



Lithuanian national air pollution reduction targets

Ministry of Environment of Republic of Lithuania

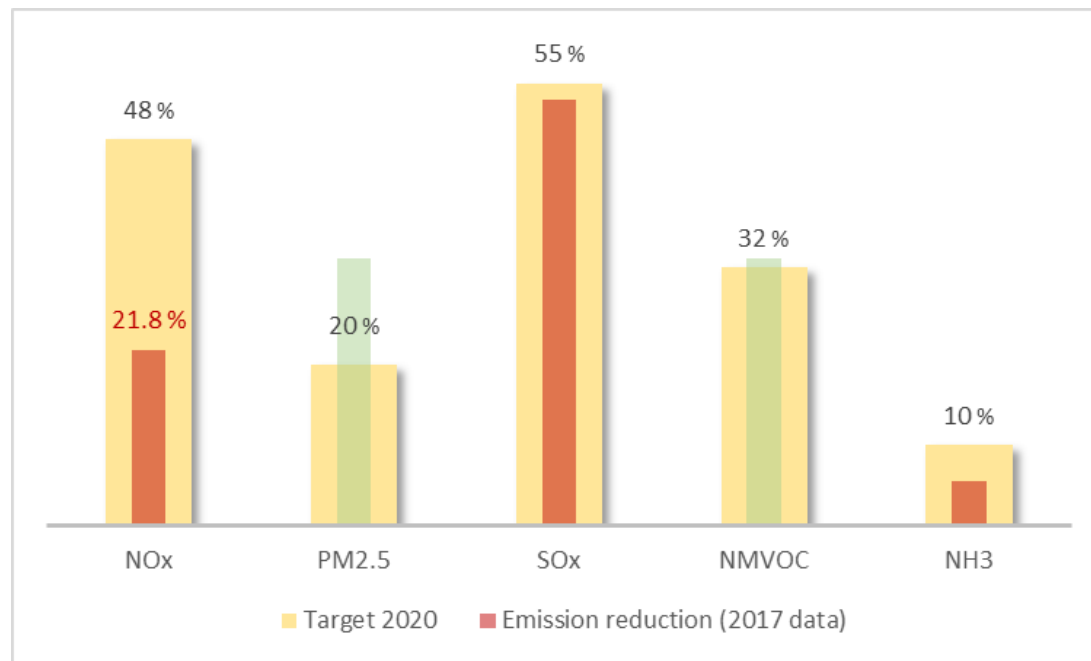
Pollution prevention policy group chief specialist Paulius Žvirblis

Klaipėda LNG Forum 2019

15 May 2019

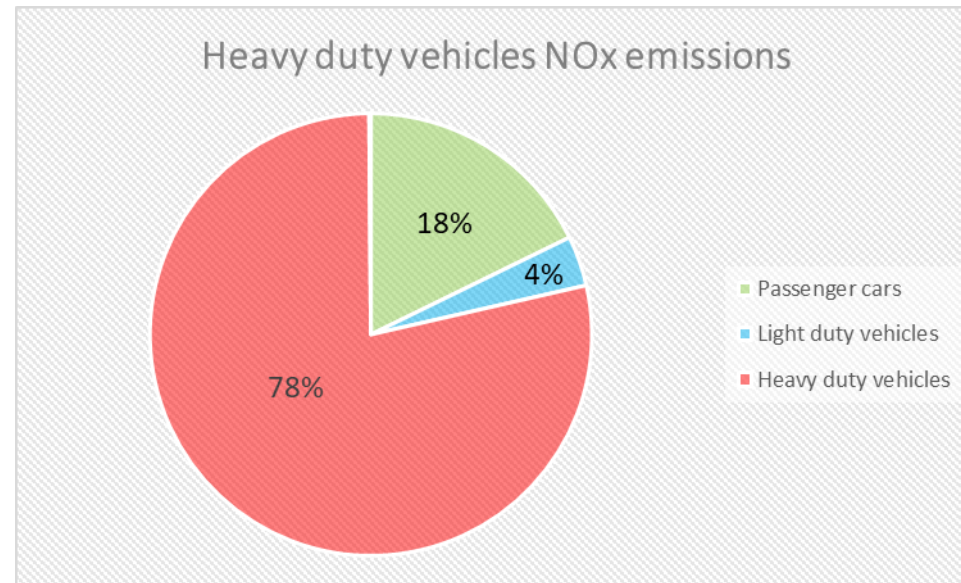
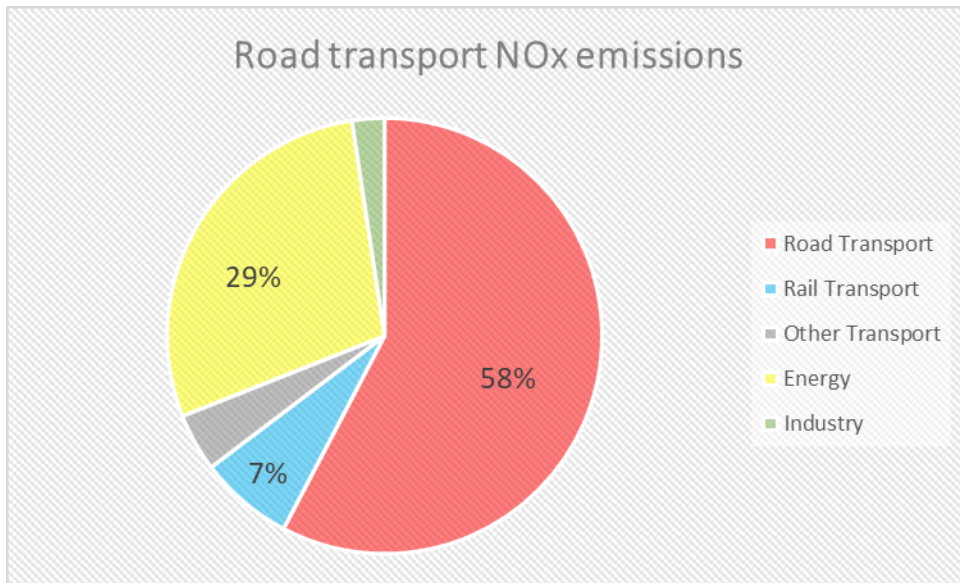
Air pollution reduction national targets

- ▶ Established according Convention on Long-Range Transboundary Air Pollution and NEC Directive 2016/2284. Reduction compared to 2005



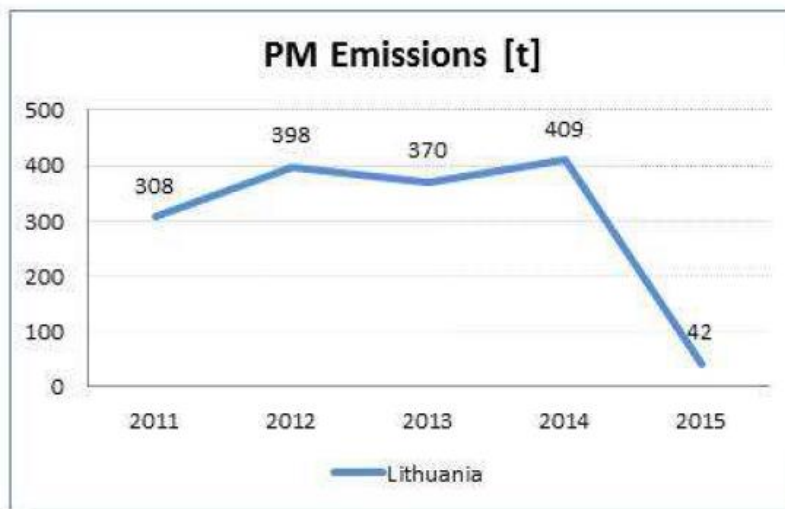
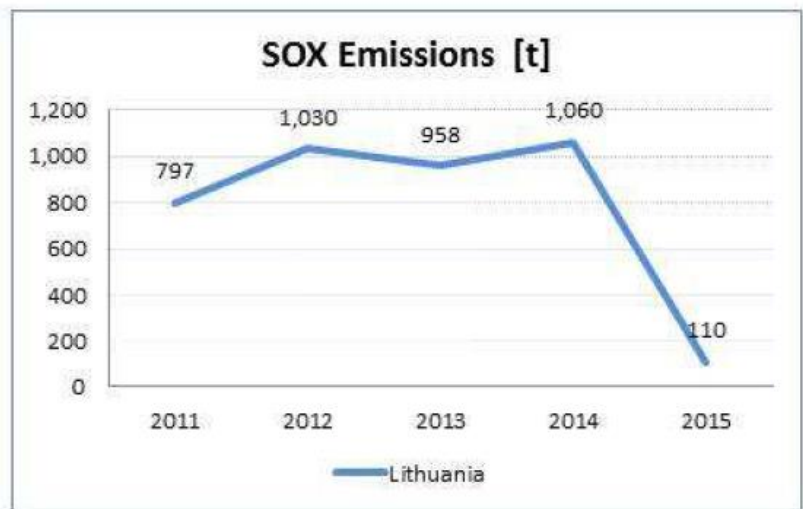
- ▶ Additional measures are needed in order to achieve national target of NOx emissions reduction

NOx emissions from road transport



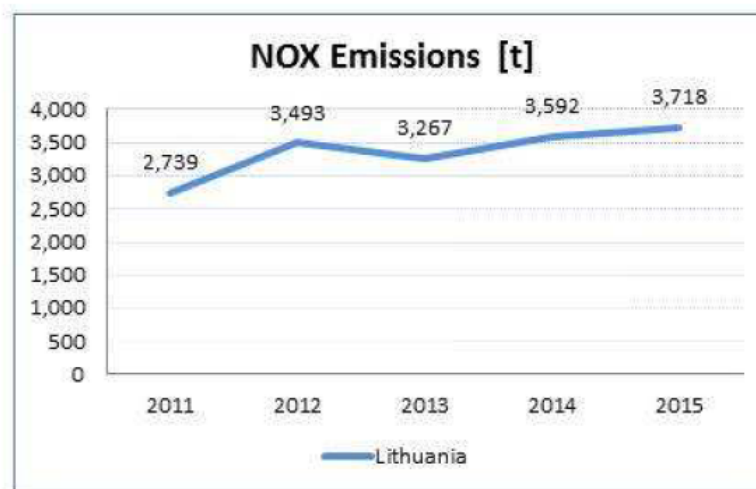
- ▶ Road transport emits most of NOx
- ▶ Heavy duty vehicles are decisive factor on national NOx emissions
- ▶ Maritime shipping emissions not included

Maritime shipping emissions



Shipping Emissions based on Shipping Activity Data for Domestic, Short Sea and International Shipping for the years 2011-2015, EMSA

- ▶ Fuel oil sulphur content regulation reduced SOx and PM emissions from shipping (Directive (EU) 2016/802).
- ▶ NOx emissions remains high



Air quality

► PM10 daily limit value exceedances in 2018

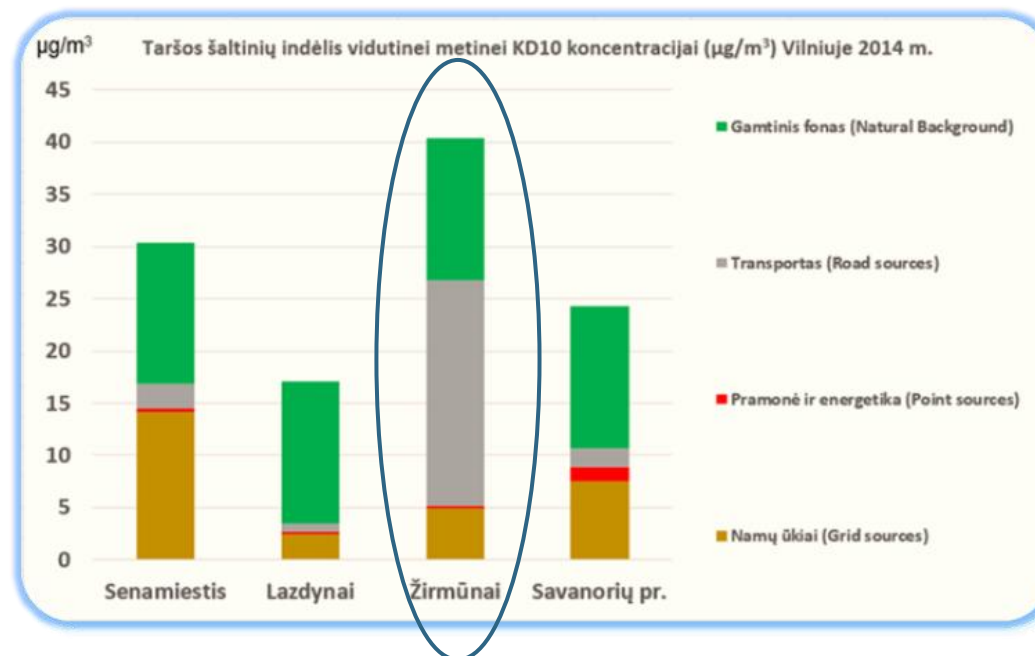
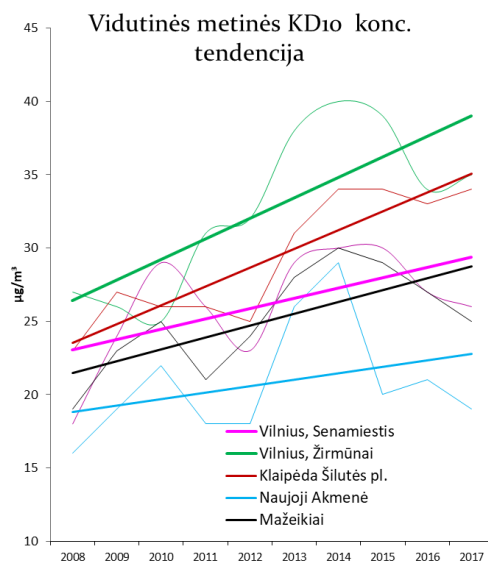
Klaipėda - 61 days

Vilnius - 37 days

Kaunas - 32 days

Šiauliai 29 days

PM10 concentration “growth” tendency



PM10 source apportionment:

Transport (grey)

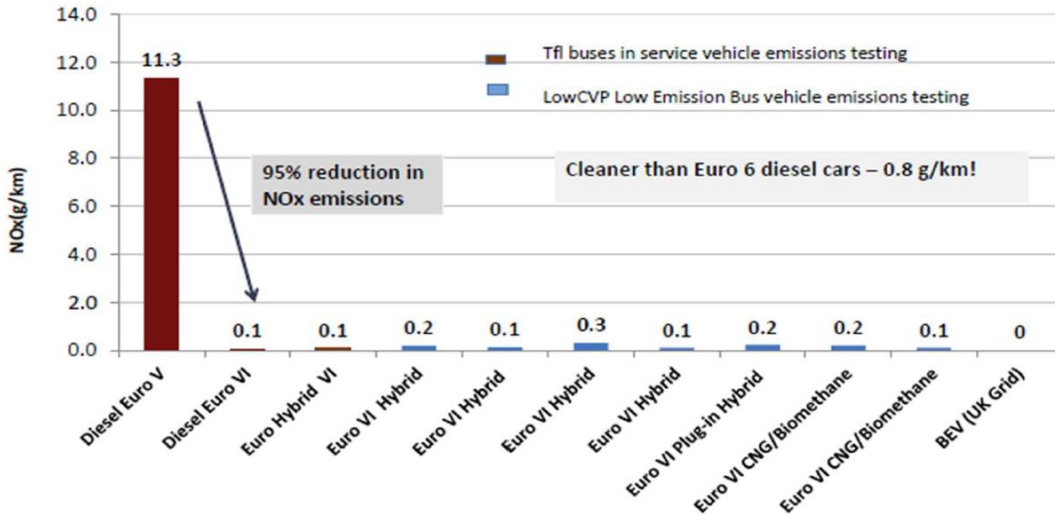
Residential heating (brown)

Industry (red)

Natural background (green)

Diesel vs LNG

- ▶ No dedicated NOx emission factor for LNG / CNG heavy duty vehicles (EMEP methodology).
- ▶ Shifting from Euro V and older diesel heavy duty vehicles to LNG trucks could reduce NOx and other pollutant emissions. Euro VI emissions from diesel and LNG trucks likely to be similar.
- ▶ CNG passenger car emits around 8 times less NOx than diesel cars.



- ▶ Emission factors for ships: LNG emissions are significantly lower

Fuel type	NOx (kg/t fuel)	SOx (kg/t fuel)	PM (kg/t fuel)
LNG	7.83	0.02	0.18
HFO (IMO tier II)	49.34-78.46	52.77	7.28
MDO (IMO tier II)	36.12	-	-

National air pollution reduction plan

- ▶ Financial incentives for municipalities to limit diesel vehicle traffic in major cities and resorts
- ▶ Continuation of financial incentives for municipalities to renew public transport (local and intercity) (includes natural gas buses)
- ▶ Scrapping scheme. Subsidies for low-emission mobility.
- ▶ **Estimated NO_x reduction of 1.15 kt** (total 7.19 kt needed additionally to be reduced) due to implementation of natural gas infrastructure development measures (*measures transposed from National transport development programme 2014-2022 with regard to evaluate reduction impact*)

