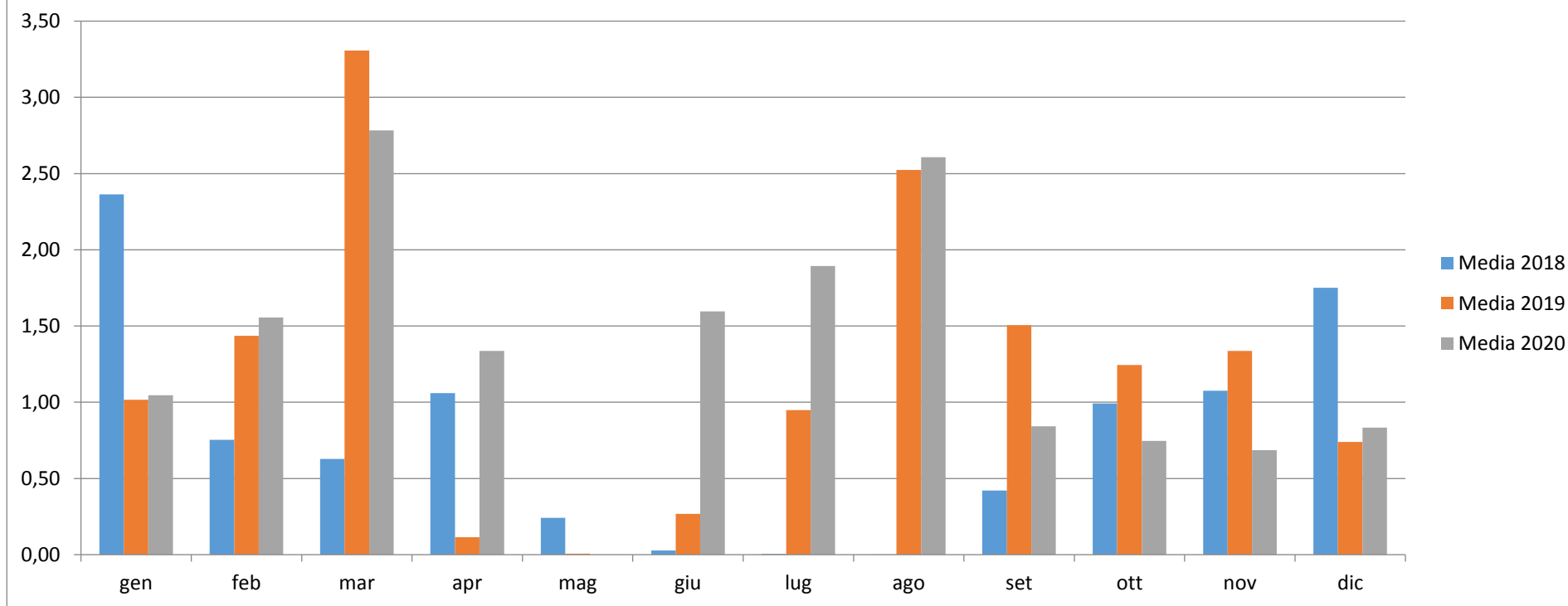
### Concentrazione polveri mg/Nm3 cammino E314b - Anni 2018-2019



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

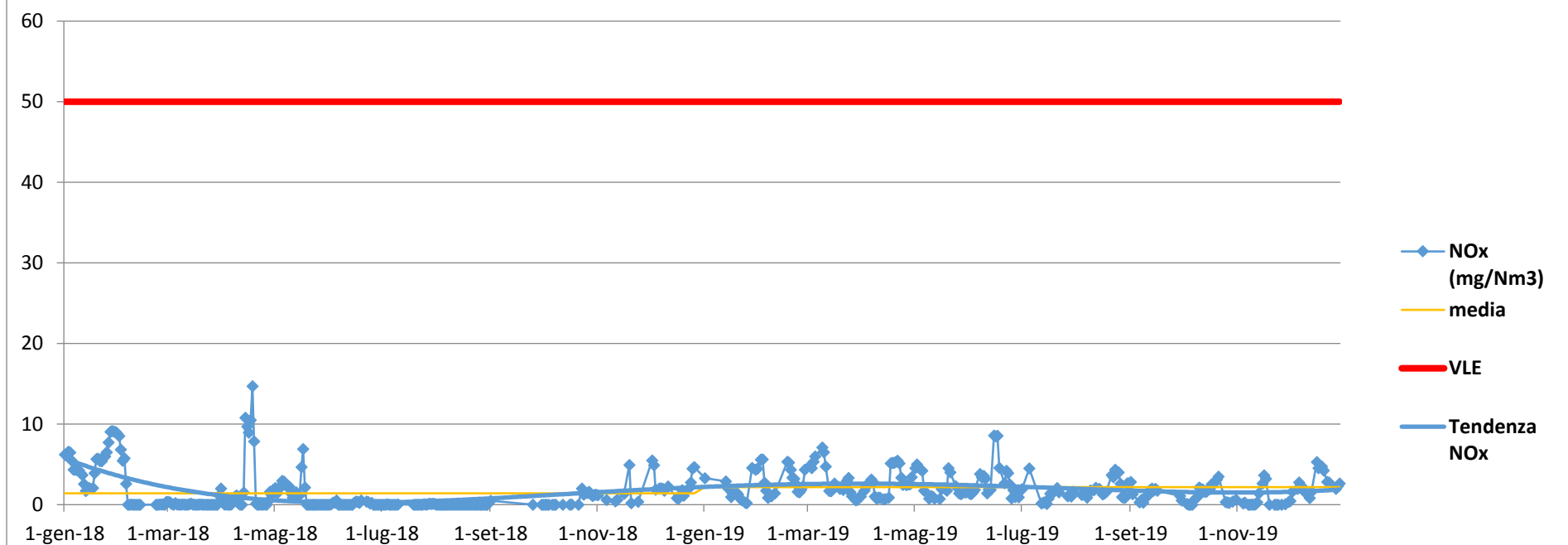


### Concentrazione polveri mg/Nm3 cammino E314b

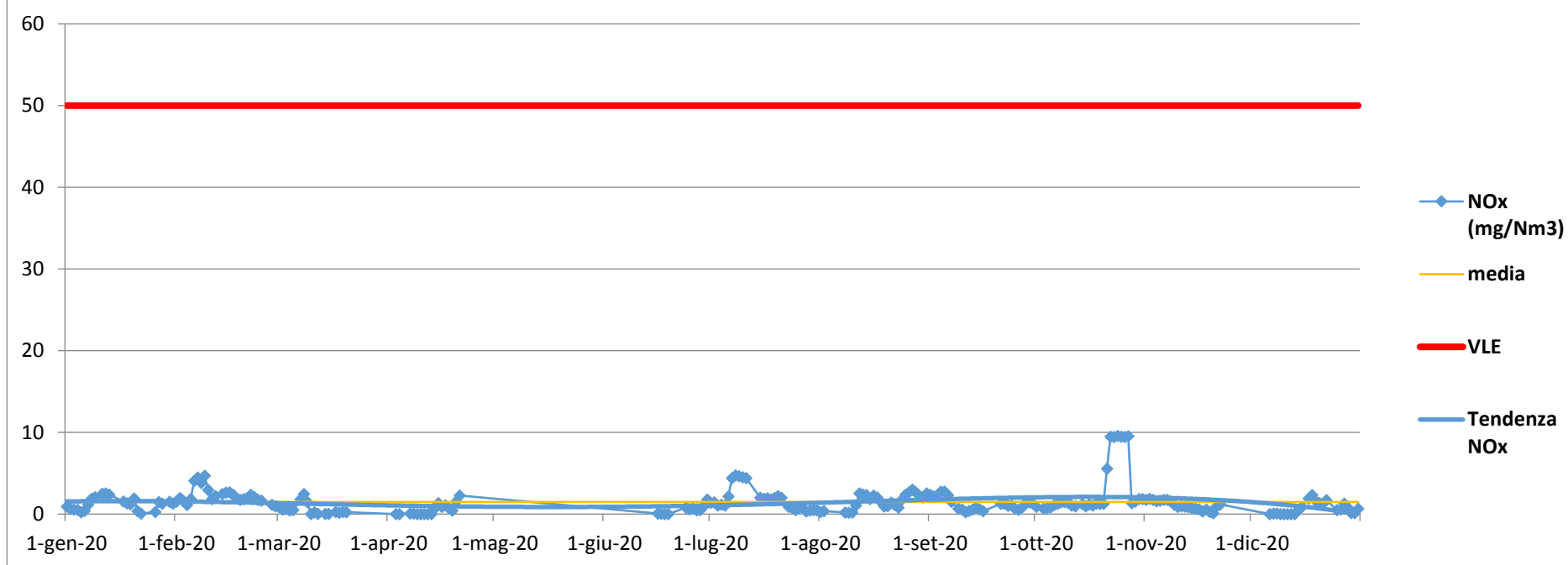




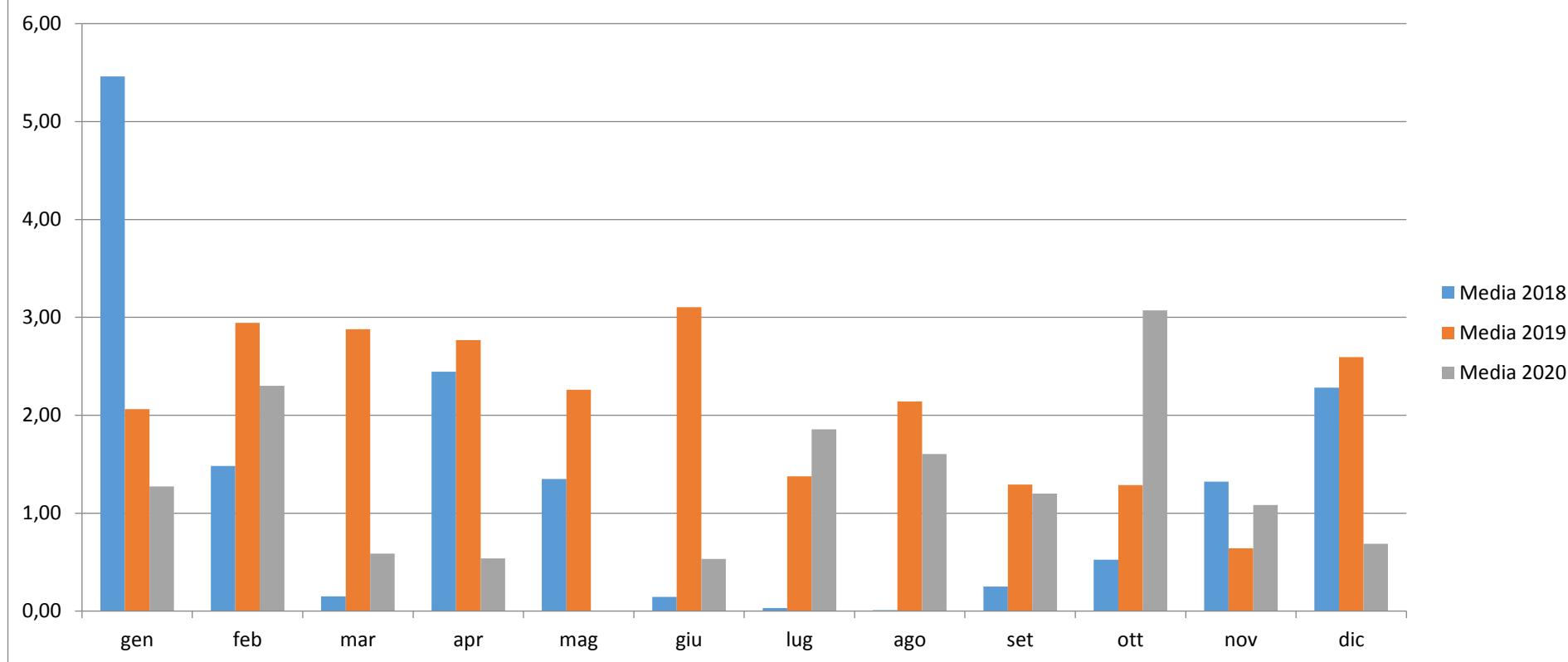
## Concentrazione NOx mg/Nm3 cammino E314b - Anni 2018-2019



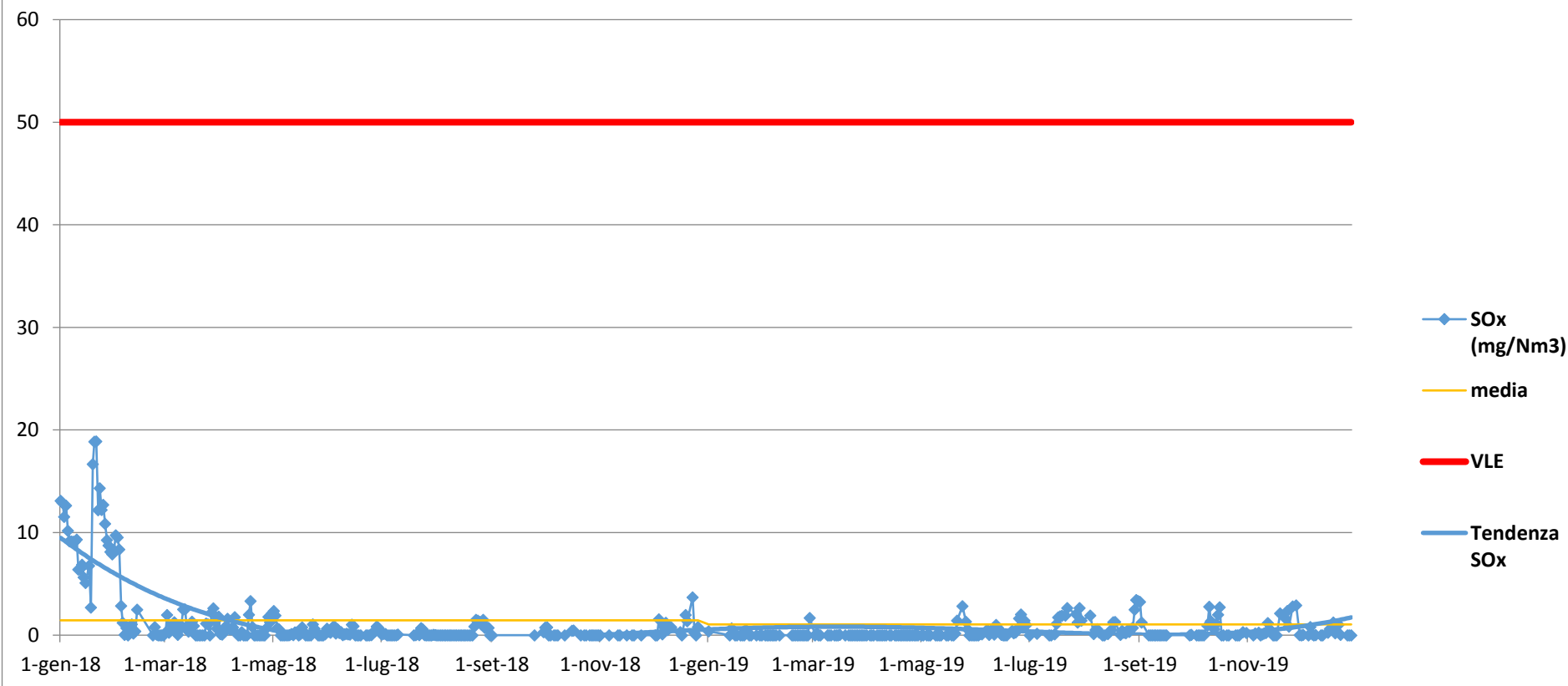
## Concentrazione NOx mg/Nm3 camino E314b - Anno 2020



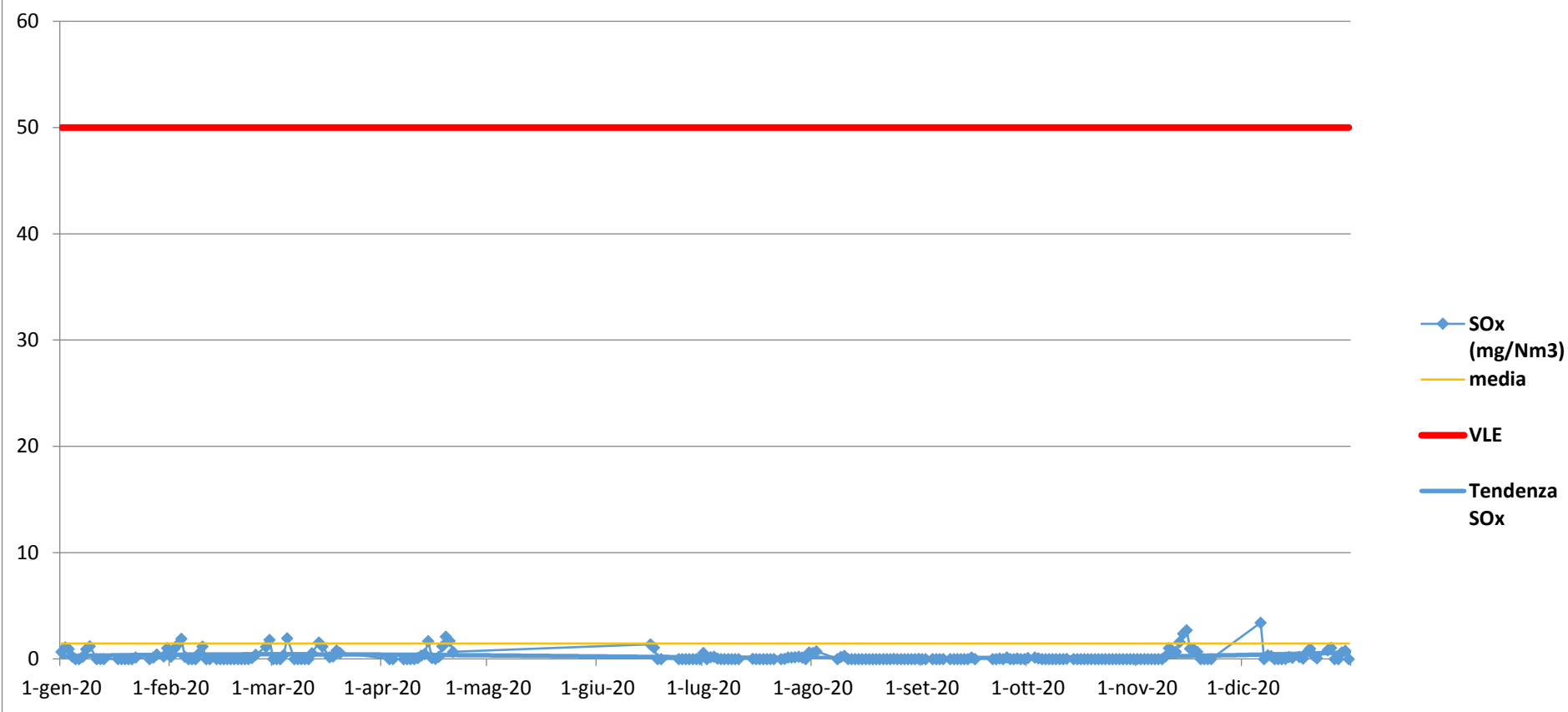
### Concentrazione NOx mg/Nm3 camino E314b



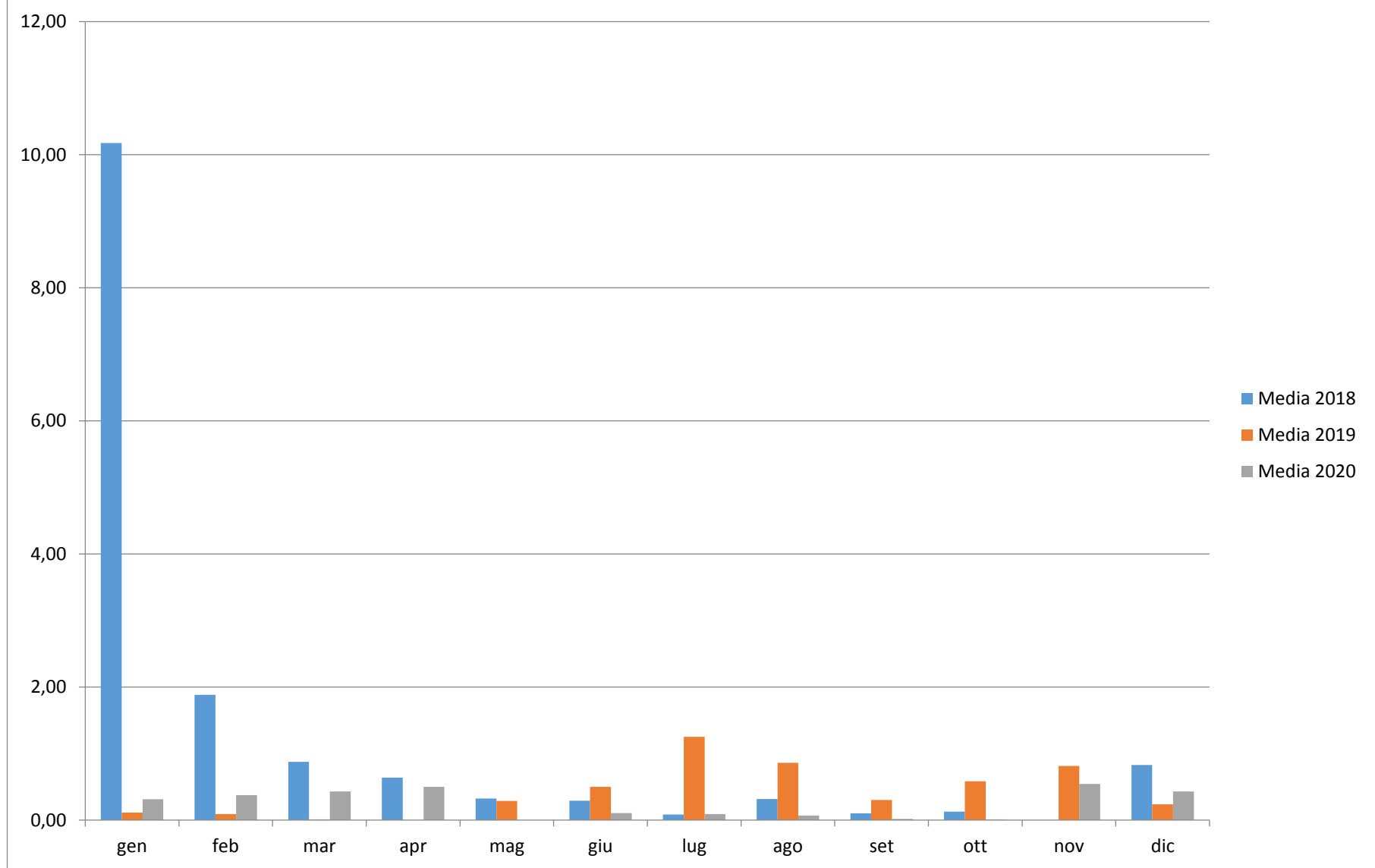
### Concentrazione SOx mg/Nm3 camino E314b - Anni 2018-2019



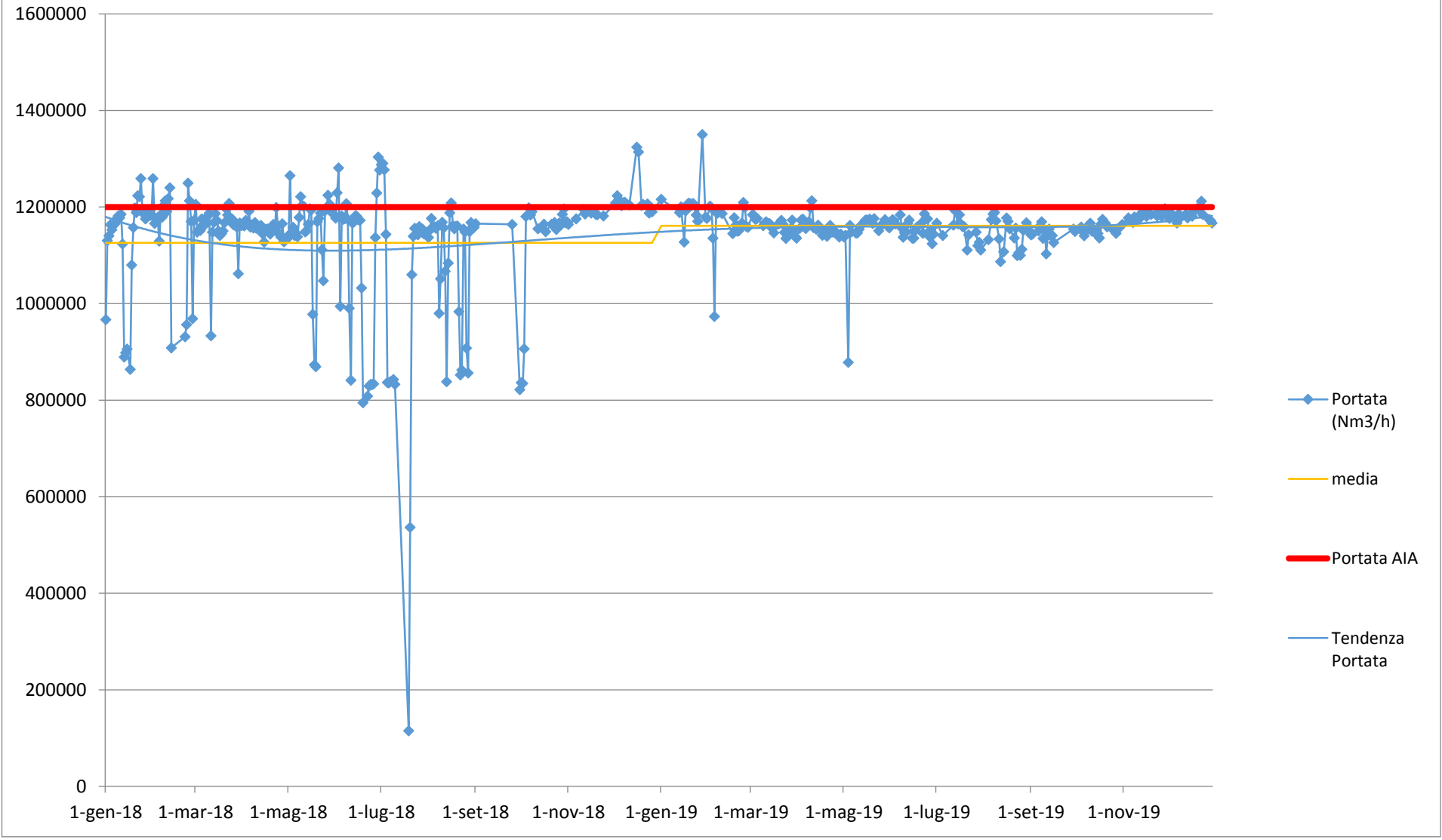
## Concentrazione SOx mg/Nm3 cammino E314b - Anno 2020



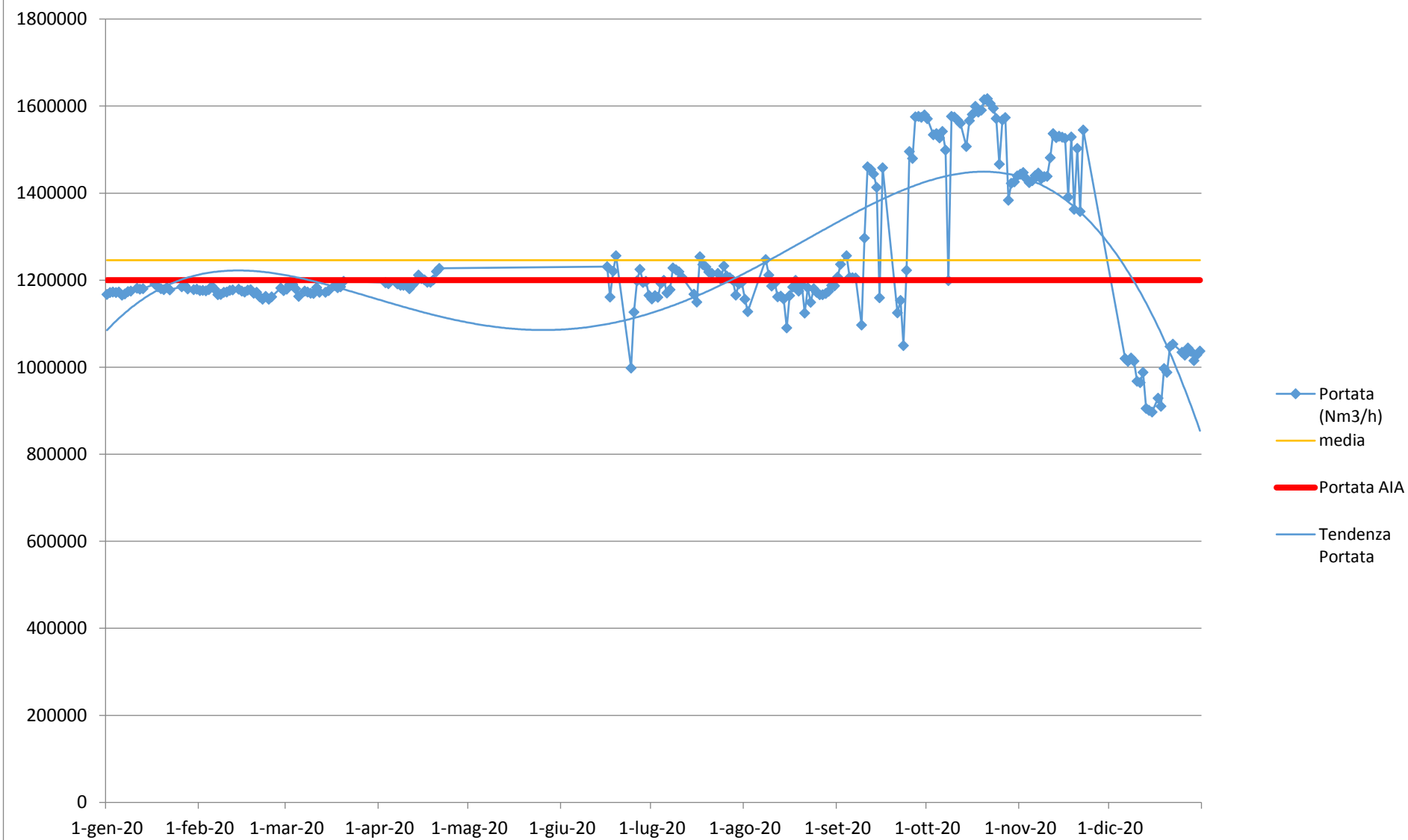
### Concentrazione SOx mg/Nm3 camino E314b



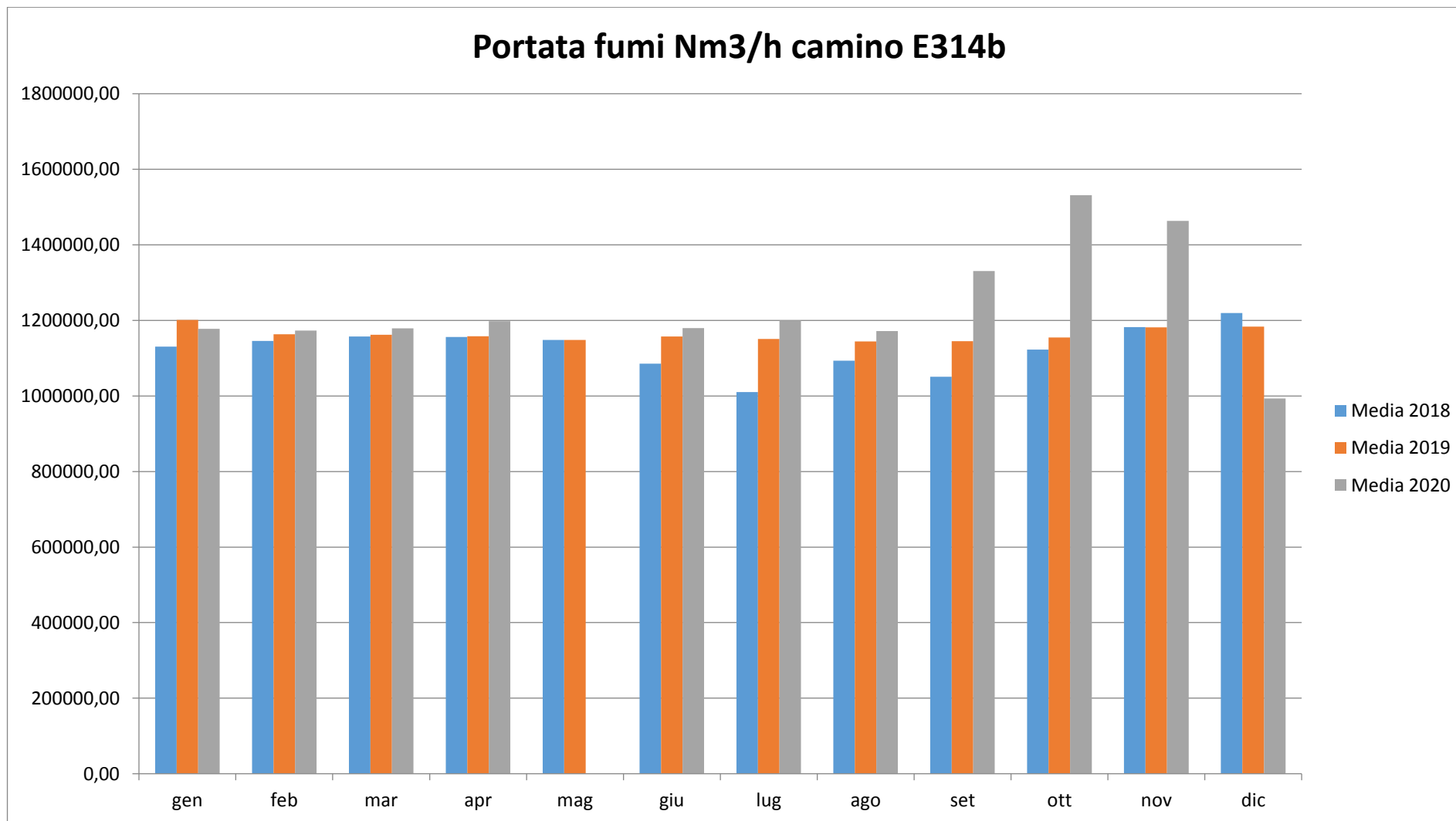
# Portata fumi Nm3/h camino E314b - Anni 2018-2019



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

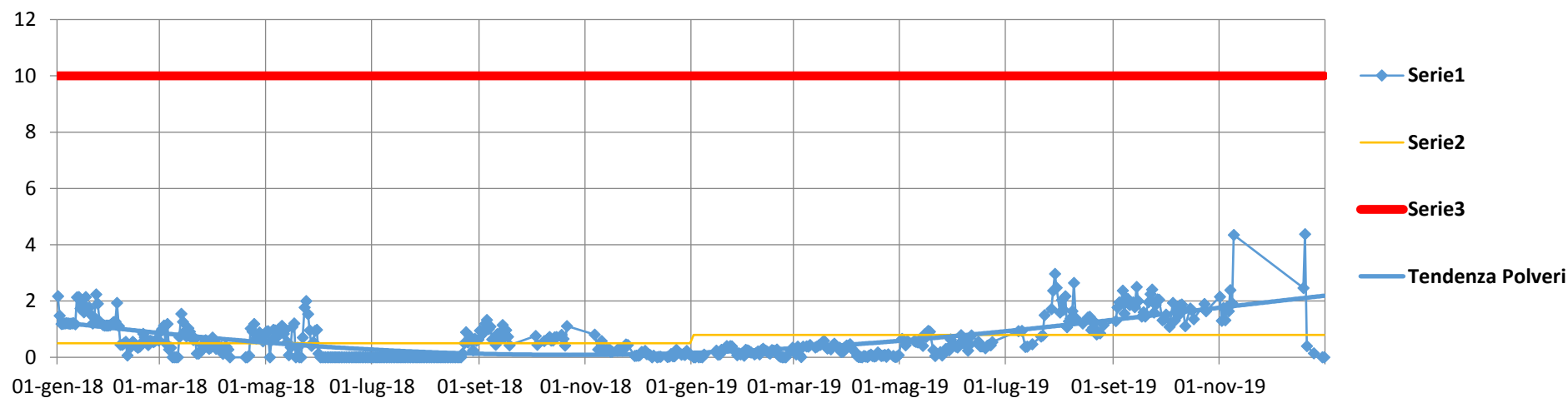




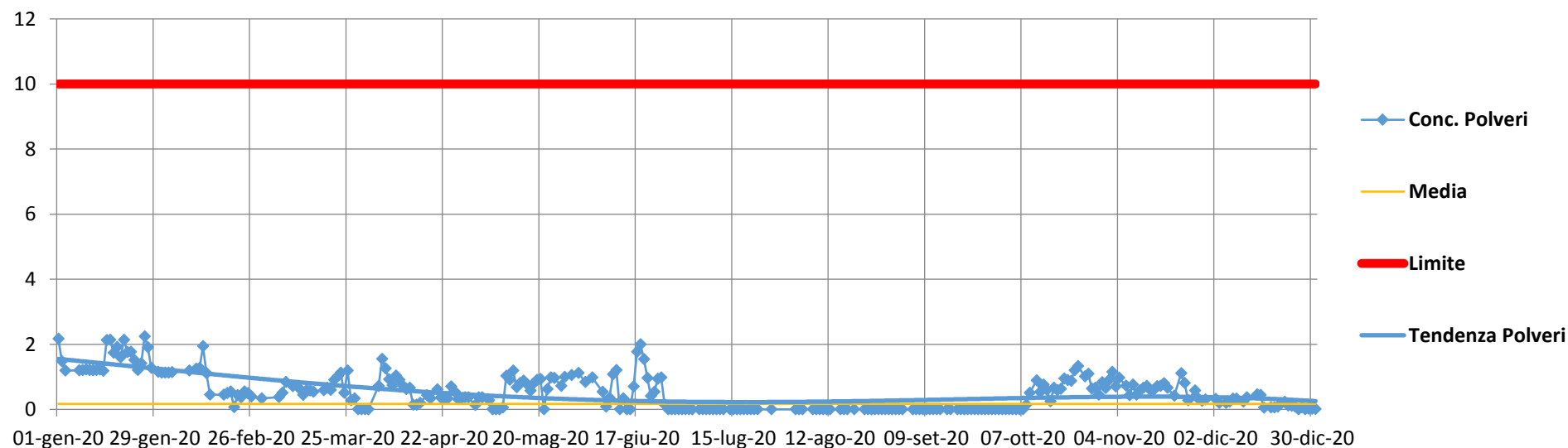


**Figura 9. Esercizio Camino E314b Area Agglomerato, periodo gennaio 2018 – dicembre 2020**

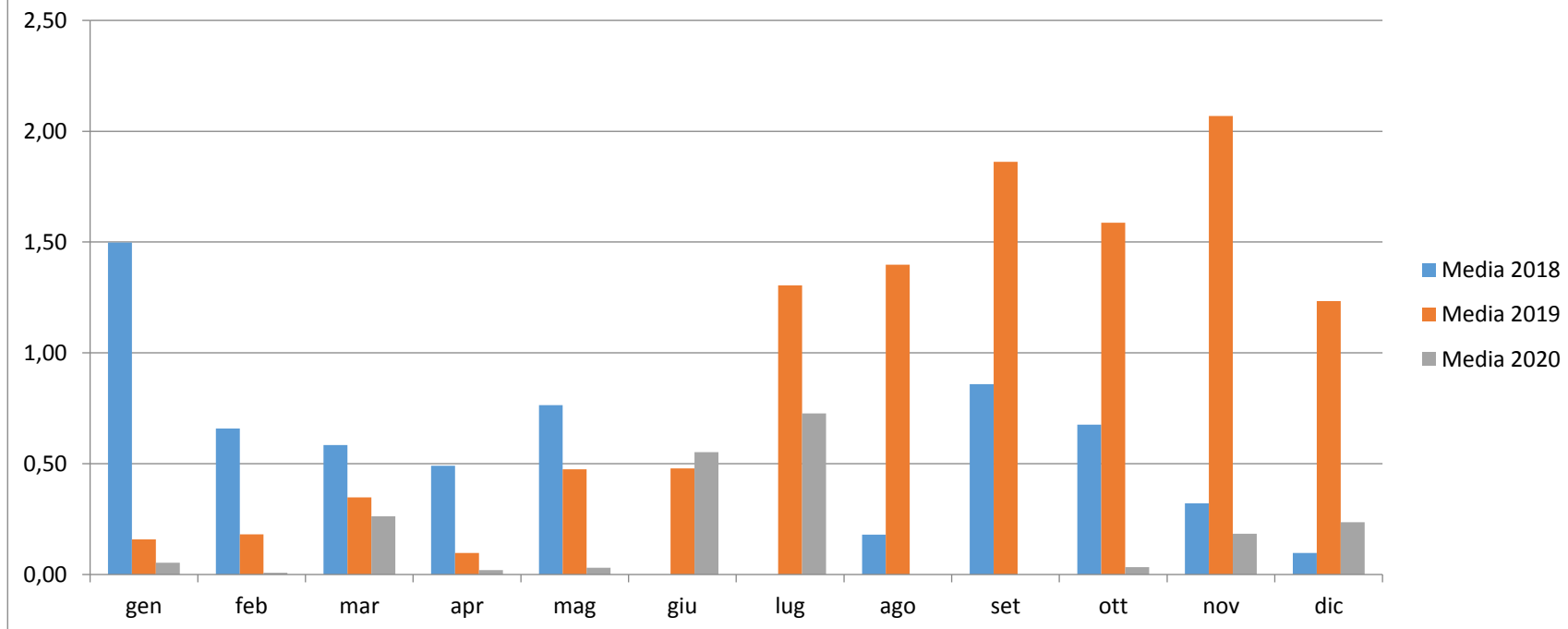
### Concentrazione polveri (mg/Nm3) camino E315b - Anni 2018-2019



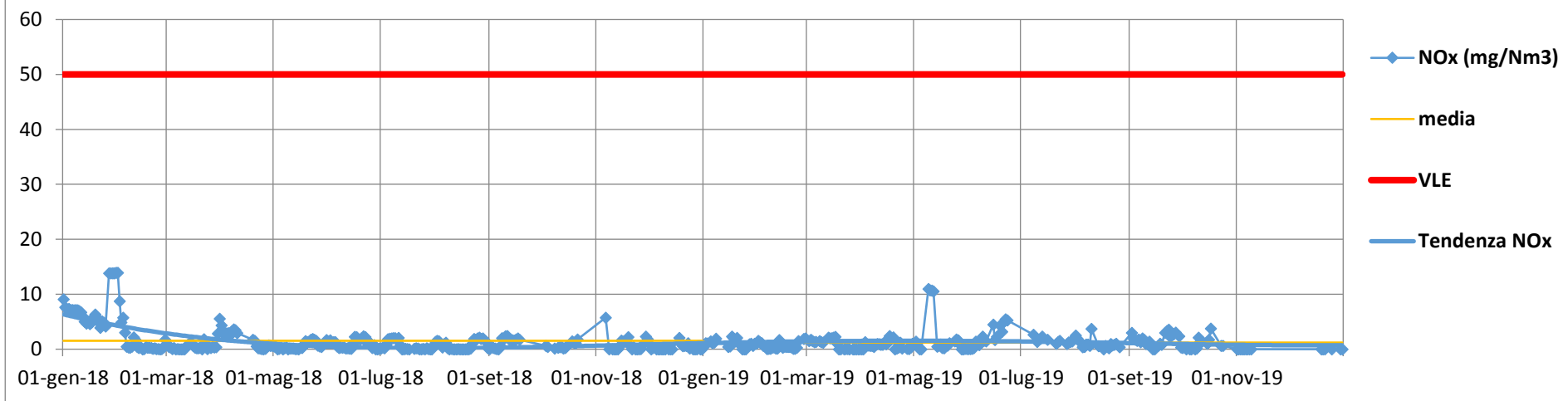
### Concentrazione polveri (mg/Nm3) camino E315b - Anno 2020



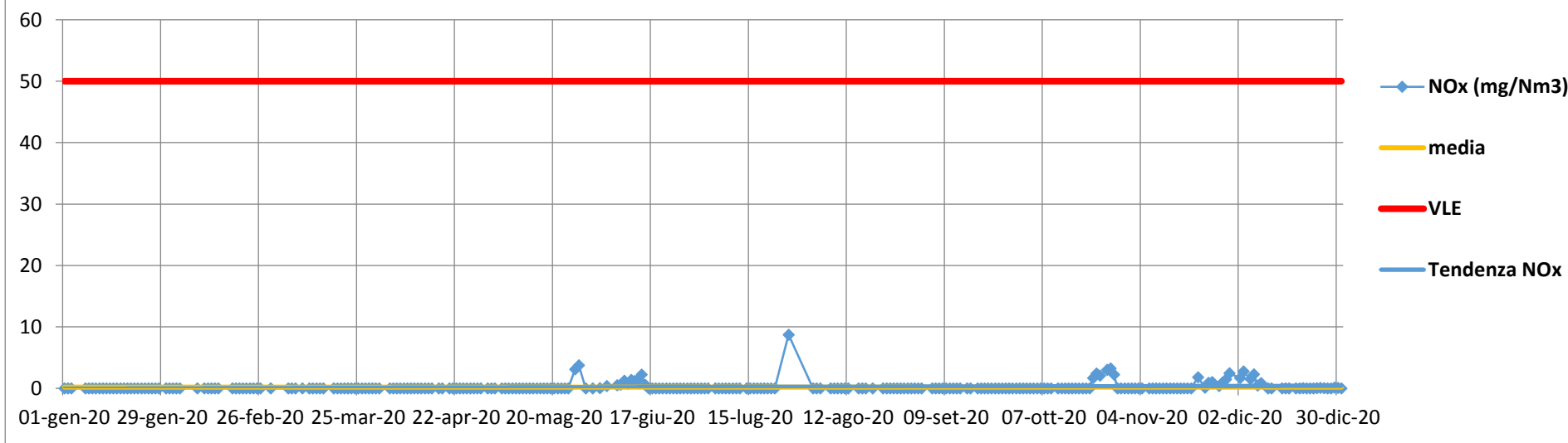
### Concentrazione polveri (mg/Nm<sup>3</sup>) camino E315b medie mensili



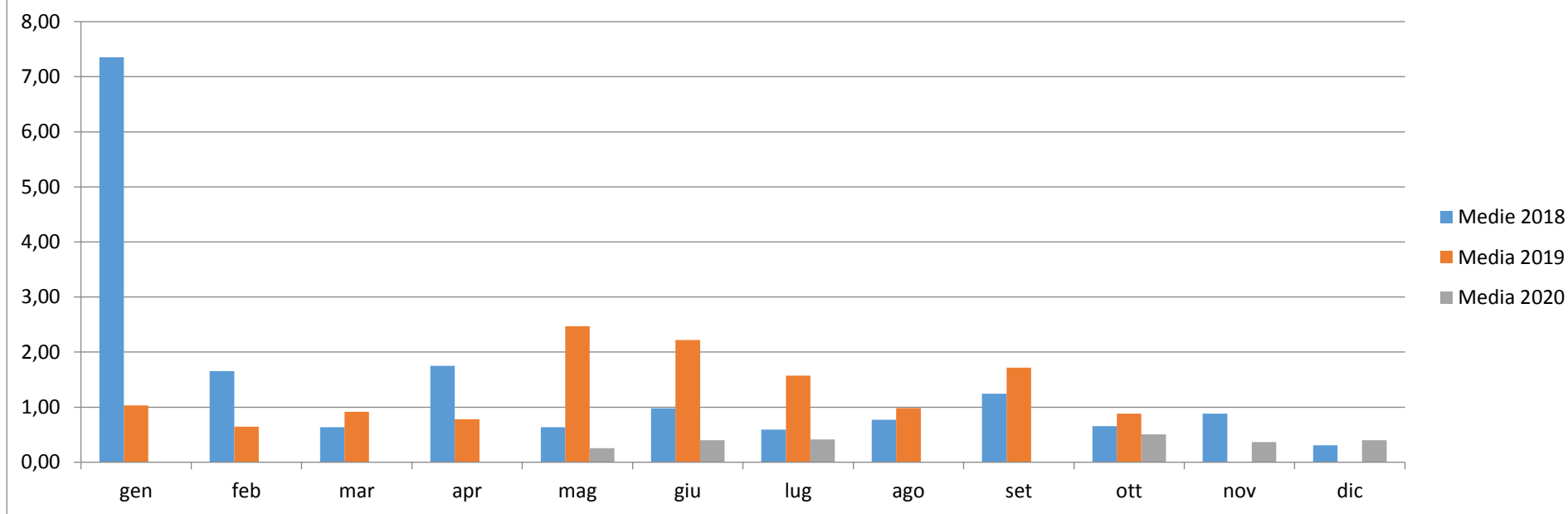
### Concentrazione NOx (mg/Nm3) camino E315b - Anni 2018-2019



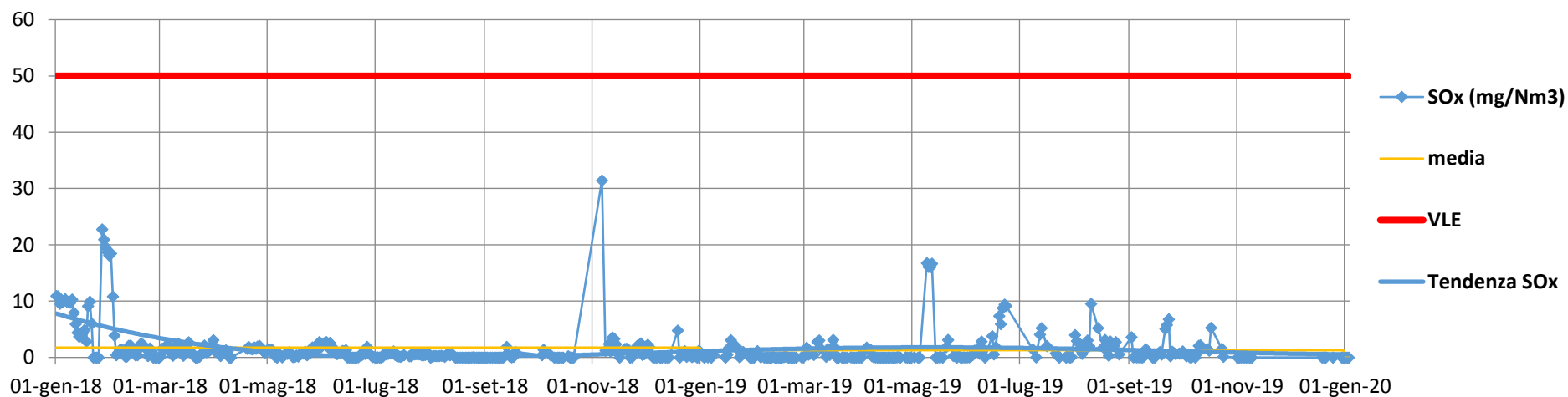
### Concentrazione NOx (mg/Nm3) camino E315b - Anno 2020



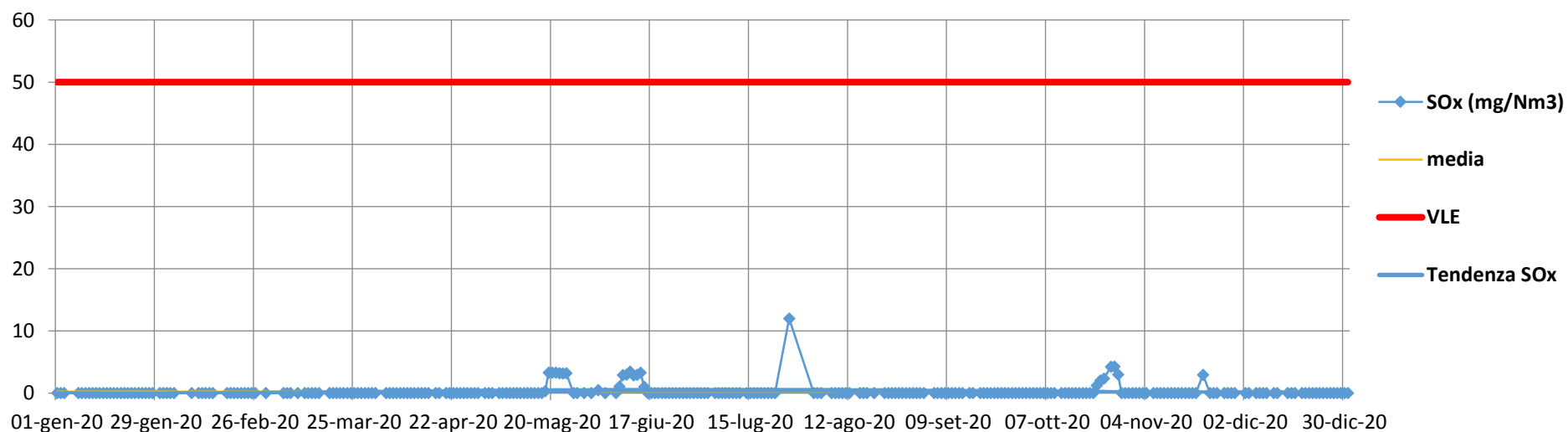
## Concentrazione NOx (mg/Nm<sup>3</sup>) camino E315b medie mensili



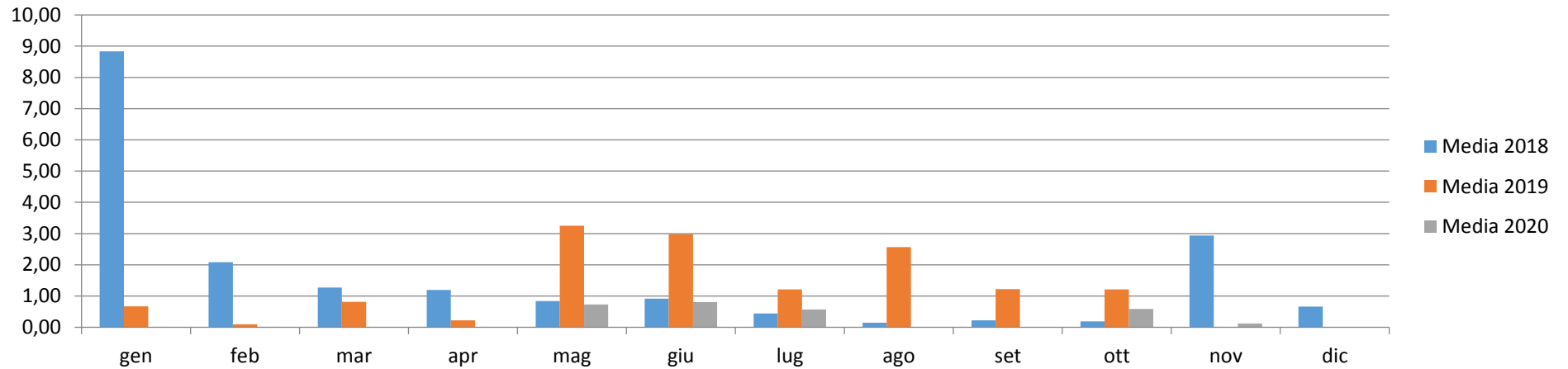
### Concentrazione SOx (mg/Nm3) camino E315b - Anni 2018-2019



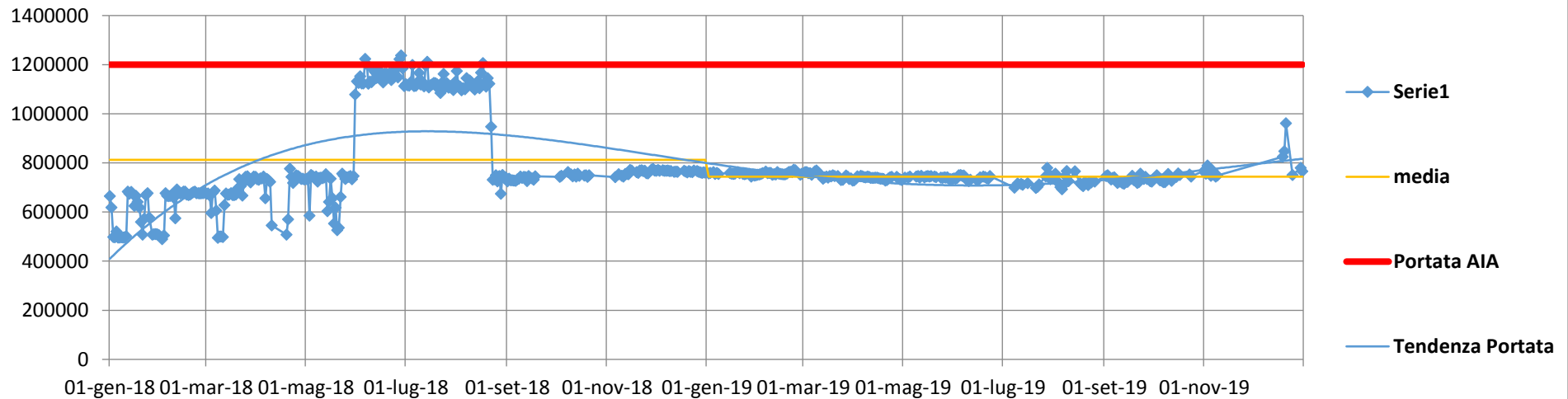
### Concentrazione SOx (mg/Nm3) camino E315b - Anno 2020



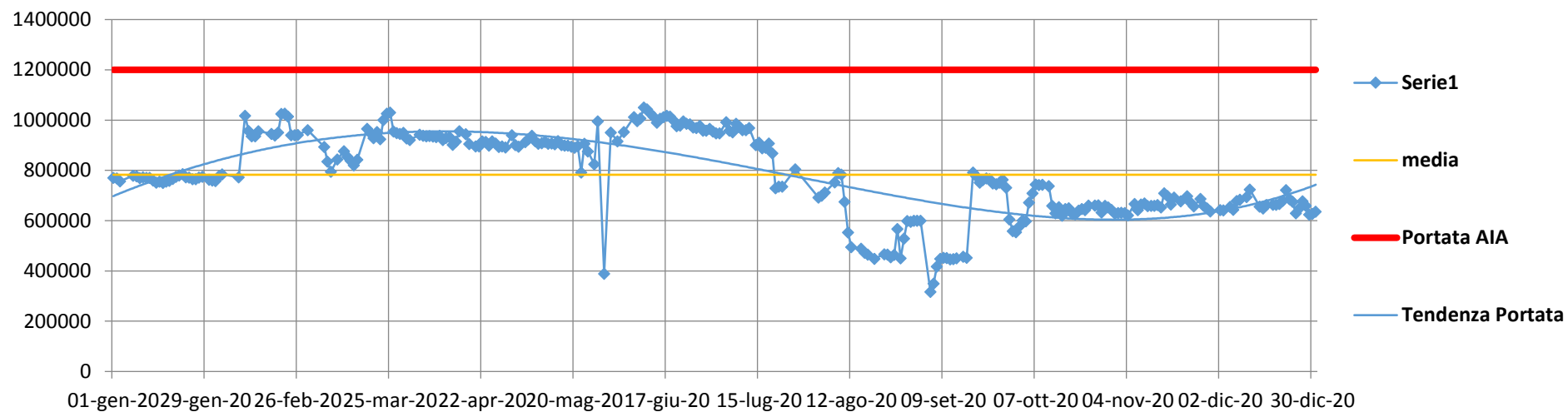
### Concentrazione SOx (mg/Nm3) camino E315b medie mensili



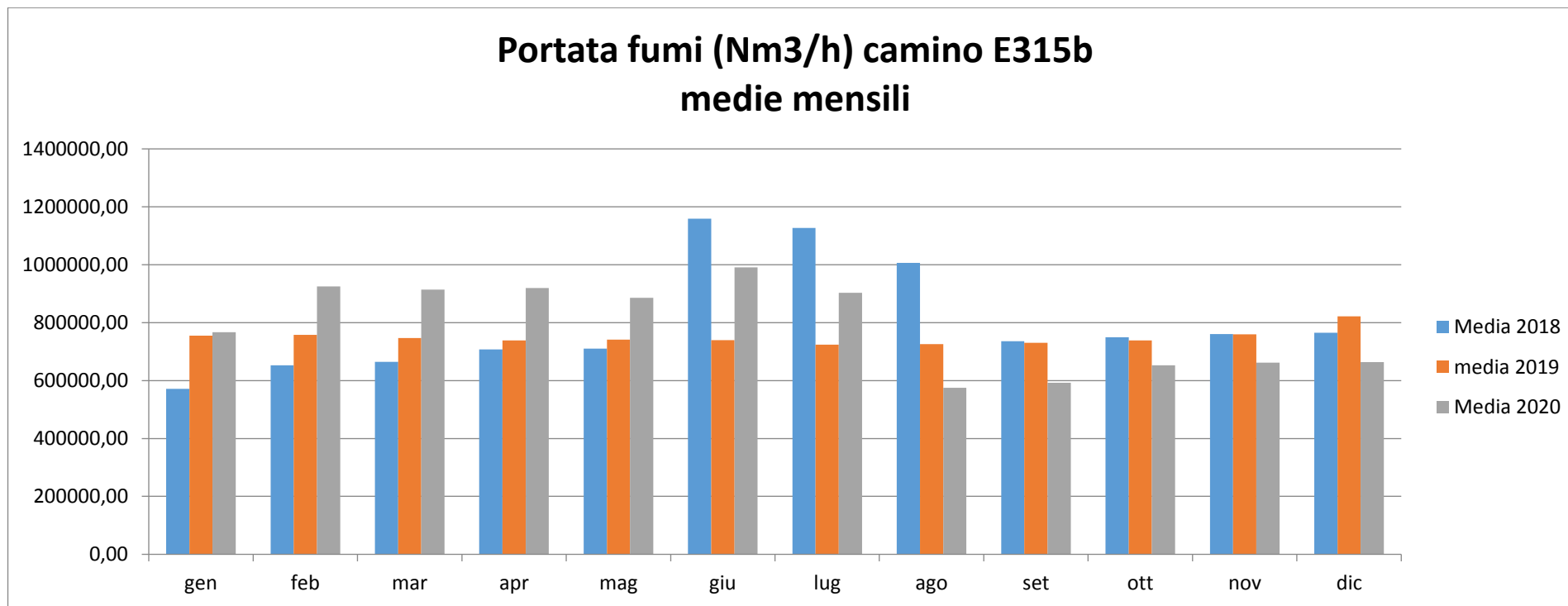
### Portata fumi (Nm3/h) camino E315b - Anni 2018-2019



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

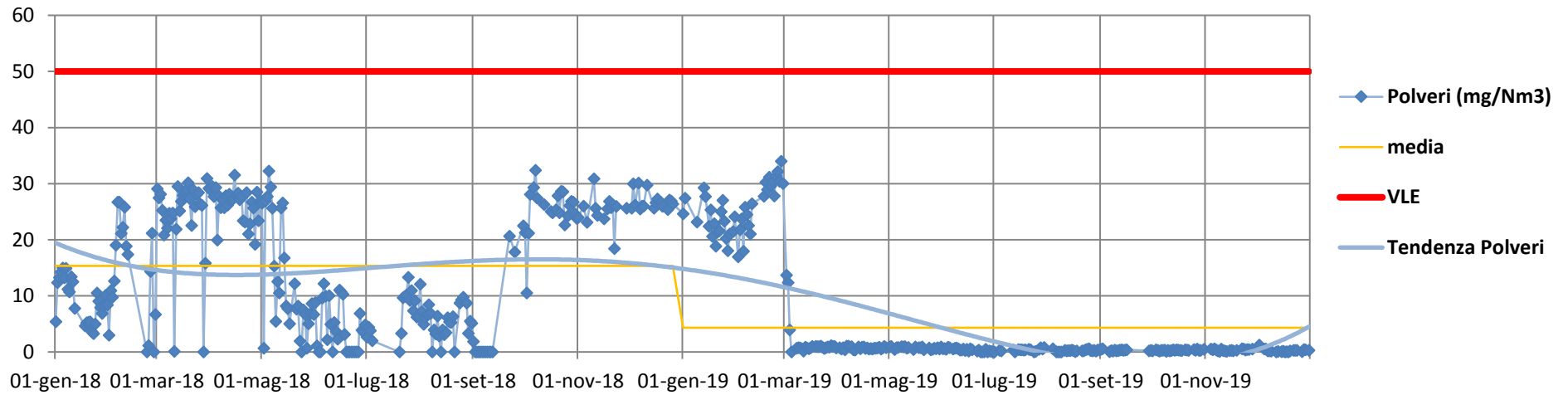




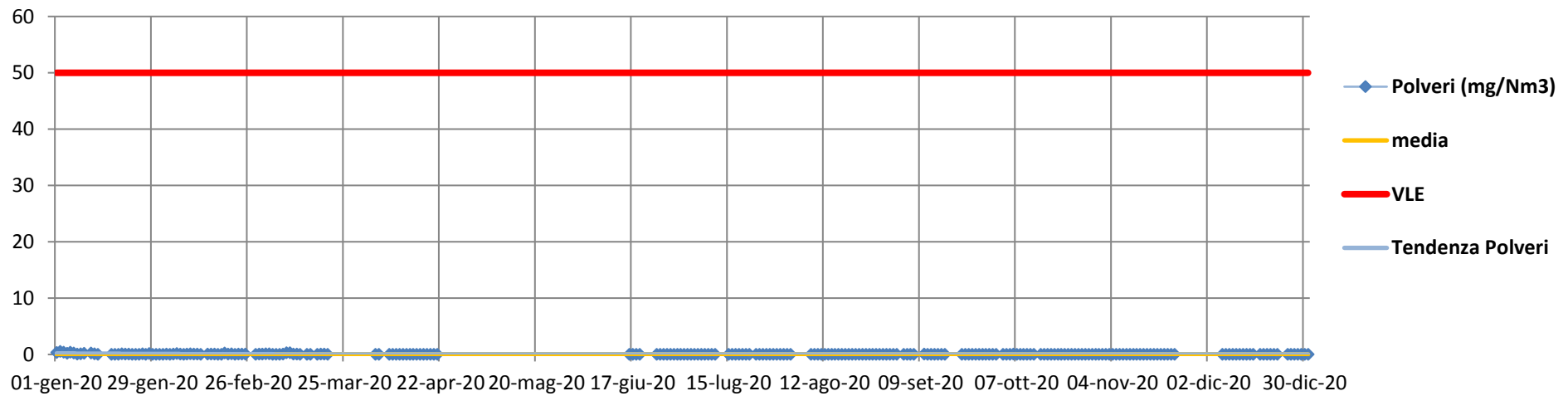


**Figura 10. Esercizio Camino E315b Area Agglomerato, periodo gennaio 2018 – dicembre 2020**

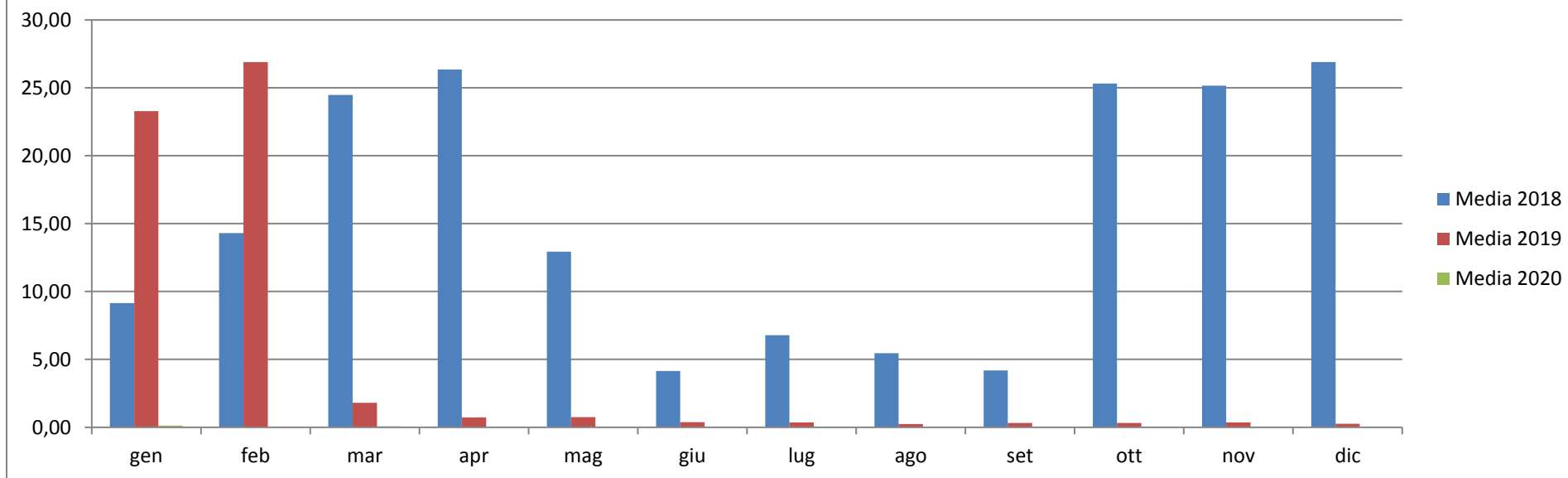
### Concentrazione polveri (mg/Nm3) camino E324 - Anni 2018-2019



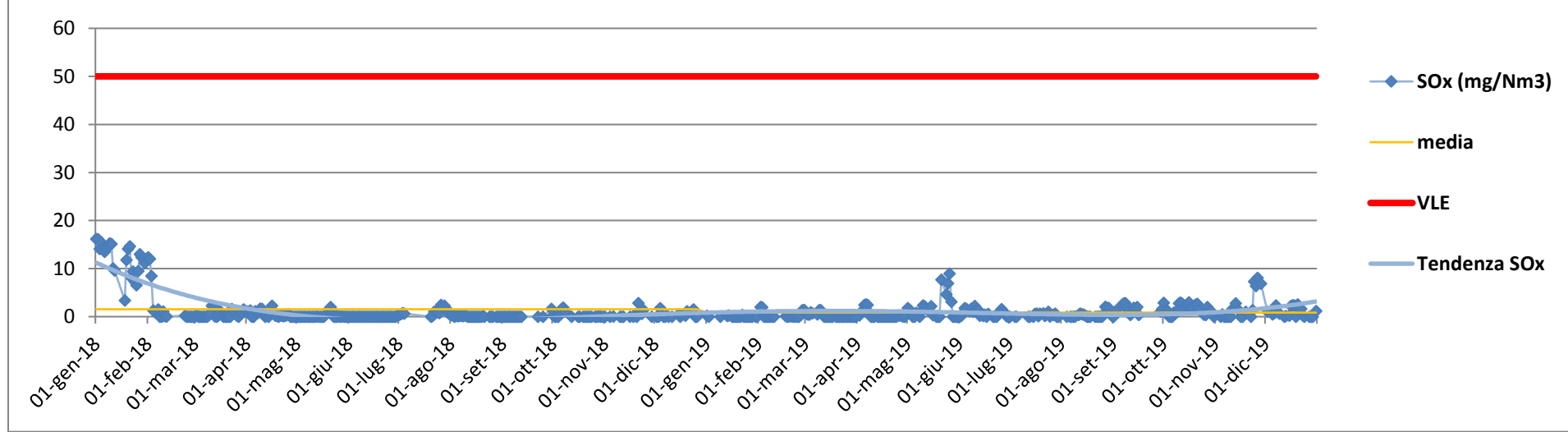
### Concentrazione polveri (mg/Nm3) camino E324 - Anno 2020



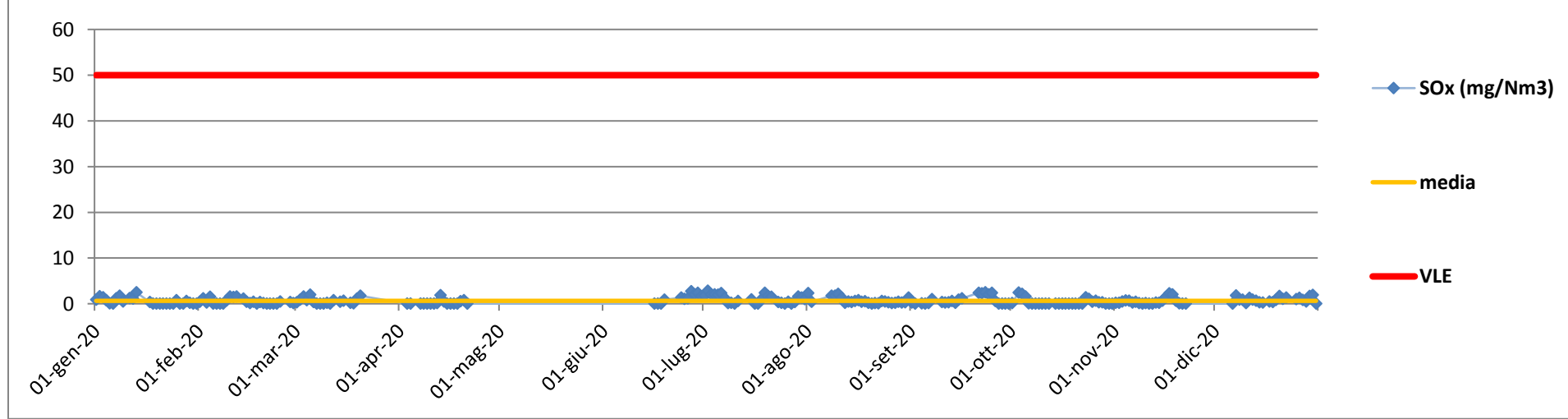
### Concentrazione polveri (mg/Nm<sup>3</sup>) camino E324 medie mensili



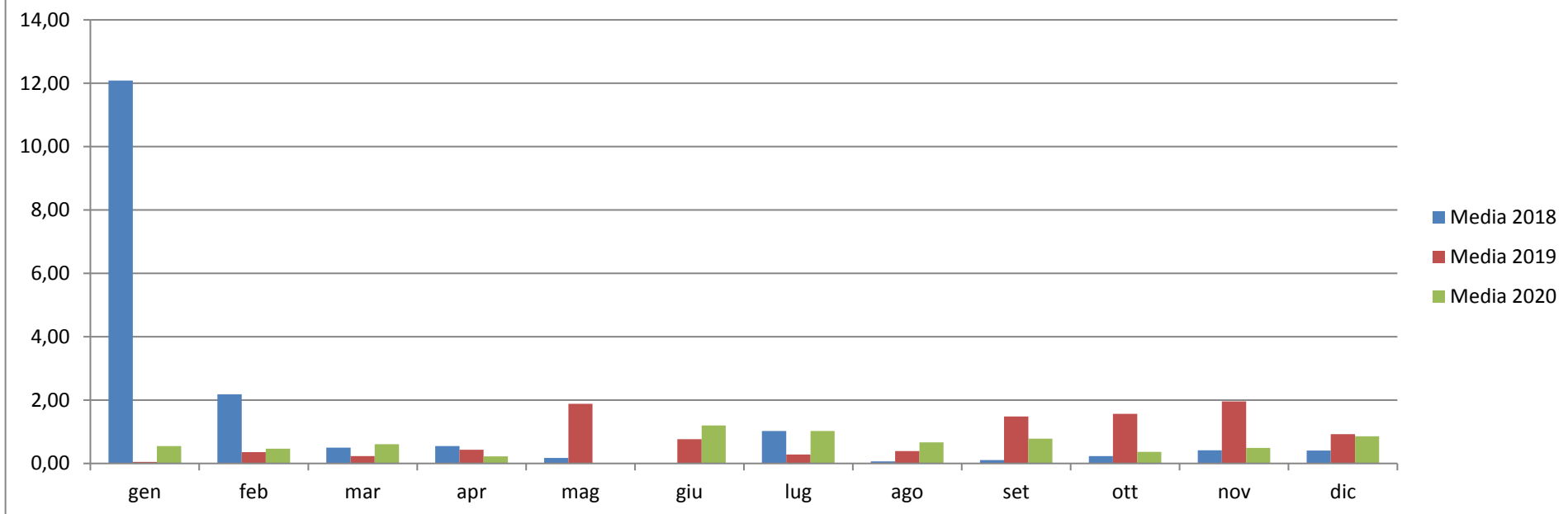
### Concentrazione SOx (mg/Nm3) camino E324 - Anni 2018-2019



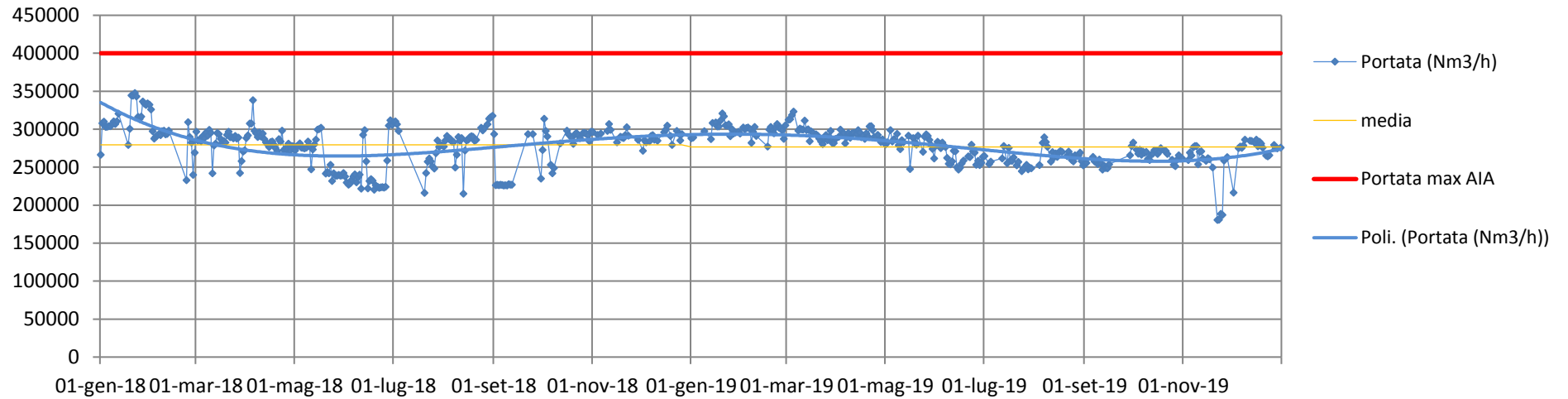
### Concentrazione SOx (mg/Nm3) camino E324 - Anno 2020



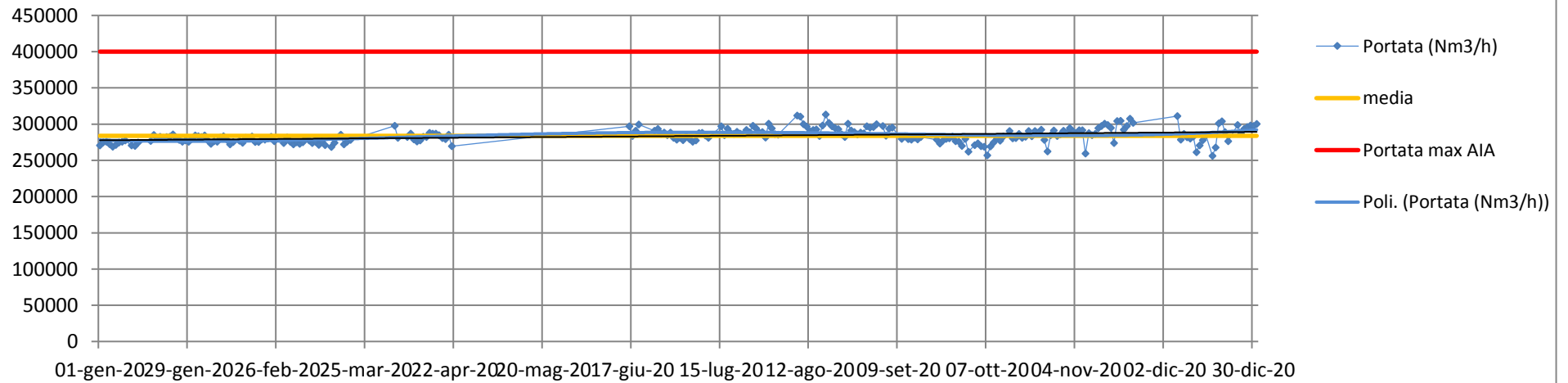
### Concentrazione SOx (mg/Nm<sup>3</sup>) camino E324 medie mensili

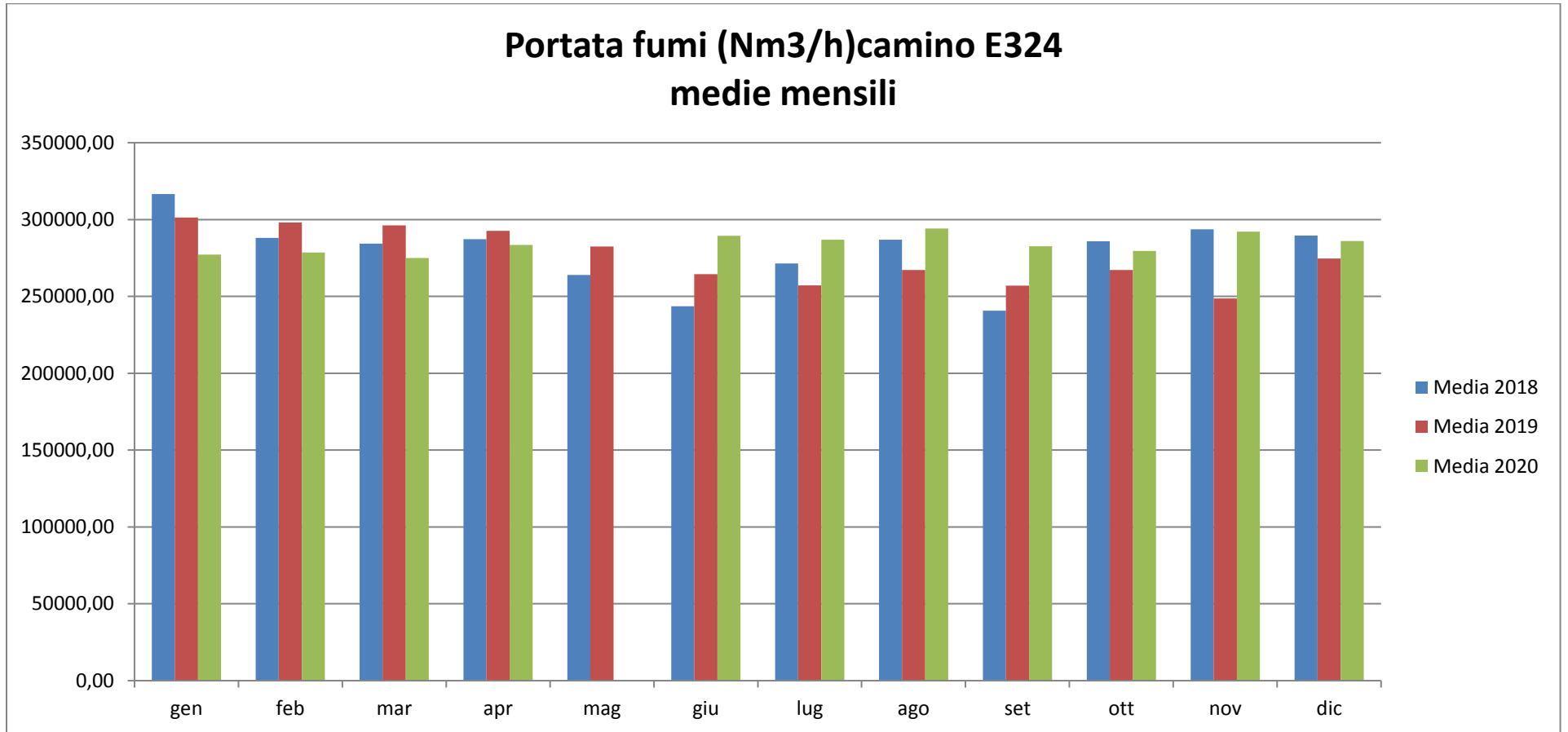


### Portata fumi (Nm3/h) camino E324 - Anni 2018-2019



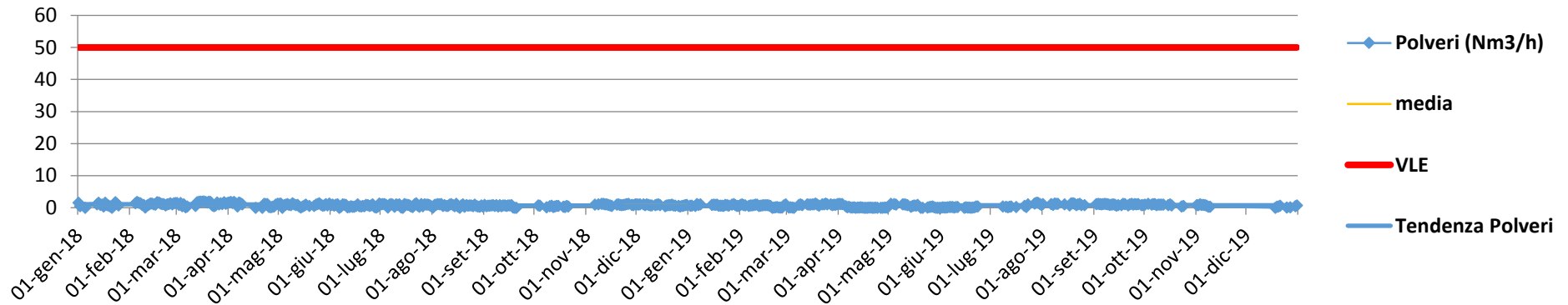
### Portata fumi (Nm3/h) camino E324 - Anno 2020



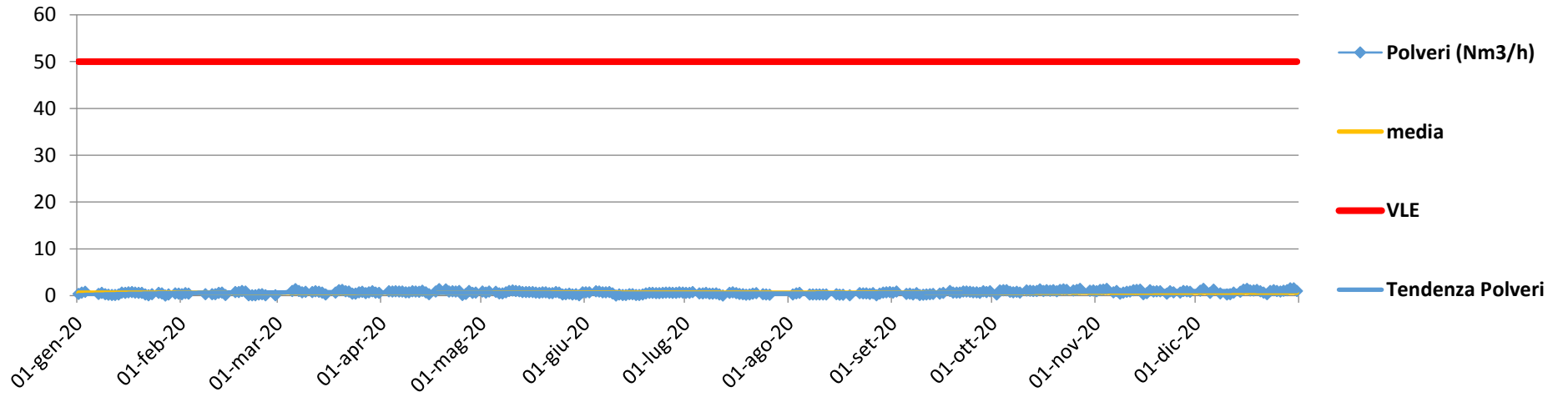


**Figura 11. Esercizio Camino E324 Area Agglomerato, periodo gennaio 2018 – dicembre 2020**

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

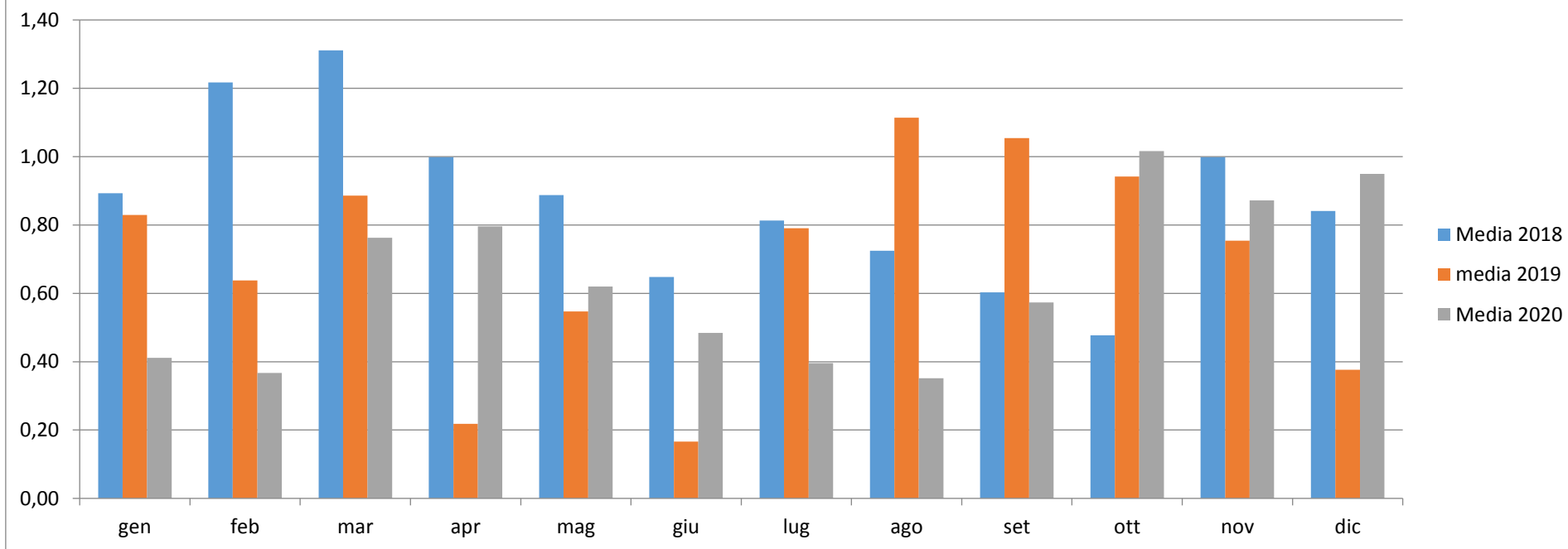


### Concentrazione polveri (mg/Nm3) camino E325 - Anno 2020

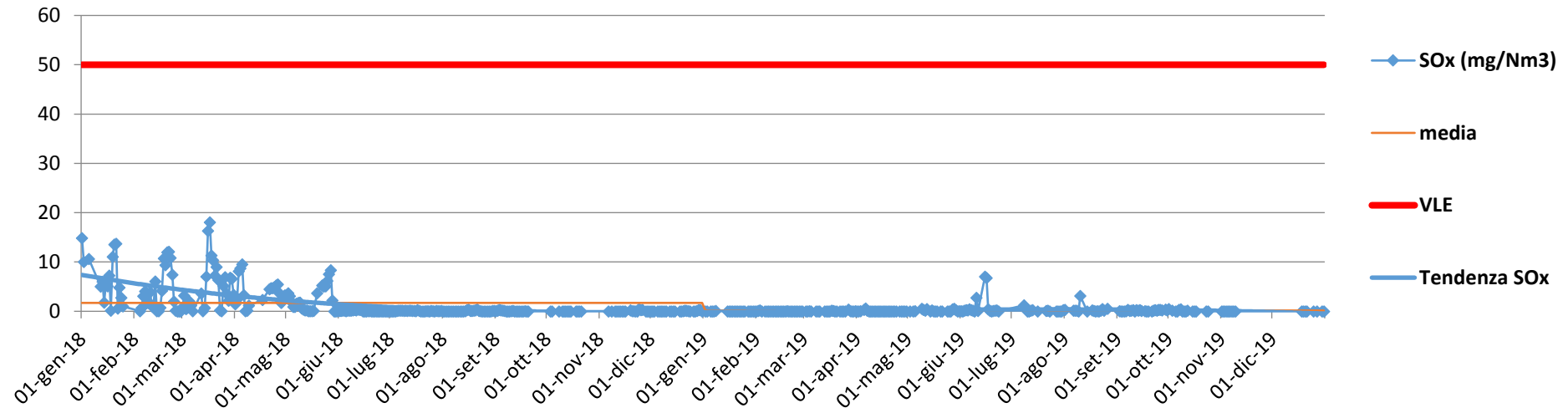




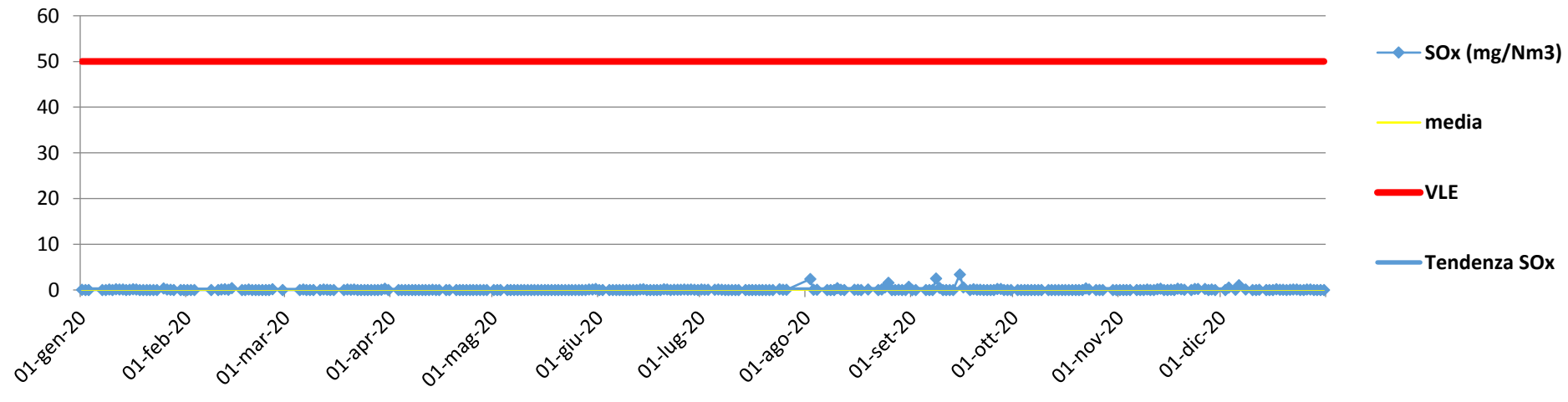
## Concentrazione polveri (mg/Nm<sup>3</sup>) camino E325 medie mensili



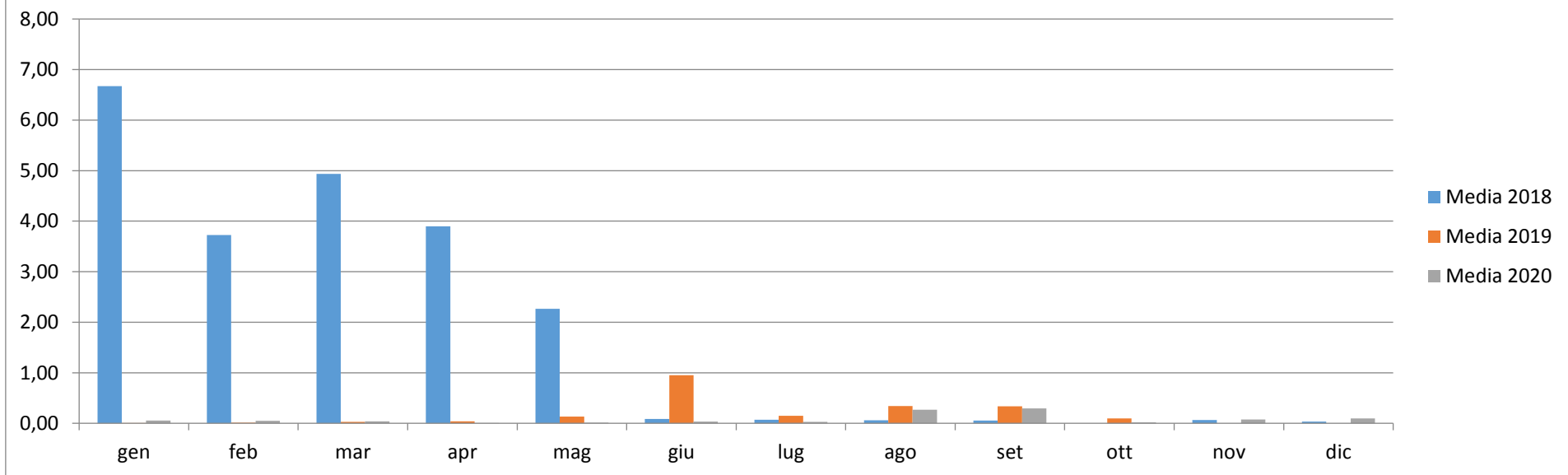
### Concentrazione SOx (mg/Nm3) camino E325 - Anni 2018-2019



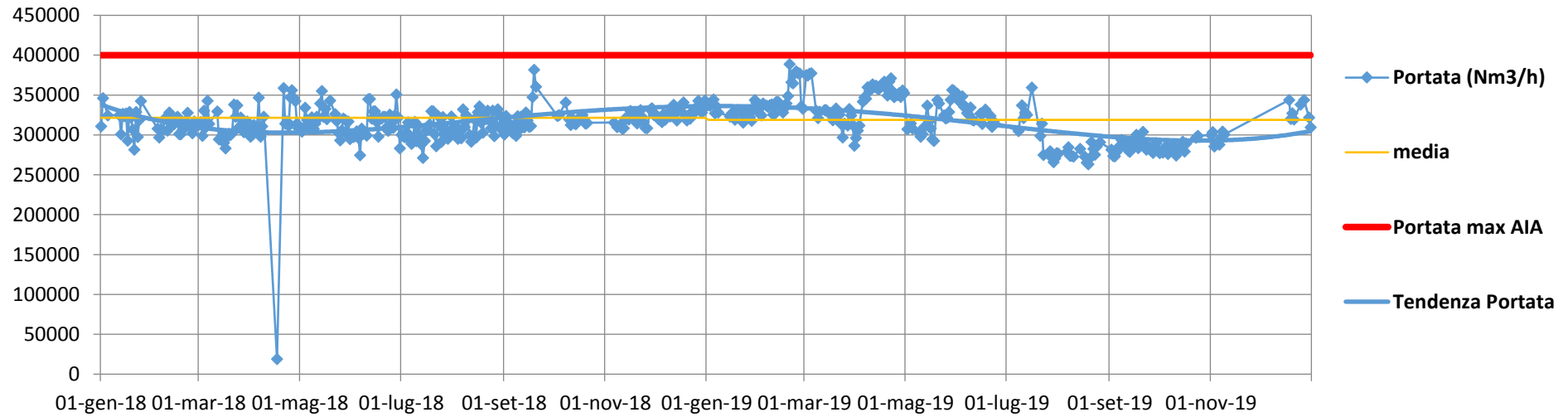
### Concentrazione SOx (mg/Nm3) camino E325 - Anno 2020



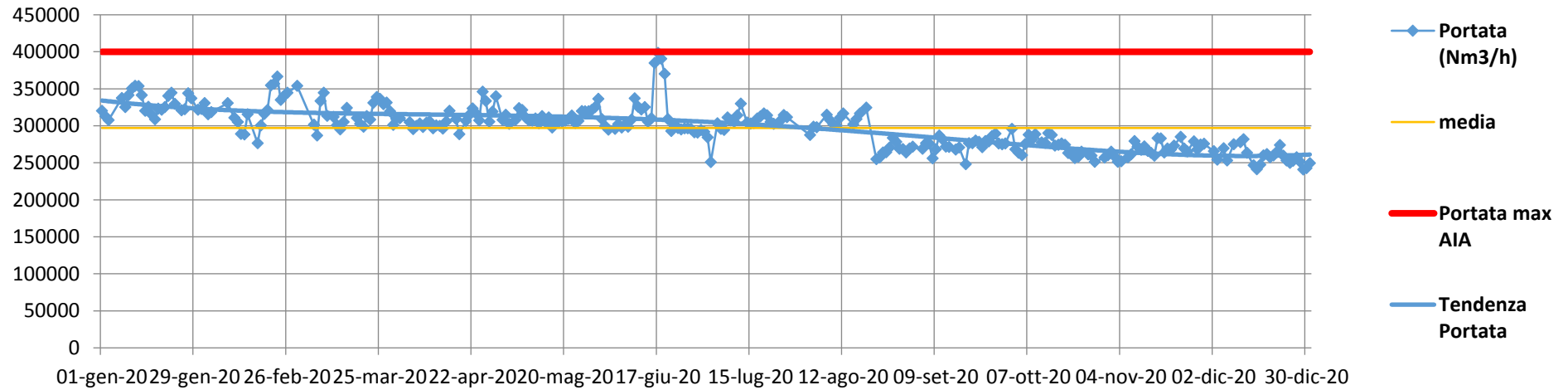
## Concentrazione SOx (mg/Nm<sup>3</sup>) camino E325 medie mensili

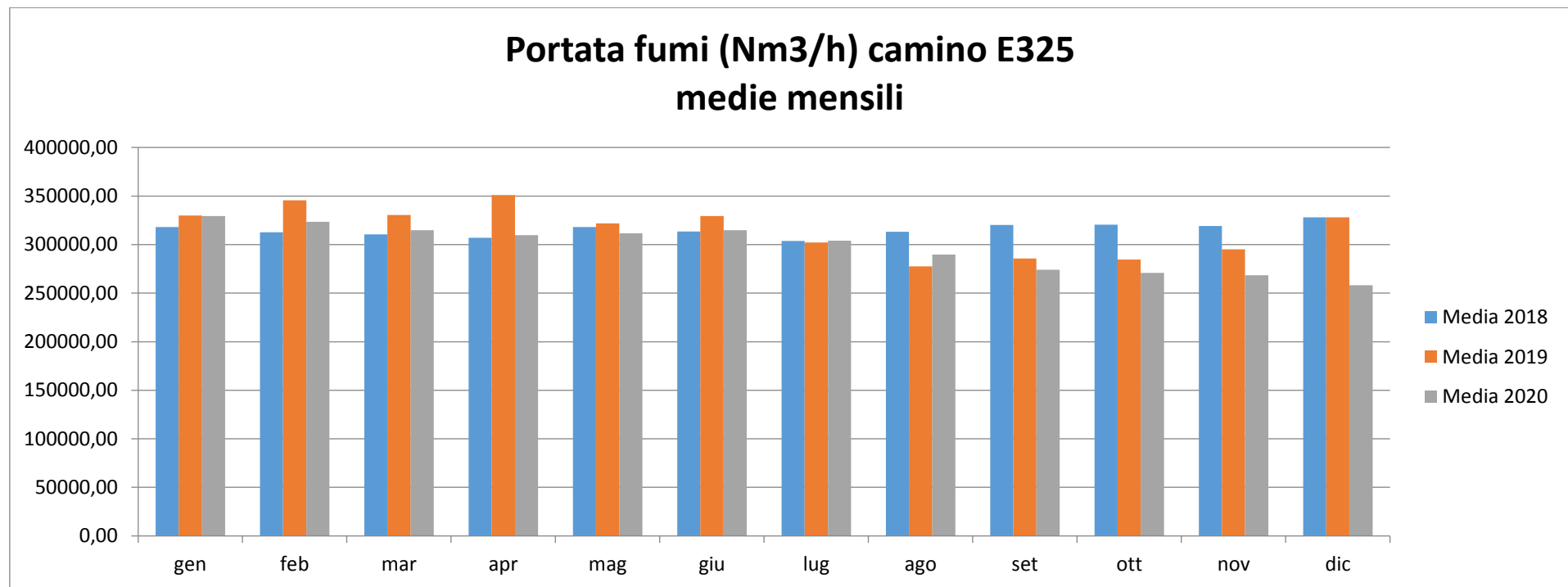


### Portata fumi (Nm3/h) camino E325 - Anni 2018-2019



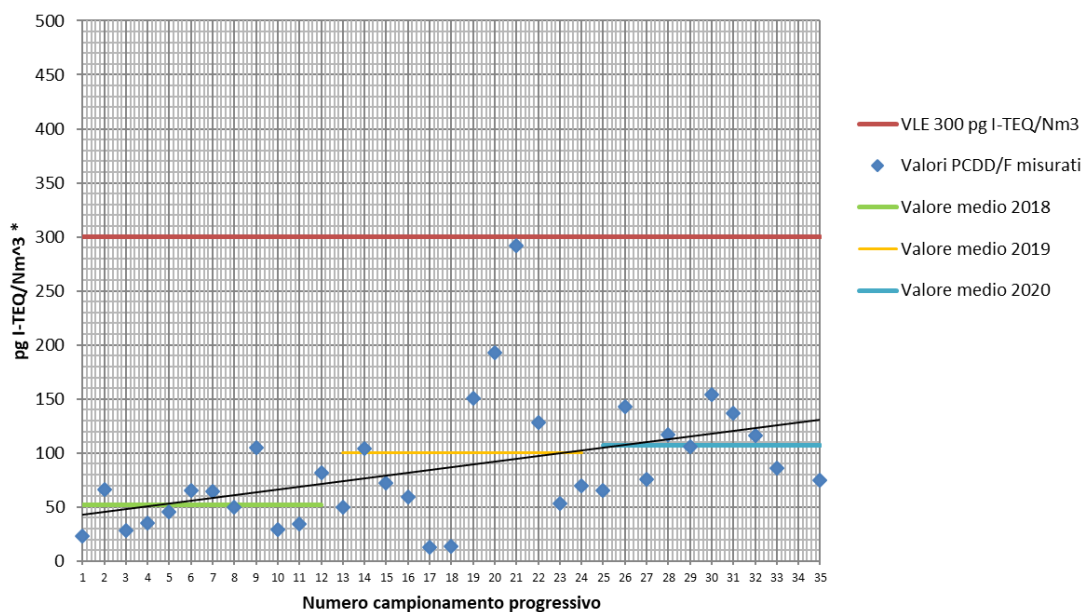
### Portata fumi (Nm3/h) camino E325 - Anno 2020





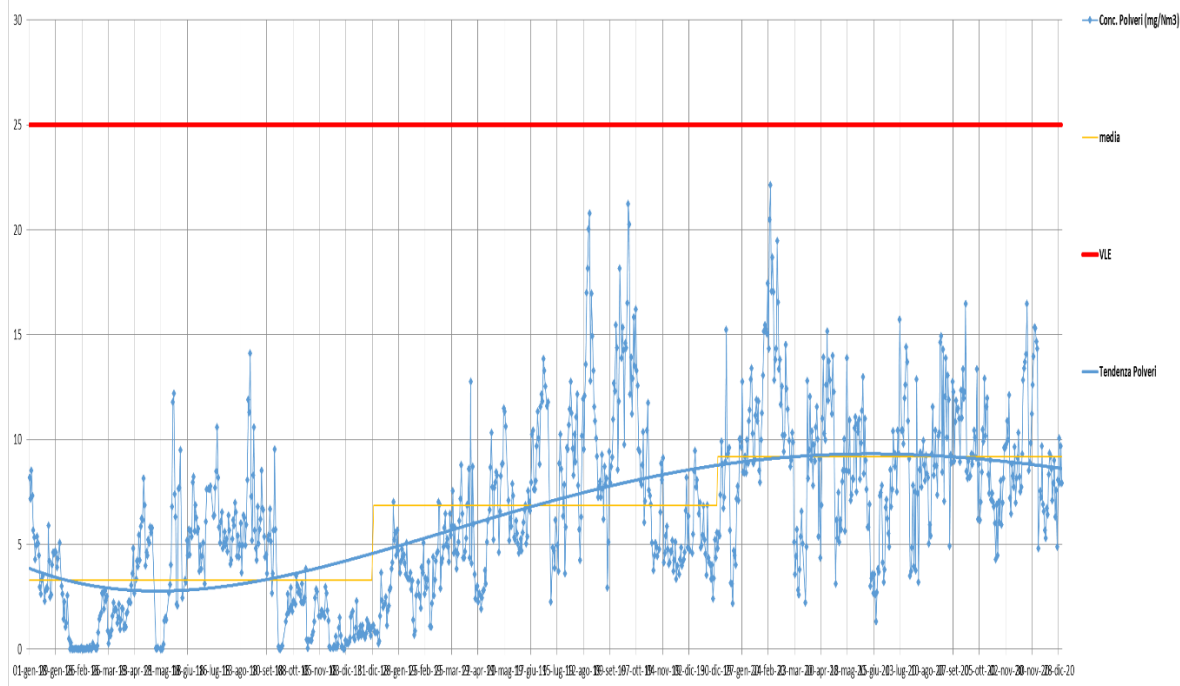
**Figura 12. Esercizio Camino E325 Area Agglomerato, periodo gennaio 2018 – dicembre 2020**

### Valori PCDD/F misurati al Camino E312 anno 2018 - 2019 - 2020



\* valori riferiti alle misure a lungo termine, per un periodo di 28 gg, sul camino E312 effettuate mediante sistema DECS ai quali, ai fini di un confronto con il valore limite medio annuale, va decurtato il 35 % di incertezza come da PMC.

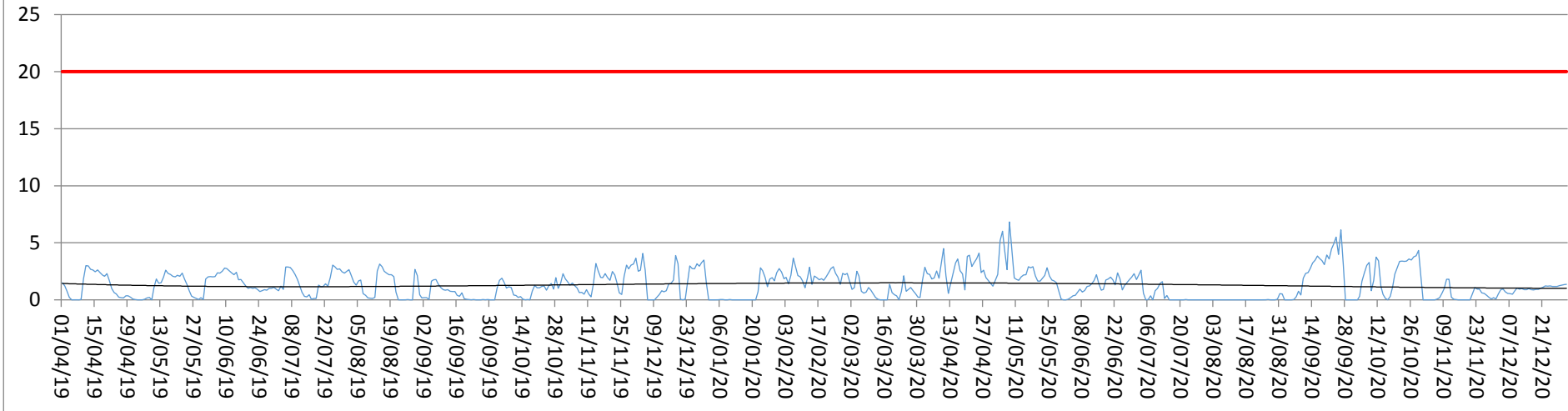
### Concentrazione polveri (mg/Nm³) camino E312 - Anni 2018-2019 - 2020



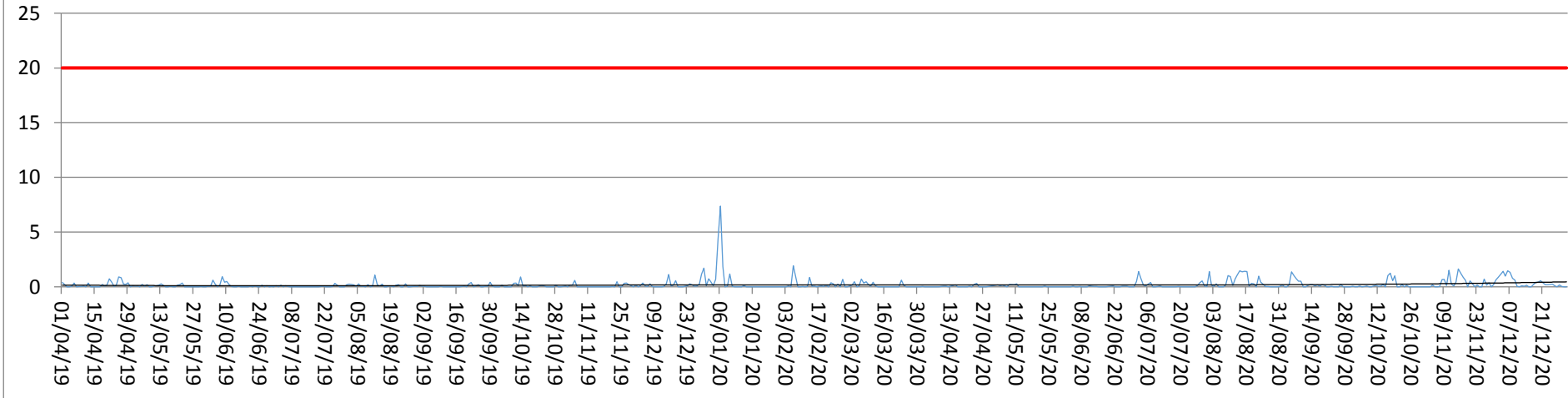
**Fig.13 Valori di PCDD/F misurati al Camino E312 confrontati con i dati relativi alle polveri emesse dallo stesso camino**

**TAVOLA 3 - Camini Acciaieria – periodo dal 01/04/2019 al 31/12/2020**

### NOx (mg/Nm3) camino E551B

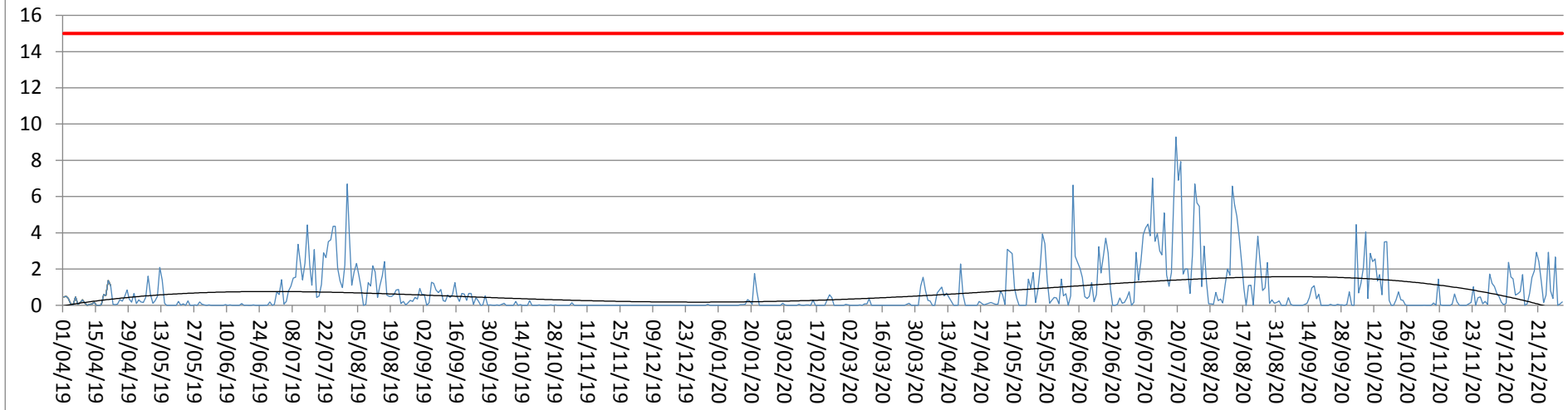


### SOx (mg/Nm3) camino E551B

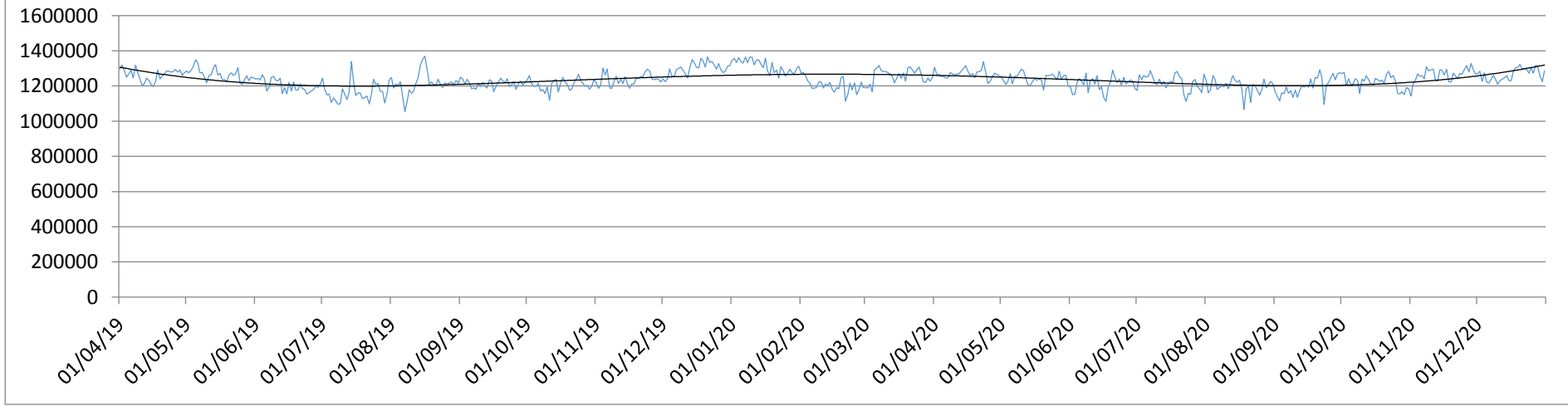




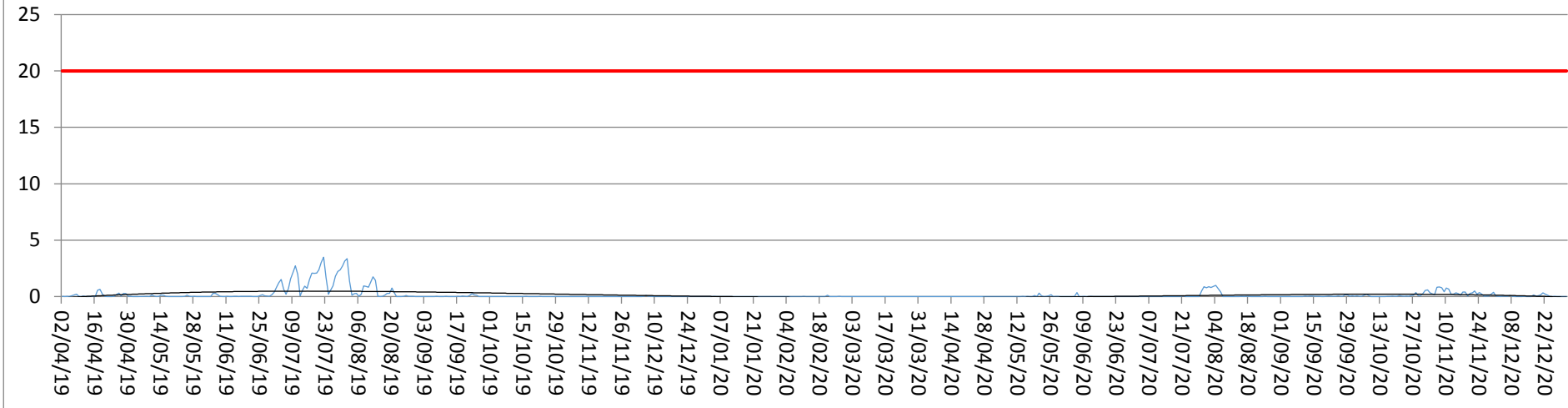
### Polveri (mg/Nm3) camino E551B



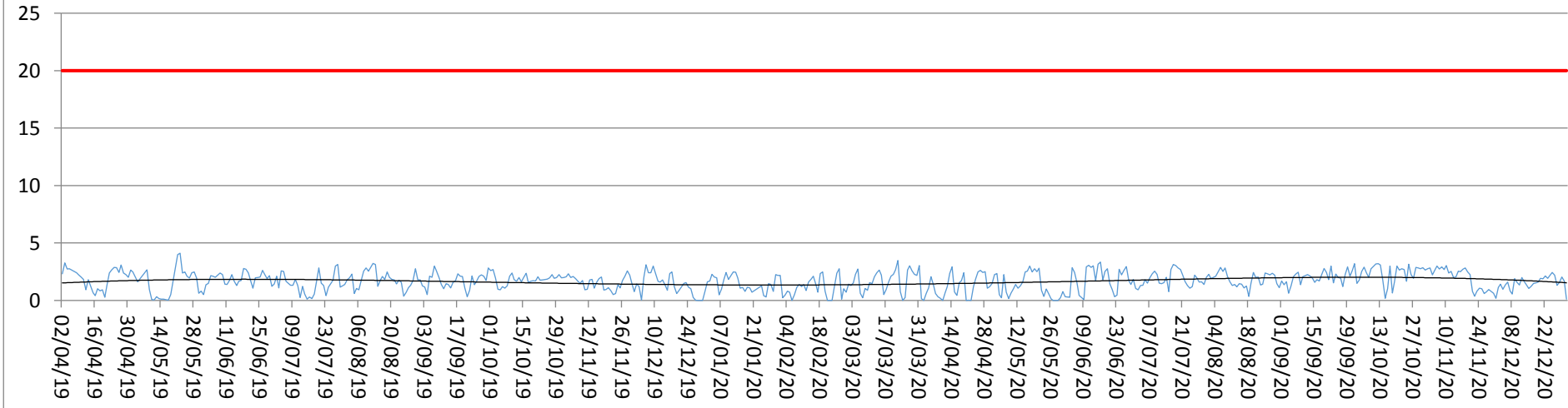
### Portata Fumi (Nm3/h) camino E551B



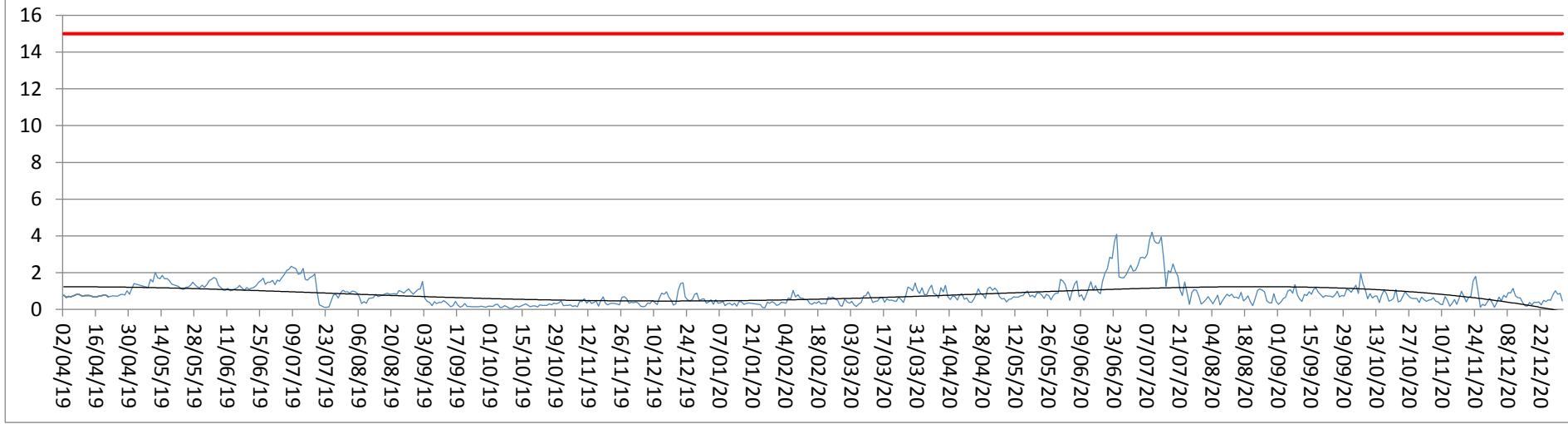
### NOx (mg/Nm3) camino E551C



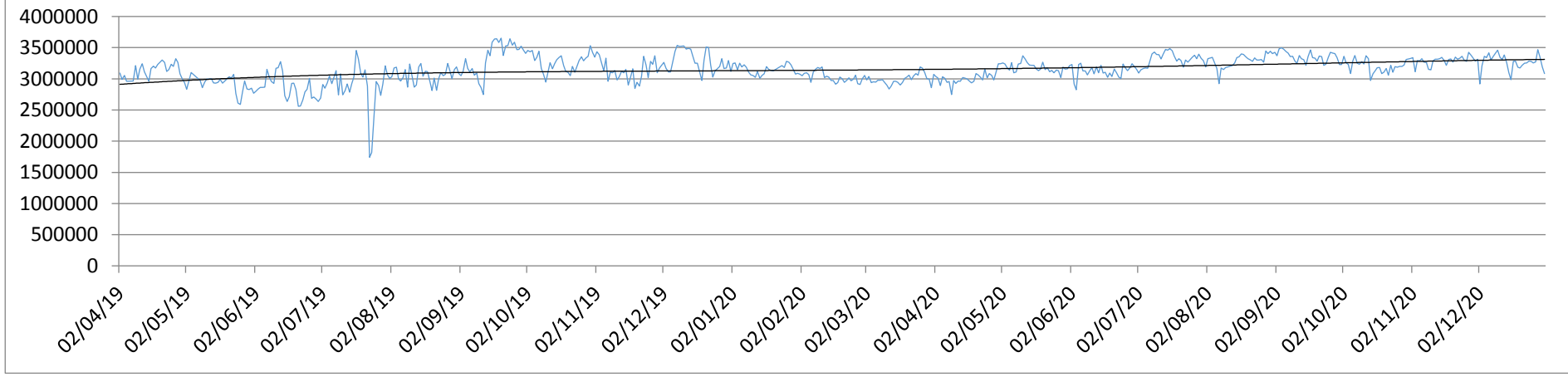
### SOx (mg/Nm3) camino E551C



### Polveri (mg/Nm3) camino E551C

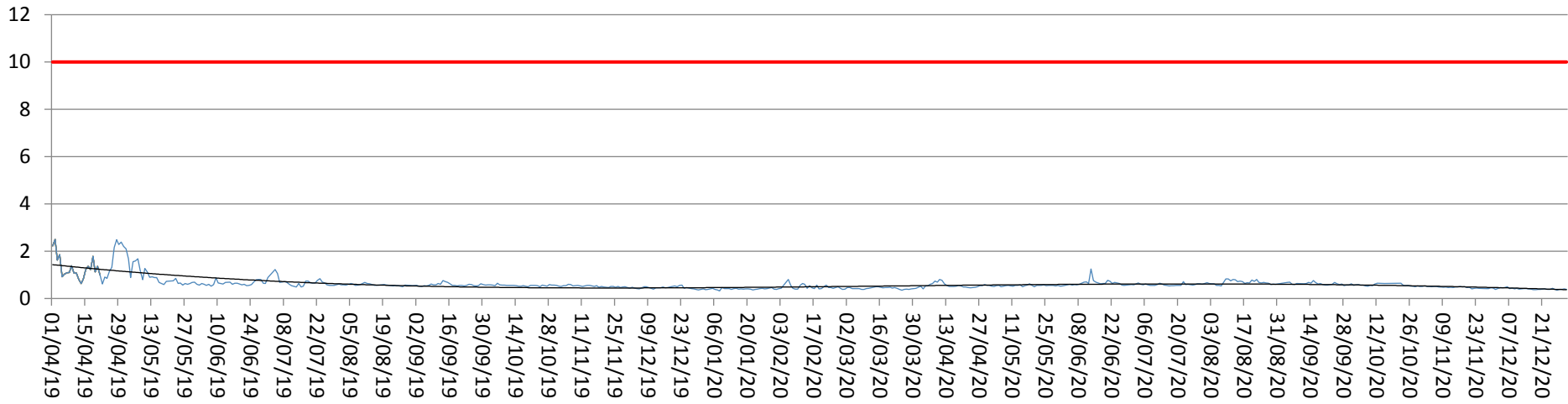


### Portata Fumi (Nm3/h) camino E551C

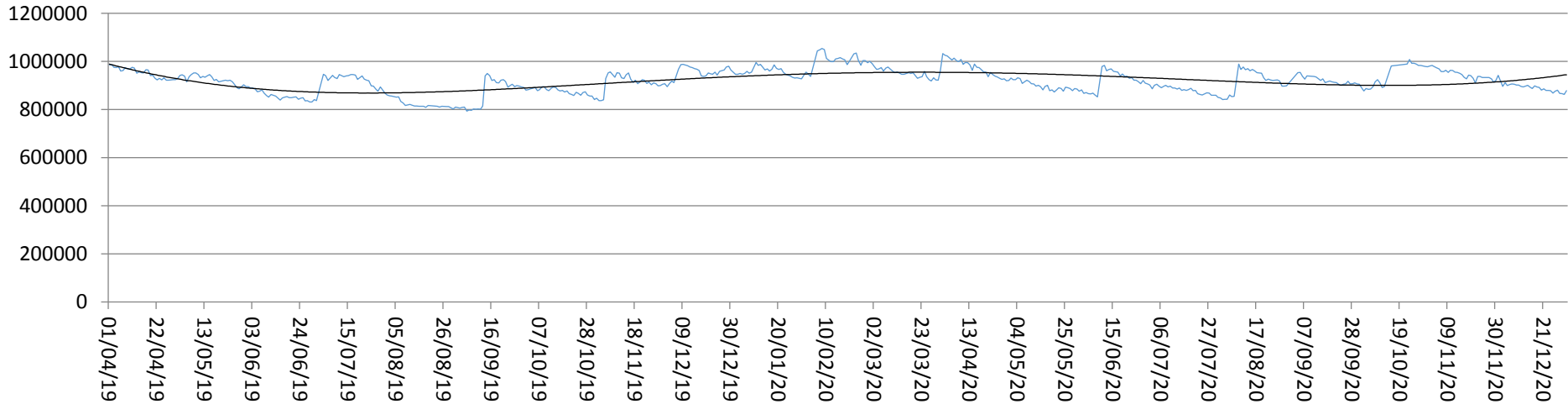


**TAVOLA 4 - Camini Altoforni - periodo dal 01/04/2019 al 31/12/2020**

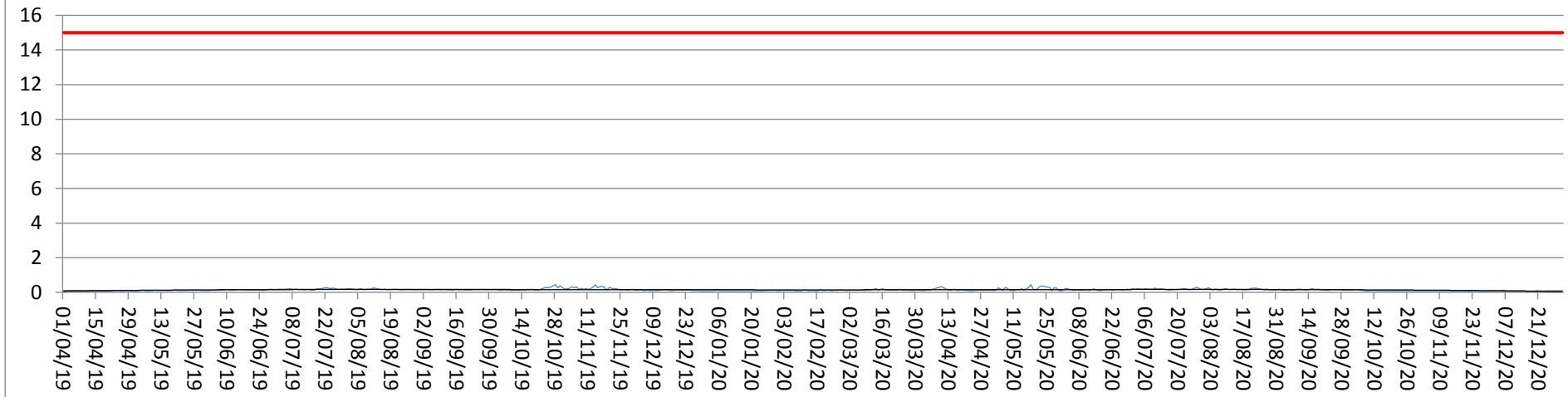
### Polveri (mg/Nm3) camino E102B



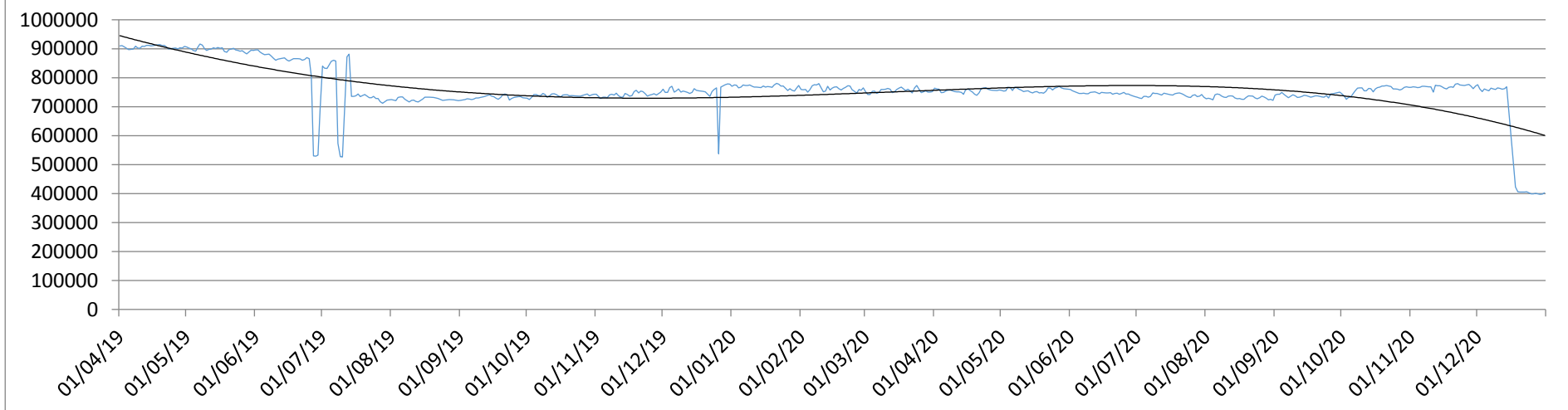
### Portata Fumi (Nm3/h) camino E102B



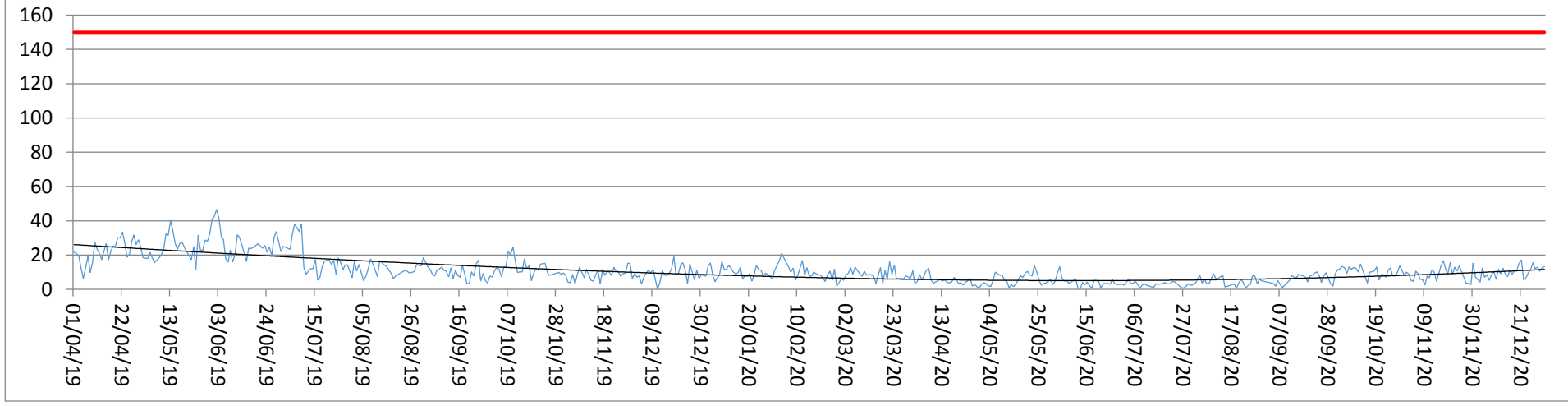
### Polveri (mg/Nm3) camino E109



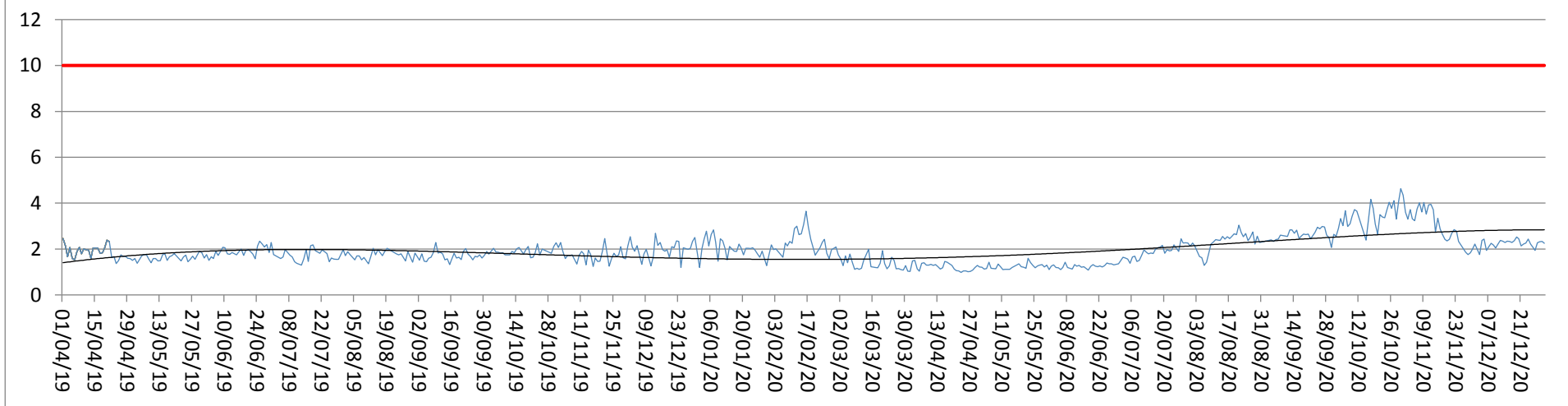
### Portata Fumi (Nm3/h) camino E109



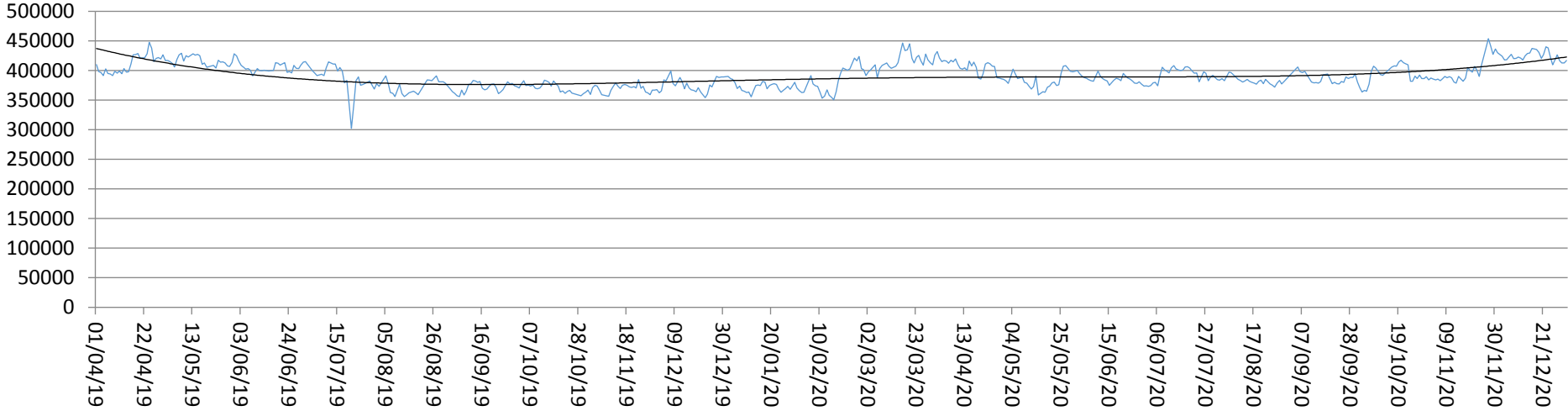
### SOx (mg/Nm3) camino E111



### Polveri (mg/Nm3) camino E111

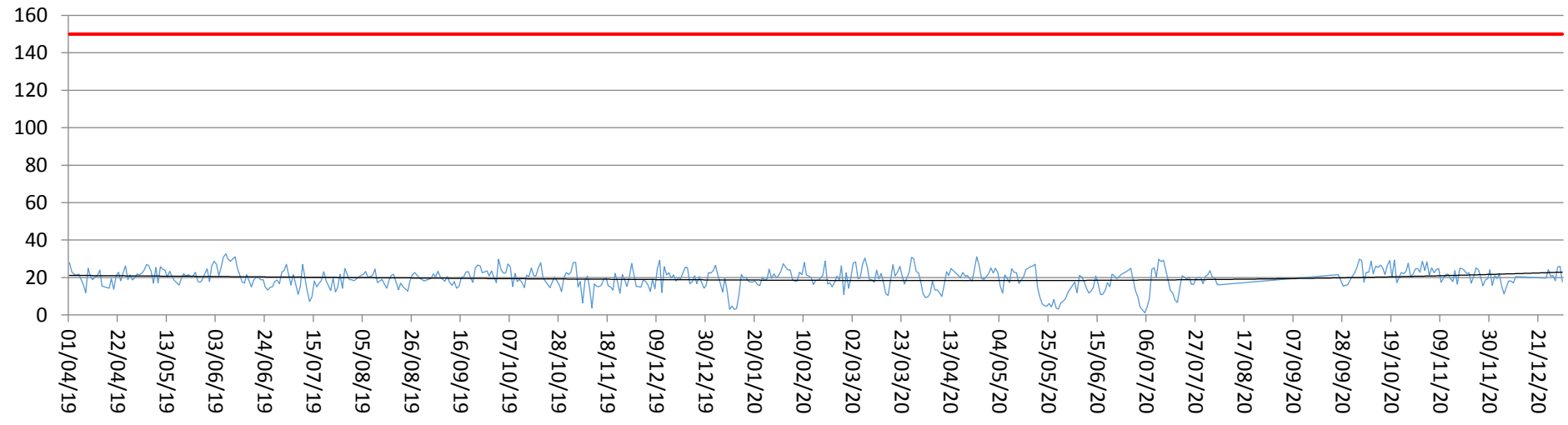


### Portata Fumi (Nm3/h) camino E111

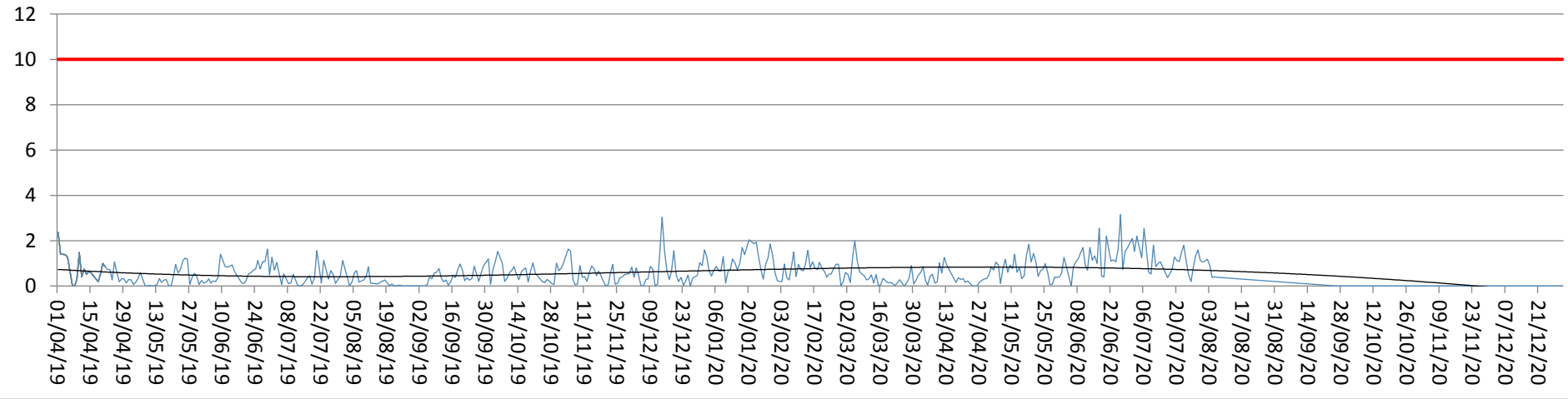




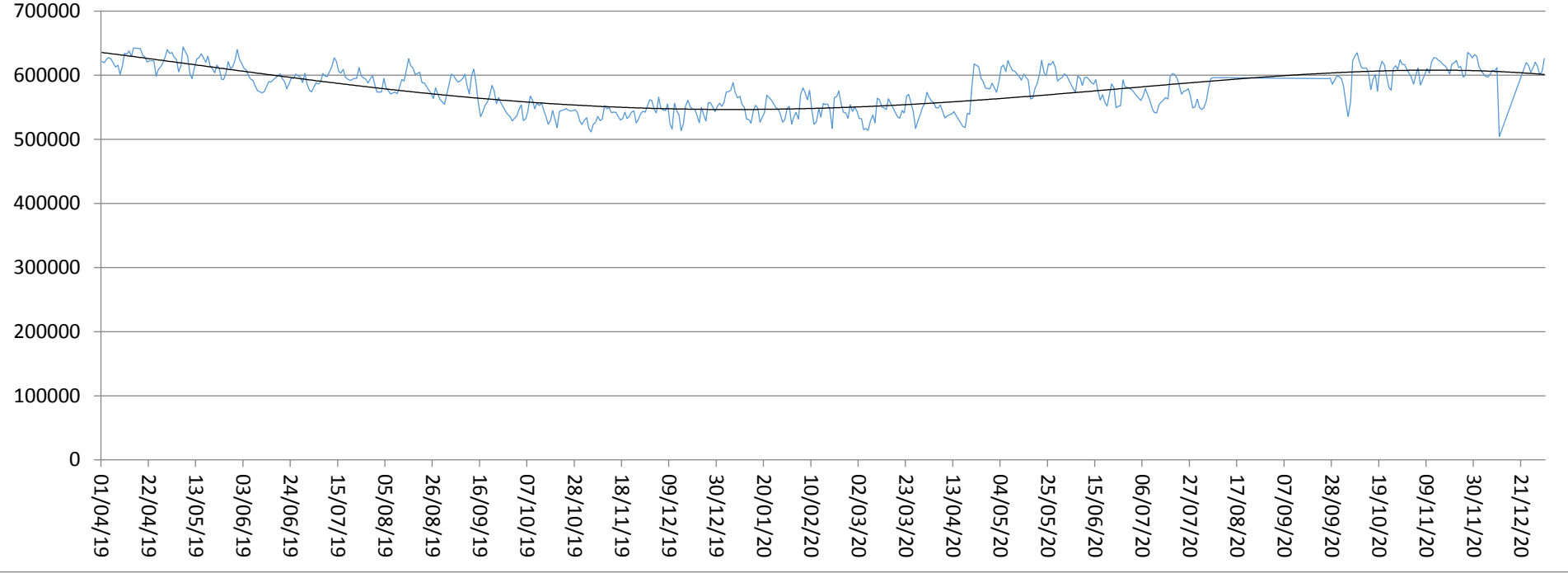
### SOx (mg/Nm3) camino E114



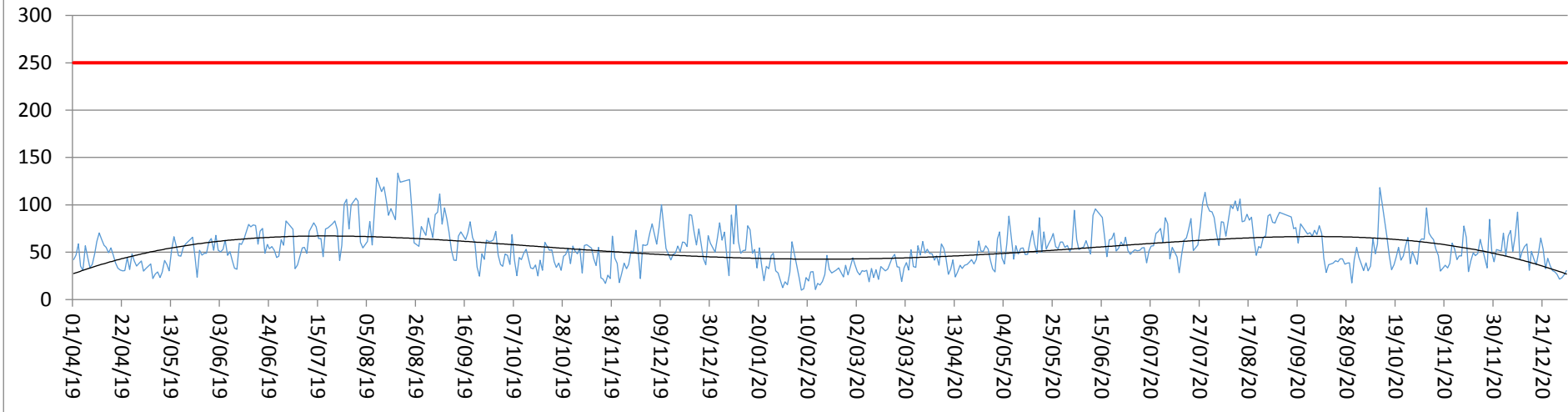
### Polveri (mg/Nm3) camino E114



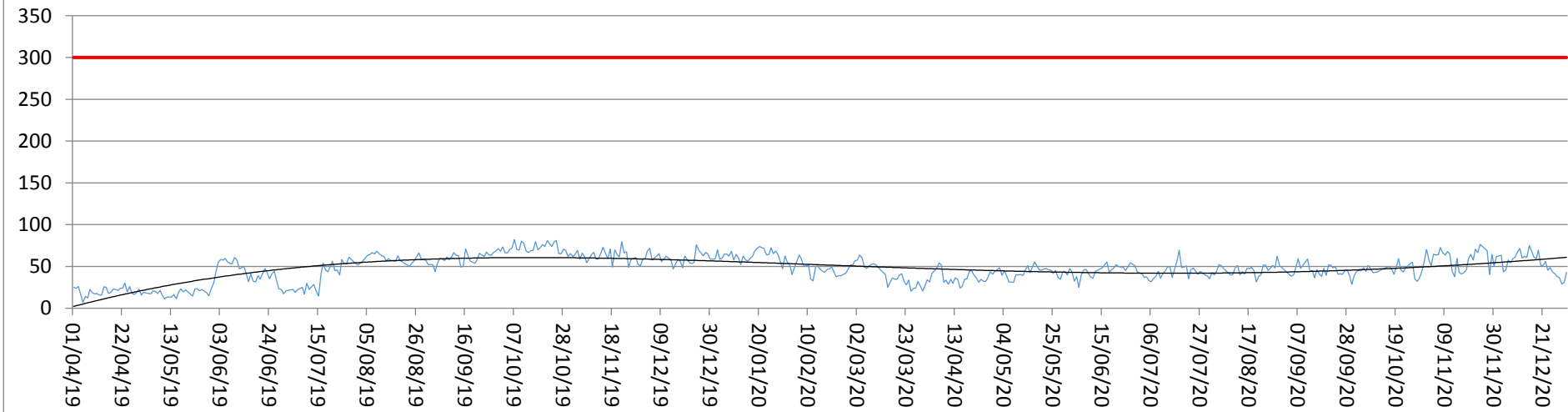
### Portata Fumi (Nm3/h) camino E114



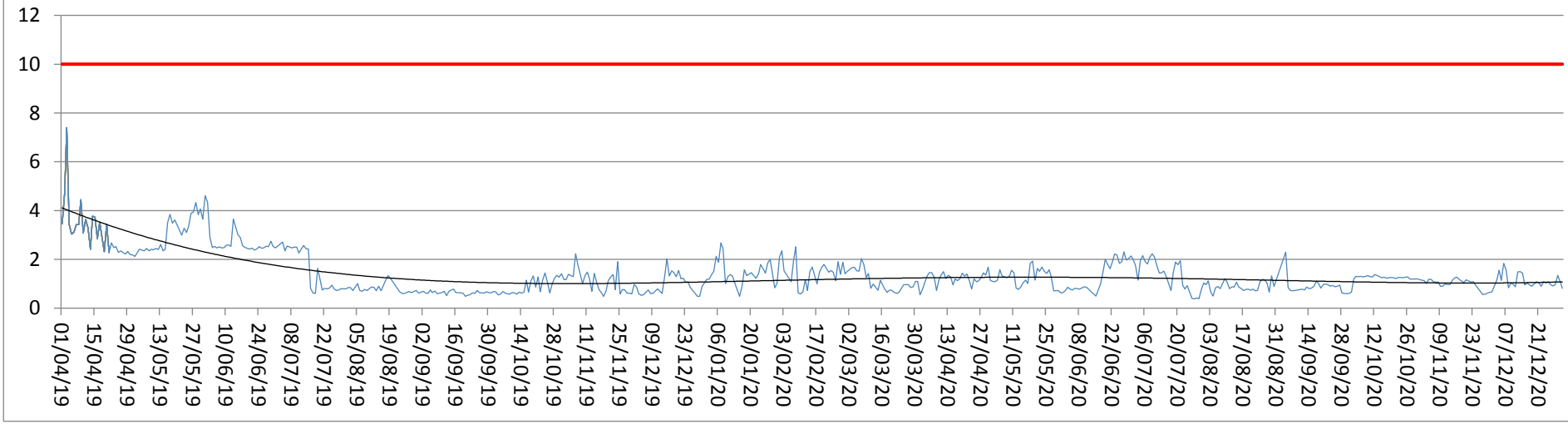
### NOx (mg/Nm3) camino E134



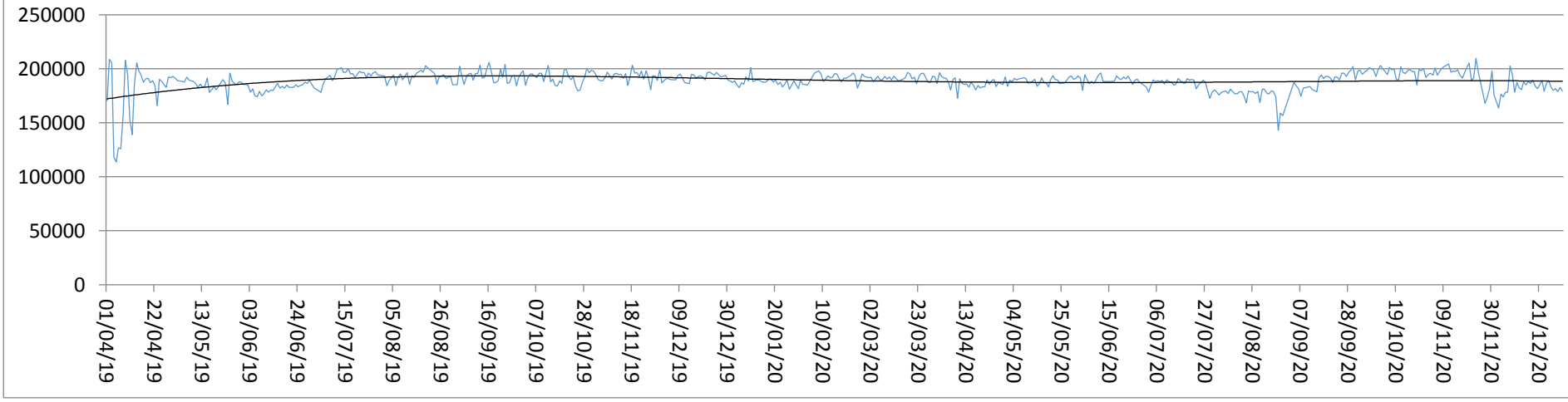
### SOx (mg/Nm3) camino E134



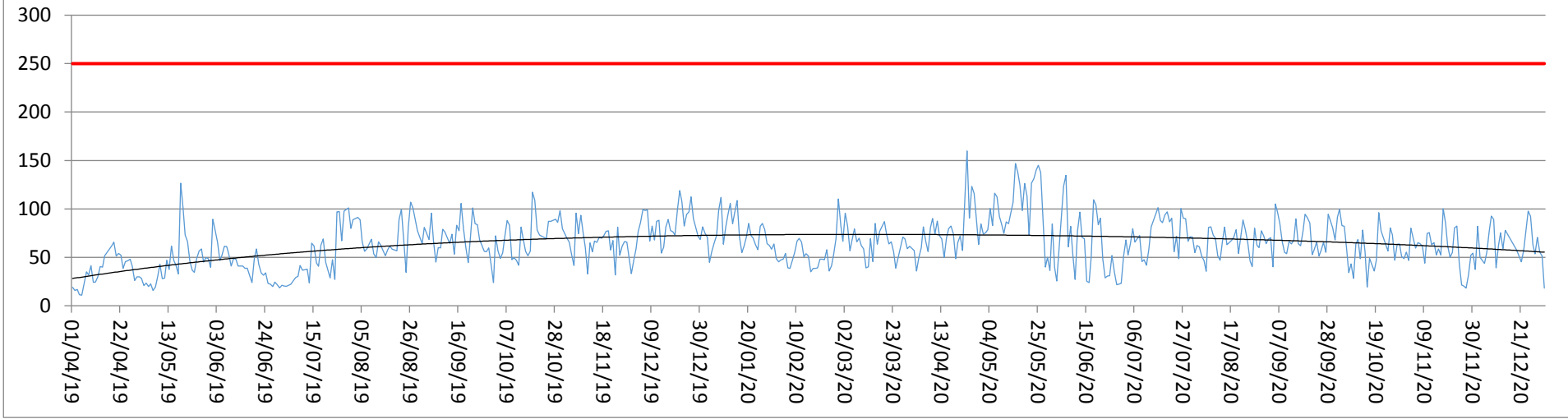
### Polveri (mg/Nm3) camino E134



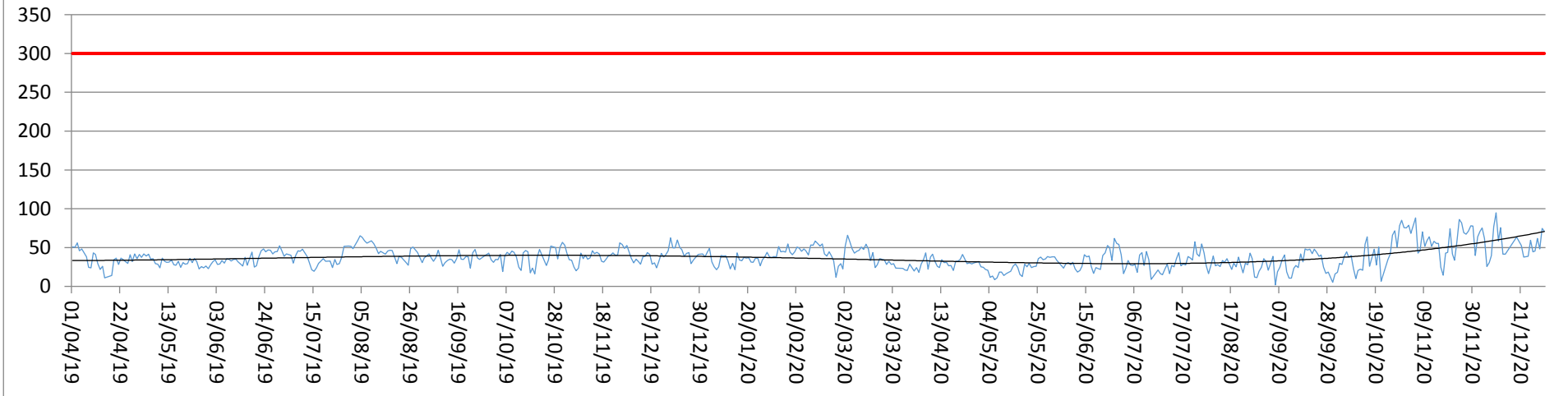
### Portata Fumi (Nm3/h) camino E134



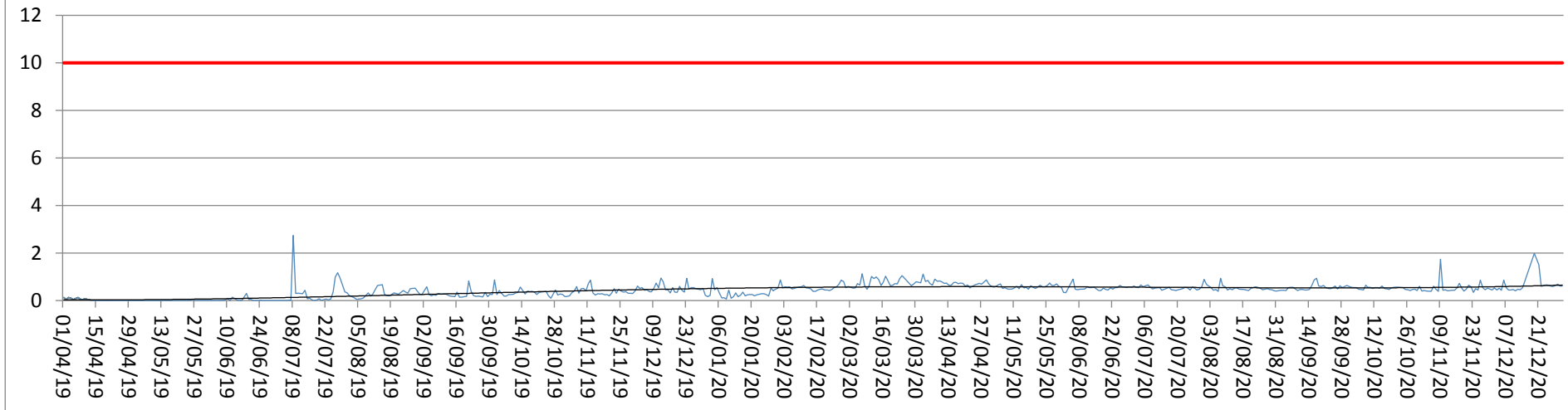
### NOx (mg/Nm3) camino E137



### SOx (mg/Nm3) camino E137



### Polveri (mg/Nm3) camino E137



### Portata Fumi (Nm3/h) camino E137

