



CRUISE WEBINAR 2022

Friday 2022-05-20

By Magnus Hexeberg and Rouzbeh Rasai

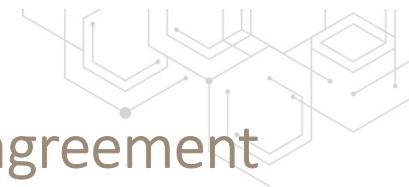
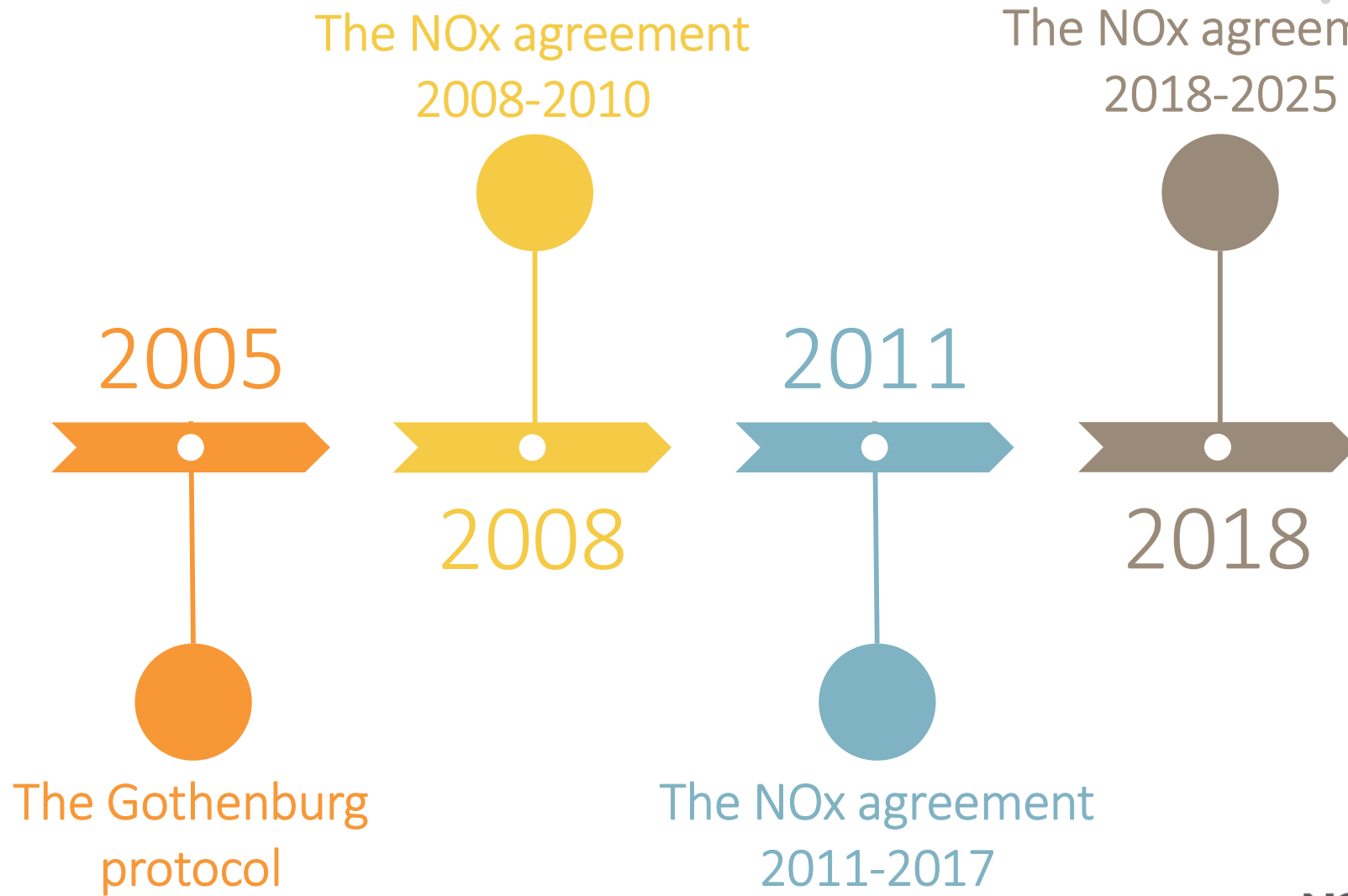
NOx-fondet

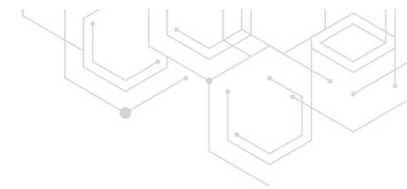


An introduction to the Norwegian NO_x tax system

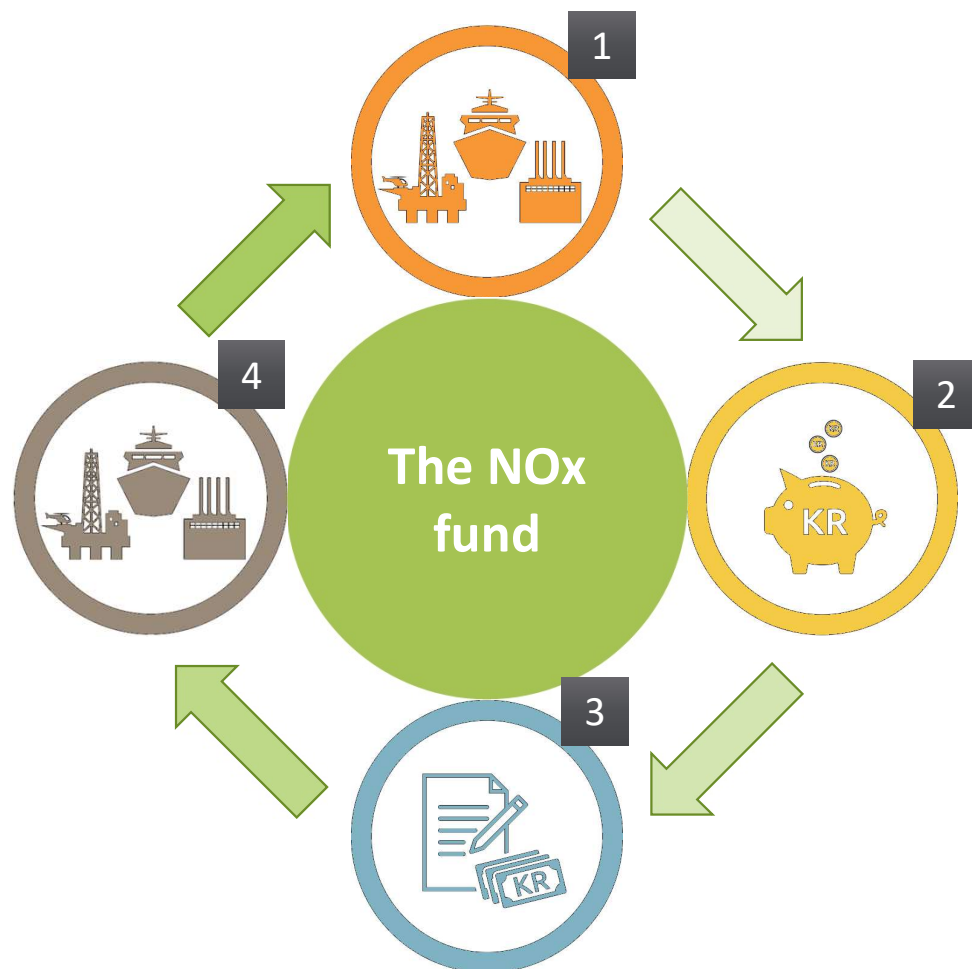
nn

NO_x-fondet

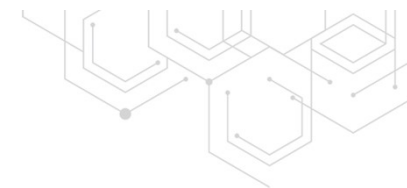




The NOx fund

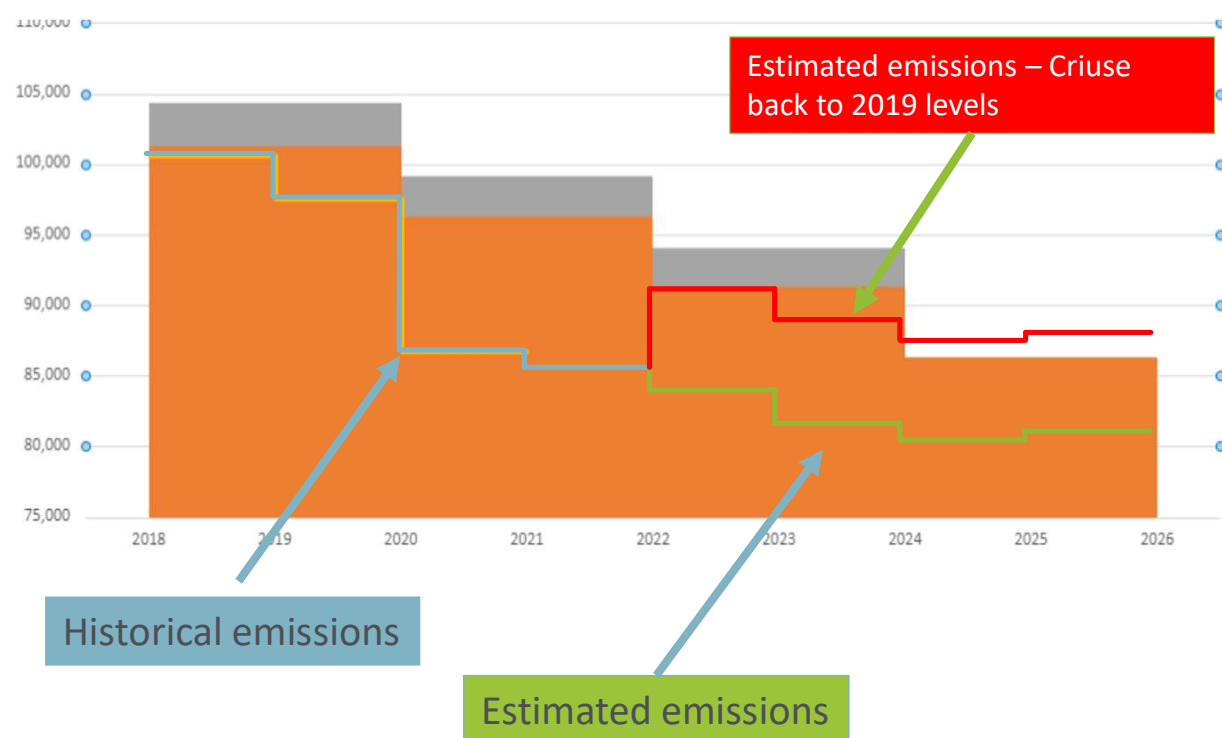


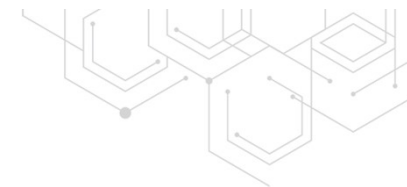
1. Owned by 15 business organisations (oil&gas, shipowners etc)
2. Affiliated companies are exempted from the state NOx tax
3. In exchange for obligations to the Norwegian NOx fund and NOx reductions
4. The funds main task is to finance specific NOx-reducing measures.



Status for NOx emissions

- NOx emissions from sources covered by the agreement shall be kept below total emission ceiling over periods of two years.
- We have reached our goals last 4 years (two last periods)
- Considerable fall in emissions in 2020 and 2021 because of Covid. Mainly from Cruise and aircrafts.
- We expect the emissions to increase. Perhaps back to prior Covid and even higher.
- Main task is to implement measure and reduce emissions
- Risk for sanctions





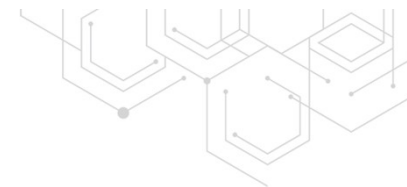
Risk for sanctions

- There is a risk for sanctions and all companies affiliated to the NOx-fund are exposed to the risk.
- If the emissions are above the ceiling over two years period, all companies have to pay:

300.000 kg NOx (yearly emission) → 4% above the ceiling → Additional payment to the tax administration →

430.000 Euro x 2 = 860.000 Euro

- How to avoid sanctions? Use measures and report in accordance to the correct emissions.
- Wrong reporting creates a big risk for the fund but also damages companys reputation.



Financial support

- Urea: 7,5 kr/kg urea (70% ceiling) – only during taxable sailing
- Support for measurement of NOx emissions (60000kr ~ 6000 euro) - 70% ceiling.
- Investment support for implementing NOx reducing measures
 - The NOx fund supports all kind of technology that reduces NOx emissions from cruise ships.
 - Support calculations:

Total reduced emissions (kg) x support rate (400kr/kg) x share of taxable emissions

* (70% ceiling)



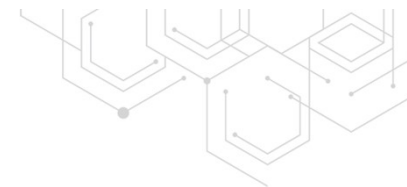
Where and when is the NO_x tax applicable?

NO_x-fondet

The Norwegian NOx tax zone

- Limited by the territorial waters 12nm for foreign vessels
- No requirement for SCR, or NOx reducing measures
- The World Heritage Fjords
- ECA zone in North sea



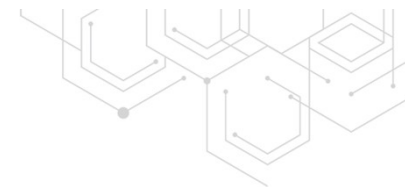


Who need to pay NOx tax

- All vessels with a total installed propulsion power above 750kW.

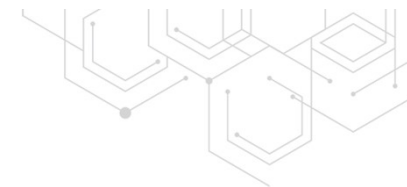
If the vessel is taxable, the total emissions from all sources should be reported, like:

- propulsion engines
- aux engines
- boilers



When to pay NOx tax?

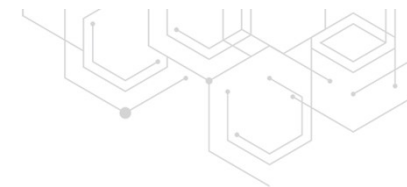
YES	Emissions from domestic shipping (between Norwegian destinations), regardless of the vessel's nationality.
YES	Emissions from sailings between a Norwegian destination to Svalbard and Jan Mayen.
NO	Emissions from sailings between foreign destination and Norwegian destination.
NO	Emission from sailings between Svalbard and Jan Mayen
NO	Emissions from sailings between destinations at Svalbard



Example: A round trip from UK



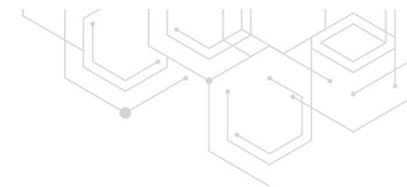
Start	Stop	NOx tax sailing	NOx tax in arriving destination	Comments
Edinburgh	Bergen	NO	NO	A voyage from a foreign destination is NOT taxable.



Example: A round trip from UK



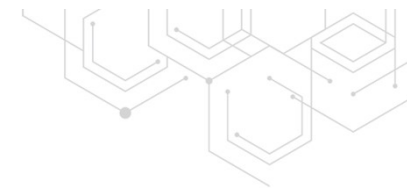
Start	Stop	NOx tax sailing	NOx tax in arriving destination	Comments
Edinburgh	Bergen	NO	NO	A voyage from a foreign destination is NOT taxable.
Bergen	Tromsø	YES	YES	A voyage between two Norwegian destinations is taxable.



Example: A round trip from UK



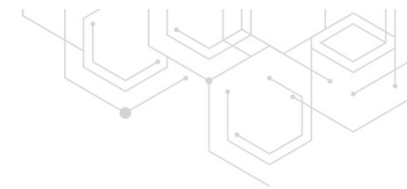
Start	Stop	NOx tax sailing	NOx tax in arriving destination	Comments
Edinburgh	Bergen	NO	NO	A voyage from a foreign destination is NOT taxable.
Bergen	Tromsø	YES	YES	A voyage between two Norwegian destinations is taxable.
Tromsø	Longyearbyen	YES	YES	A voyage from a Norwegian destination and Svalbard is taxable.



Example: A round trip from UK



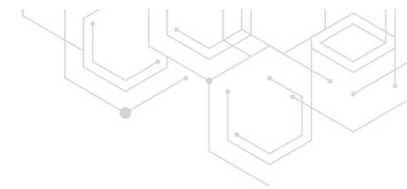
Start	Stop	NOx tax sailing	NOx tax in arriving destination	Comments
Edinburgh	Bergen	NO	NO	A voyage from a foreign destination is NOT taxable.
Bergen	Tromsø	YES	YES	A voyage between two Norwegian destinations is taxable.
Tromsø	Longyearbyen	YES	YES	A voyage from a Norwegian destination and Svalbard is taxable.
Longyearbyen	New Ålesund	NO	NO	A voyage between destinations at Svalbard is not taxable



Example: A round trip from UK



Start	Stop	NOx tax sailing	NOx tax in arriving destination	Comments
Edinburgh	Bergen	NO	NO	A voyage from a foreign destination is NOT taxable.
Bergen	Tromsø	YES	YES	A voyage between two Norwegian destinations is taxable.
Tromsø	Longyearbyen	YES	YES	A voyage from a Norwegian destination and Svalbard is taxable.
Longyearbyen	New Ålesund	NO	NO	A voyage between destinations at Svalbard is not taxable
New Ålesund	Bergen	YES	YES	A voyage from Svalbard to a Norwegian destination is taxable.



Example: A round trip from UK

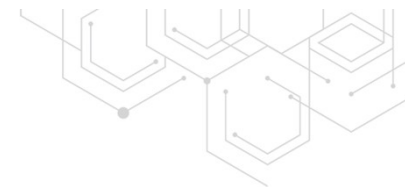


Start	Stop	NOx tax sailing	NOx tax in arriving destination	Comments
Edinburgh	Bergen	NO	NO	A voyage from a foreign destination is NOT taxable.
Bergen	Tromsø	YES	YES	A voyage between two Norwegian destinations is taxable.
Tromsø	Longyearbyen	YES	YES	A voyage from a Norwegian destination and Svalbard is taxable.
Longyearbyen	New Ålesund	NO	NO	A voyage between destinations at Svalbard is not taxable.
New Ålesund	Bergen	YES	YES	A voyage from Svalbard to a Norwegian destination is taxable.
Bergen	Edinburgh	NO	NO	A voyage to a foreign destination is NOT taxable



NOx emission calculations

NOx-fondet



NOx calculations

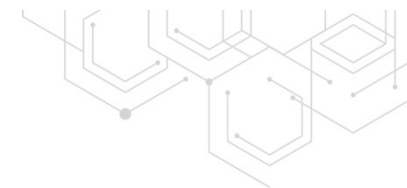
NOx emissions
[kg NOx]

=

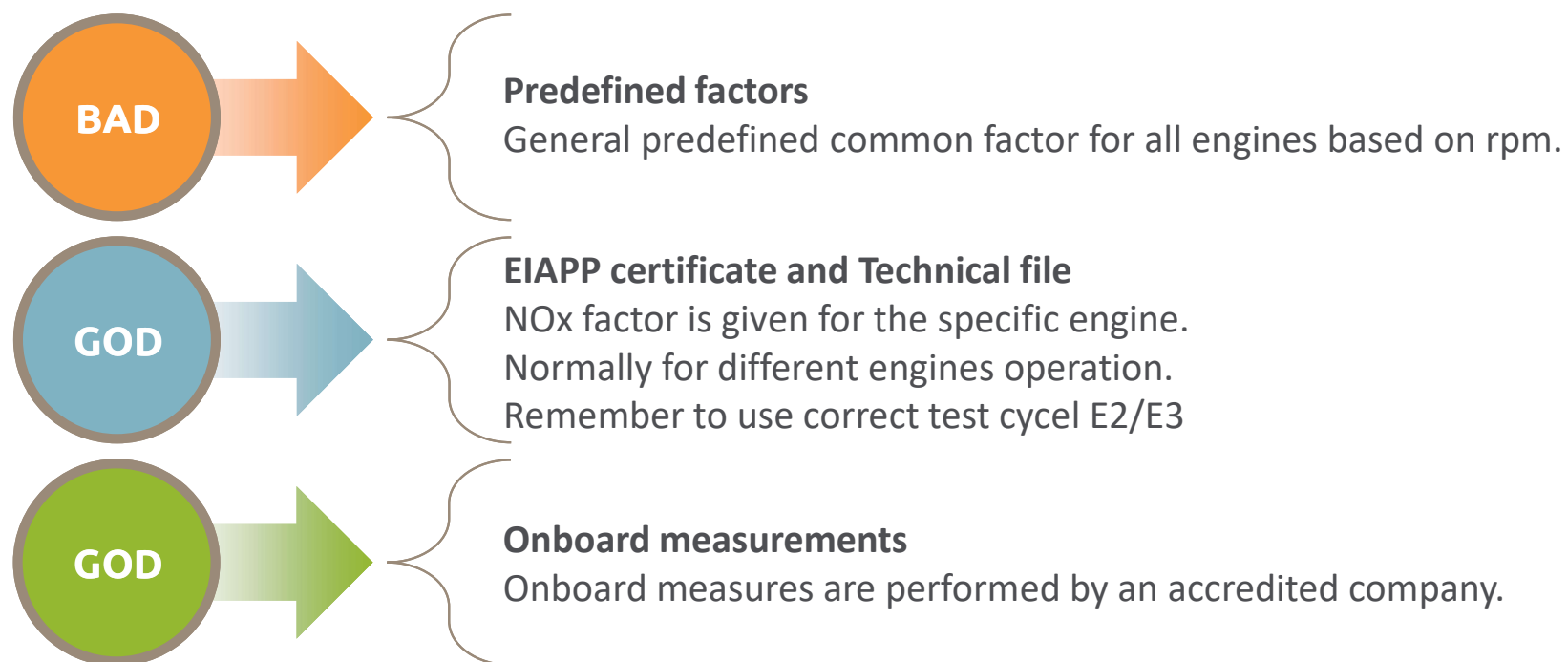
Fuel consumption
[Tonn fuel]

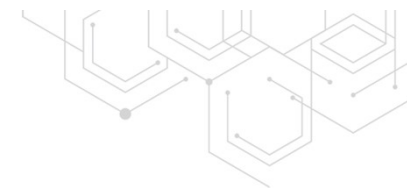
x

NOx factor
[kg NOx/Tonn fuel]



What is NOx factor?

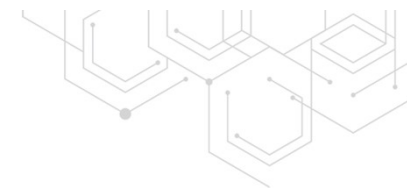




Example: Different NOx-factors

	Predefined NOx factor	EIAPP	ONBOARD MEASUREMENT
Fuel consumption [tonn]	200	200	200
NOx factor [kg NOx/tonn fuel]	53	36,3	34
NOx emissions [kg NOx]	10.000	7.262	6.800
Payment rate [NOK]	10,5	10,5	10,5
NOx payment [NOK]	111.300,-	76.230,-	7.1400,-
NOx payment [EUR]	10.800,-	7.400,-	6.930,-

You will reduce your NOx tax with more than 30% by using EIAPP values



Example: Use of SCR-system

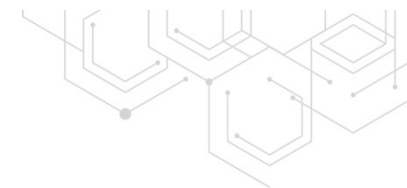
There are two methods for calculating NOx emissions from a vessel with SCR.

NOx CALCULATION WITH UREA CONSUMPTION

Total fuel consumption [tonn]	250
NOx factor without SCR [kg NOx/tonn fuel]	36,3
NOx emissions before SCR [kg]	9.075
Urea consumption [liters]	9.803
NOx cleaning for SCR [1.5kg NOx/liter urea]	6.535
Total NOx emissions [kg]	2.541
NOx payment [NOK]	26.680,-
NOx payment [EUR]	2.590,-

NOx CALCULATION WITH NOx FACTORS

Fuel consumption without SCR [tonn]	50
NOx factor without SCR [kg NOx/tonn fuel]	36,3
NOx emission without SCR [kg]	1.815
Fuel consumption with SCR [tonn]	200
NOx factor with SCR [kg NOx/tonn fuel]	3,63
NOx emissions with SCR [kg]	726
Total NOx emissions [kg]	2.541
NOx payment [NOK]	26.680,-
NOx payment [EUR]	2.590,-



Example: DF-engines (LNG & MGO mode)

	MGO Mode	LNG Mode
Fuel type	MGO	LNG
Fuel consumption MGO [tonn]	37	4,4
Fuel consumption LNG [tonn]	0,0	44,0
NOx factor [kg NOx/tonn fuel]	49	12,7
NOx emissions [kg NOx]	1.832	615
Payment rate [NOK]	10,5	10,5
NOx payment [NOK]	19.230,-	6.454,-
NOx payment [EUR]	1.860,-	626,-

Pilot fuel
consumption

We encourage all vessels with dual-fuel engines to use LNG mode in when sailing in Norway

NOx-fondet



Summary

To reduce the risk of sanctions and prevent us from exceeding the emission ceiling, we all must try the following:

- Use installed available measures onboard your vessels when sailing in Norway.
- Ensure that your vessels and personnel understand taxable operations and report fuel consumption when the vessel is in such a zone.
- Feel free to contact us for a meeting!