NOx-fondet

GUIDELINE

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Application for financial support under the NOx Agreement 2018–2025

Version 3.2
24. March 2020

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1. Introduction

1.1 Introduction

A new NOx Agreement for 2018–2025 was signed on 24 May 2017 by the Norwegian authorities and 15 Norwegian business organisations. This is a continuation of the agreements for the periods 2008–2010 and 2011–2017. However, the details in the new Agreement have been changed, and the NOx Fund's support scheme and the guide.

The NOx Fund's support scheme is an instrument designed to meet the obligations in the NOx Agreement. The NOx Agreement 2018–2025 was approved by the EFTA Surveillance Authority (ESA) on 22 February 2018.

If you have any questions, please contact us by using the details provided on our website: www.nho.no/nox.

1.2 Action plan

According to the Participant Agreement, all affiliated enterprises must draw up an action plan containing possible measures to reduce NOx at their enterprise within two years from the affiliation date. The action plan must then be updated every two years during the period 2018–2025. The purpose is to identify cost-effective NOx-reducing measures which can be implemented with support from the NOx Fund.

The action plan must be kept at the enterprise. The NOx Fund may conduct inspections to check whether an enterprise has complied with this obligation. The NOx Fund accept that enterprises do not have profitable or cost-effective measures in their operations. The enterprise must nevertheless conduct a review to identify any relevant measures for reducing NOx emissions.

The action plan may be an independent study or plan. It may also form part of more integrated studies to reduce emissions, or management systems (environmental and/or energy management systems), where NOx is an environmental aspect that is considered. It is also possible to draw up an action plan for several enterprises together. This may be relevant for sectors where all the enterprises have the same type of emission source.

The action plan must contain the following information, regardless of its form:

- List of taxable NOx emission sources and the kinds of NOx emissions they represent.
- List of technically feasible NOx measures that for emission sources during the period 2018–2025.
- Financial assessment of the measure(s) chosen. The financial assessment must reflect the costs and savings associated with procurement and operations, including support from the NOx Fund and the impact on NOx payments to the NOx Fund and/or to the state.

If cost-effective measures are identified with support from the NOx Fund, a sound reason must be given for why the measure has not been (or will not be) implemented.

A measure is cost-effective if the NOx reduction it provides, as well as the value of this reduction in the form of lower NOx tax over a three-year period, is high enough to cover the enterprise's costs associated with implementing the measure. Such costs includes the enterprises contribution after it has received support from the NOx Fund, as well as losses from reduced or temporarily interrupted operations or changes in regularity, future operating costs which are not covered by the support from the NOx Fund, and other costs incurred by the enterprise as a result of the measure. Cost-effective assessments must be based on the general investment criteria which apply to the industry in question.

When calculating the value of the measure in the form of reduced NOx tax, the current national tax rate on NOx emissions shall be applied.

1.3 Eligible applicants

The following enterprises may apply for support from the NOx Fund:

- All enterprises with existing or planned taxable NOx emissions in Norway.
- Enterprises without taxable NOx emissions, but which are covered by specific NACE codes in the NOx Agreement. This generally covers land-based process manufacturing.

In principle, it is the emission source's owner that applies for support and receives it. Other companies may represent the owner. To which extent this is acceptable is considered on a case-by-case basis. However, it must be documented from the actors in the value chain from applicant to owner, that they agree on the content of the application and how the funds from the NOx Fund will be paid to and distributed among the parties.

1.4 Application processing

An application for support to the NOx Fund follows the procedure outlined below, which also states the estimated duration of the different steps. The different steps have been described in greater detail in a separate chapter in this document.

Party	Step	Estimated duration
Applicant	Write and submit application. Application must be received at least 4 weeks prior to the NOx Fund's Board meeting to be handled at the meeting.	Varies
NOx Fund	Quality assurance of application and recommendation to the Board	4–6 weeks
NOx Fund Board	Funding decision	About four board meetings per year
NOx Fund	Dispatch of decision letter to applicant	1 week
Applicant	Implementation of measure	Varies
Applicant	Submission of self-declaration documenting the accrued costs, emission measurements, calculation of the NOx reduction and associated operational data.	Varies
NOx Fund	Quality assurance of the self-declaration, calculation of disbursement and dispatch of payment letter to the applicant.	4–6 weeks
Applicant	Return signed payment letter.	1 week
NOx Fund	Payment of support in full or part, depending on the period covered by the documented operations data.	1 week
NOx Fund	Follow-up of the use of the measure	1 year to set the NOx reduction and final support payment, and the full NOx agreement period to follow up the obligation to operate the measure.

2. Support rates and terms regarding NOx-reducing measures

2.1 General information about support

Support is granted for measures, in the form of technical installations, both at existing and new emission sources. The support scheme covers both measures which reduce the NOx factor (NOx emissions per unit of energy consumed) and measures which reduce energy consumption (energy efficiency).

The NOx Fund Board sets the current support rates.

Measures proceeded at the board meeting 27 August 2019, and from that date, are eligible for support of either NOK 200 or 400 per kg NOx reduced (from 1.1.2018 to 27.8.2019, the support rate was 250 or 500 NOK / kg NOx). The rates for the different types of measures and other conditions for support are specified later in this chapter.

The amount of financial support is calculated as the measure's annual NOx reduction (kg) x the support rate (NOK per kg).

There is a ceiling on support of 70% of the costs of the NOx measure (max. 80% until 27 August 2019).

Note that support is paid out after implementation of the measure and the actual NOx reducing effect is verified. Support is paid based on actual NOx reduction, after the method of calculation defined by the NOx Fund for the verification stage. The method of calculation in the verification stage may differ from calculations in the application stage.

For NOx measures on *new* emission units, the measure costs are calculated as the additional cost of the measure compared with the cost of a conventional new and modern alternative without the measure.

Examples of costs which may and may not be included in the calculation of support are provided in the table below.

Included in the calculation of basis for support	Own work on the project Planning Approval/testing Equipment procurement Equipment transport Installation
Not included in the calculation of basis for support	Investigations and preliminary studies (or must be applied for separately) Financial costs Loss of income associated with downtime

The NOx Fund is free to decide which measures to support and to stipulate the conditions for such support.

The NOx Fund may make exceptions from current practice in special cases, including establishing extraordinary support programmes or introduce special cuts in support.

In a letter dated 1 July 2008, the Ministry of Finance has clarified that financial support from the NOx Fund is a taxable benefit. Payments to the NOx fund are deductible.

2.2 Measures which receive support of NOK 200 per kg NOx reduced

- NOx cleaning technology (e.g. SCR and EGR) on mobile sources (new and existing sources)
- Shore power on existing mobile sources is only supported exceptionally
  - Other public support schemes are considered to be adequate for shore power support. If shore power application is rejected, or demonstrate that the measure does not qualify for support from public support schemes, the NOx Fund may consider funding if the measure qualifies for support in accordance with the NOx Fund Support Scheme. In that case, the guidelines in the points below apply.
  - Support is granted for new technologies on board vessels which allow the vessel to receive shore power while at port.
  - In principle, shore facilities may be included in the measure cost for the ship, when this needs to be seen in the context of availability of power at the ship's regular home port. The NOx reduction from a shore power measure is often only enough to cover part of the cost associated with the vessel.

- Energy-efficient energy storage systems (battery operation) on ships
  - In the same way as for shore power, other public support schemes exist that have been evaluated to provide sufficient support for energy storage systems (battery operation) on ships. Equivalent assessment as for shore power will be done.
- Energy efficiency measures on existing sources
  - Energy efficiency measures are as a main rule supported with a rate of NOK 200 per kg NOx reduced.
  - Combination of a significant energy efficiency measure (including battery hybridisation) and a Tier III measure (for instance SCR or LNG) on mobile sources, which are supported with a rate of NOK 200 per kg. For such combined measures a common support rate, the total cost and NOx reduction forms the basis for determining the support.
  - Exceptions for battery hybridisation (without combination with Tier III measures), which are supported by NOK 400 per kg NOx reduced (see section 2.3).
- Energy efficiency measures and energy transition on new sources
  - Energy efficiency measures on new sources are not covered by the support scheme, except for battery hybridisation on mobile sources (ships and rigs).
  - An exemption is made for support to battery hybridisation in combination with Tier III technology.
  - Where battery hybridisation is combined with SCR, the total combined cost and NOx reduction are used as the basis for determining the support, and a joint support rate of NOK 200 per kg NOx reduced is applied.
  - Note that batteries charged with shore power that leads to the transition to electricity as an energy carrier has a support rate of NOK 400 per kg NOx reduced (see section 2.3).
  - Shore power on new sources are not granted support.
- Engine modification
- Engine replacement

  Engine replacement is only granted support if a new engine(s) is combined with additional technology for NOx cleaning (for instance SCR or EGR) which gives NOx emission at IMO Tier III level or better. Such combined measures are supported with a rate of NOK 200 per kg. For such combined measures a common support rate, the total cost and NOx reduction forms the basis for determining the support. The total cost of an engine replacement will be assessed after deduction of costs associated with any necessary reclassification of the existing engine or other alternative costs resulting from continued use of the existing engine (reference state).

  Note that common support rate, total cost and reduction basis for combined measures with Tier III (with SCR) applies to either an energy efficiency measure (included battery hybridisation) or engine replacement.

2.2.1 Method for determining the energy efficiency effect on mobile sources

The approach described below applies regardless of which support rate the measure qualifies for.

Reduced energy consumption for consumers is based on documented electricity accounts which show the difference in kWh consumption before and after the measure. This includes measures like energy-efficient deck and loading equipment, pumps, HVAC, cooling, lighting etc. on existing vessels.

NOx reduction: (Output * hours) $_{BEFORE}$ – (Output * hours) $_{AFTER}$, converted into fuel and emission reduction by relevant consumption and emission factors. Optionally, it may be considered to estimate the reduction using SFOC 230 gram per kWh, specifically NOx emissions of 8 g NOx per kWh (35 kg NOx per tonnes of fuel).

Reduced energy consumption for propulsion and navigation are assigned an estimated reduction effect. This primarily covers energy-efficient solutions for power production and power distribution on board.

Estimated effects for energy efficiency:

The following estimated effects are assigned to different action types if at minimum the effect in question can be substantiated based on documentation and a description of the use of technology and operational matters (the exact reduction level does not need to be documented).

10%: Redeployment of machinery and power systems, incl. battery hybridisation, new systems for power production and distribution, variable speed drive, etc. 10% effect is granted, based on estimates/calculations and information that substantiates this level at minimum (taking into consideration the relevant operation profile and effects like spinning reserve, start/stop regime, peak shaving, improved engine load profile, port operations, improved total system effect, etc.).

5%: Propeller and propulsion measures and hull, including nozzles, rudder, interceptors, bulbs etc. 5% effect is granted, based on estimates/calculations and information which substantiates this level at minimum (taking into consideration the relevant operation profile and effects like reduced resistance, improved propeller effect, etc.).

5%: New engine. 5% effect is granted if at minimum this difference between new and old machinery can be documented (for example improved SFOC).

Note: The NOx Fund assigns maximum 10% total effect from several measures.

NOx reduction: Fuel $_{BEFORE}$ * NOx factor $_{BEFORE}$ – Fuel $_{AFTER}$ * NOx factor $_{AFTER}$

Fuel $_{BEFORE}$ is calculated as follows: Fuel $_{AFTER}$ / (1 – EE effect), where the EE effect is either 0.1 or 0.05.

2.3 Measures which receive support of NOK 400 per kg NOx reduced

- **Energy transition** (for example to LNG, electricity from the power grid (included battery-powered vessels) or other power sources with very low NOx emissions, hydrogen)
  - Other public support schemes may be sufficient to support energy transition. Where there are public support schemes for the specific solution, the NOx Fund may reject applications. In such cases, the NOx Fund will consider funding if the public funding scheme rejects an application.
- **SNCR and SCR** in land-based industry and fixed offshore installations.
- **Measures which reduce the NOx factor on gas turbines** offshore, including replacing turbines

- Measures which reduce NOx emissions from flares
- Optimization of processes in land-based industry
- Energy efficiency by battery hybridisation on *existing* sources

2.4 Other conditions for support

- *Measures decided to be implemented*

  No support is given for measures that have already been implemented or decided implemented. This applies until the time of the NOx Fund's first decision on support/ postponement/ rejection to the application. If the NOx Fund decides to postpone the support decision, then the applicant may decide to implement the measure at own risk and still qualify for support later.

  Decided means that a signed contract for delivery of the equipment covered by the NOx measure. An exception may be made to this rule if the contract shows that the measure will not be implanted unless financial support is provided from the NOx Fund.

- *Sources covered by the Agreement*

  Support is only granted for measures that impact on NOx emissions from sources which are covered by the NOx Agreement and which are part of the emission reports that provide the basis for the authorities' calculation of total emissions under the agreement.

  If available, the Fund will consider historically reported NOx emissions to determine the NOx reductions which are basis for the support decision. A higher reference emission level than what reported emissions indicate must be well justified.

- *Taxable NOx emissions*

  The NOx Fund only takes taxable NOx emissions from the emission unit into consideration when calculating the NOx reduction achieved and the associated financial support. Land-based industry encompassed by the NOx Agreement may also include non-taxable emissions.

  The activity level that can be documented after carrying out the measure provides the basis for the final calculation of the NOx reduction and support payment. If the documented NOx reduction with the NOx-reduction measure(s) in operation is less than what is stipulated in the support statement, the support payment will be reduced accordingly. This applies if the actual level of cleaning, energy efficiency effect, energy transition or extent of operation are less than expected.

  For measures which require reporting of operational data during the verification stage in order to document the actual NOx reduction achieved, the enterprise must document operational data for up to 12 months.

- *Duration*

  The applicant must be able to substantiate a duration in NOx-taxed area of at least 2 years for the emission unit and measure.

  For mobile units, a regular presence in the NOx taxable area is required. A constant presence is not required for mobile units. It is the average annual reduction which is representative for a two-year period or more that forms the basis for the support.

- *Public support schemes*

  Note that state support schemes may reduce or cancel their support if support is granted by the NOx Fund. This should be checked on a case-by-case basis.

The NOx Fund may require that funding from public support schemes be clarified before the matter is finally decided by the NOx Fund.

- *Statutory requirements*
  The NOx Fund does not grant support for measures to be implemented as a result of statutory requirements. For example, measures as a result of minimum requirements in public tenders, requirements pursuant to the Pollution Control Act or IMO requirements regarding NOx emissions from maritime operations.

  Note that new build ships and other maritime units are subject to IMO Tier III requirements if keel laying takes place after 1 January 2021 and operate in the ECA area south of 62°N. Tier III therefore constitutes the reference state for new build units after that date. From the Fund's side, NOx-Tier III is used as reference emission level regardless of the operating area is within or outside the ECA zone. Hence, the potential for NOx reduction and associated support is small for new built vessel with keel lay from 1 January 2021 and onwards.
  Tier III may also be used as emission reference level of ships with keel laying before 1 January 2021 if they due to their operating area (like coast of North America), need to be equipped to meet Tier III compliant technology. This applies, for example, to new cruise ships planned for operation also in US waters.

- *National highway ferry routes*
  For ferries sailing as a part of the national highway systems and tenders and contracts are announced by the Norwegian Public Roads Administration. We expect the emission requirements to be with the highest possible level of zero emissions solutions, regardless of whether support is granted by the NOx Fund or not. The NOx Fund therefore sets the reference state as the NOx emissions level stipulated in the tender and contract.

- *County ferry routes*
  From 1 January 2019, support to ferries in county authority ferry networks with contract starting date 1 January 2021 or later, is handled in accordance to guidelines applicable for national highway ferry routes. This means that the NOx Fund only supports NOx reductions beyond what is stated in the tender and contract. This does not apply to tenders announced before 1 January 2019 or to ferry networks where the NOx Fund already has applications for processing from before 1 January 2019. This also does not apply to high speed light craft networks. For these, support principles from before 2019 applies.

- *Support ratio and reduction scope*
  No support is granted for measures where support from the NOx Fund constitutes less than 10% of the additional cost of the measure.

  Measures where the fuel saving effect is less than 2% or the measure gives less than 1 ton NOx reduction are not eligible for support. For the 2% rule, particularly significant reductions can provide exceptions.

- *NOx factor*
  The NOx factor used in order to calculate emissions before measures are implemented on existing sources, cannot be higher than the one which has been used in the quarterly reporting of NOx emissions to the NOx Fund.

- *The maturity of the project*
  Projects that include NOx-reducing measures which qualify for support for more than NOK 100 million, mainly comes from the offshore industry and land-based industry. To ensure high likelihood of implementation, the NOx Fund requires the project to have reached a given maturity level before

processing the application. To define the maturity level, standard project terms (DG0-DG4, see below), or other similar definitions may be used. DG1 must be passed before the application is processed in the NOx Fund.

- Pre-DG0: Pre-studies and project preparation
- DG0 decision: Interesting project
- DG0-DG1: Feasibility analyses
- DG1 decision: Feasible within current decision criteria
- DG1-DG2: Study of the concept
- DG2 decision: Concept selected
- DG2-DG3: Design and preliminary plan
- DG3 decision: Contract awarded
- DG3-DG4: Construction and implementation
- DG4: Start-up operation
- Post-DG4: Operation

DG1 must be passed before the application is processed by the NOx Fund for projects that include NOx reducing measures that qualify for grants of more than NOK 100 million.

Other restrictions and conditions

Conversion to LNG as fuel is not supported on LNG bunkering vessels and other gas vessels where technical possibility of operation at LNG is very likely to be installed without support from the NOx Fund.

The financial profitability of a measure without support will be assessed for applications that qualify for support over NOK 30 million. Applications for support to measures that are particularly profitable without support could be rejected or have the level of support reduced.

Older units (e.g. ships), which are being rebuilt for use other than what the unit was originally designed for, are treated as newbuilds in relation to support conditions.

2.5 Support for leased measures

The NOx Fund has decided that support can be granted for leased measures under certain conditions.

The following conditions must be met:

- An agreement must be submitted which has been signed by the parties involved in the measure's cash flow, confirming that the parties agree on the distribution of the support disbursed by the NOx Fund (from the owner to the user of the technology).
- The support is based on the investment costs, which must be documented by the owner of the technology.
- The leasing model must be presented, showing that it facilitates procurement after expiry of the lease, as well as providing incentives for such.
- Applications must show how support from the NOx Fund will enable the measure.
- The user of the technology (the owner of the object, e.g. the ship) must be listed as the applicant and recipient of the support.
- No support is granted for lease periods of less than 2 years.
- Lease periods of 2–3 years: Credited NOx and support constitutes 50% of the support the measure is eligible for if it is installed permanently.

- Lease period of 3–4 years: Credited NOx and support constitutes 60% of the support the measure is eligible for if it is installed permanently.
- Lease period of 4 years or more: Credited NOx and support constitutes 70% of the support the measure is eligible for, if it is installed permanently.
- In connection with procurement of a permanent installation on the ship at the end of the lease: Credited NOx and support constitutes 100% of the support the measure is eligible for if it is installed permanently.

Applications for support for leased NOx measures will be processed like all other measures.

Support for leased measures will only be granted once per measure, based on the investment cost. In other words, no more support will be granted if the installation is leased again.

2.6 Closed support schemes

The following measures and operating conditions, which previously have received support, are no longer eligible for support:

- Infrastructure expansion:
  - Support for LNG infrastructure.
  - Support for land-based installations for shore power unless installations on land and vessels have the same owner and must be viewed as a single investment.
- Support for LNG on LNG bunkering ships
- Shore power for ships not sailing domestically.
- NOx reduction from offshore vessels operating between platforms on the continental shelf, and other modes of operation which are not subject to the NOx tax.
- Non-taxable industrial emissions which are not covered by NACE codes in the new NOx Agreement.
- Support to merely engine replacement (without additional NOx cleaning). The possibility for exceptions ended 1 January 2019.
- Support to specified energy efficiency measures on new build, except for battery hybridisation combined with Tier III technology. Support ended from 1 January 2019.
- Support to emission reductions which follows from signed contracts for low and zero emission in county authority tenders.
- Support for measures where the fuel-saving effect is less than 2% and provides less than 1 ton of NOx reduction and which could be derived through an account of energy withdrawals (kWh) before and after measures.
- LED lighting. Applications processed from 24.04.2019 are not granted support.

The following support programmes are no longer eligible for support:

- Support program for fishing vessels with 10% additional investment support to fishing vessels that install battery power and/or LNG as fuel. Application deadline was 31.12.2019.
- Support program with 10% surcharge on support for the re-installation of SCR facilities on fishing vessels applied to applications received during the period 1.1.2018 - 31.12.2018 and with implementation from 1.1.2018 - 31.12.2019.
- Support program for retrofit of battery systems on existing PSVs with SCR system. Application deadline was 31.06.2018.
- Support program for offshore rigs. Application deadline was 31.12.2018.
- The two support programs; 1) Support for the replacement of catalyst elements, 2) Support for annual service at SCR systems on fishing boats, has been replaced by a common support program which in addition includes support for the replacement of components on SCR systems.

3. Support programmes

3.1 Support for urea consumption

3.1.1 Urea consumption on ships and rigs

Support is granted for urea used in SCR systems on ships and mobile rigs. The support will be granted after documented purchasing of urea, with retroactive effect of a maximum of 3 years from the delivery date. Support will not be granted in advance.

The current support rate is NOK 2.50 per kg urea, with a ceiling of 80% of the cost. For the time being support to urea consumption is decided to be granted until the end of 2022, although adjustments in support rate and maximum share of cost might occur earlier.

Conditions for receiving support associated with urea consumption:

- The enterprise's costs are not covered by clients or others.
- The urea is used in Norwegian waters.
- Emissions measurements and service is carried out in accordance with the Nox Fund's measurement and service requirements applicable to SCR systems.
- The emissions measurement must show that the SCR systems provides the level of cleaning it was designed for.

3.1.2 Urea consumption in land-based industry

Support for urea or other NOx reactants used in land-based industry, with the NACE codes stipulated in the NOx Agreement (17.1, 19.2, 20, 23.5, 23.9, 24.1 and 24.4) is assessed on a case-by-case basis.

In general, no support is given for when the reactant cost can be included in the product price.

3.2 Support for measuring NOx emissions

The NOx Fund grants support for measurements in order to improve the documentation of NOx emissions. All measurements must be conducted by a company that is accredited to perform emission measurements or which has been approved by the Norwegian Maritime Authority or similar authorities for measurements in other sectors than maritime. The NOx Fund can grant support for two measurements per vessel/rig in connection with measures – one before and one after measures are implemented. Support is also grated to measurements carried out to check that SCR system functionality is maintained over time.

The following support is granted:

- NOx measurements on ships: NOK 60 000 per vessel, max. 70% of costs.
- NOx measurements on mobile rigs: NOK 100 000 per rig, max. 70% of costs.
- NOx measurement on ships with SCR: NOK 60 000 per vessel, a maximum of 70% of costs incurred. Support is provided with an extra NOK 3 000 per engine with extra NOx measurement.
- NH_3 measurement on ships with SCR: NOK 25 000 per vessel, a maximum of 70% of the costs incurred. Support is provided with an extra NOK 3 000 per engine with extra NH_3 measurement.

Support is granted after the measurement has been documented. Support will not be granted in advance. Applications for support must be sent after the emissions measurement has been conducted, with the measurement report and documentation of the costs attached.

When vessels have several identical engines, it is enough to perform a measurement on one engine, if other documentation indicates that the condition of the engine measured is representative for all the others. This does not necessarily apply to units with SCR systems. See specific requirements for such systems.

3.3 Support for service and maintenance of SCR systems on vessels

The NOx Fund has established this support program to help maintain the functionality of the SCR systems, and the NOx reduction, over time. However, it is noted that the companies are obliged to maintain the NOx-reducing effect by 2025 for measures which have received support from the NOx Fund, as stated in the Participant Agreement (section 2d) on which the company has signed.

The support program includes support for the following service and maintenance of SCR systems on vessels:

• Investigations and adjustments of SCR systems performed by external service personnel.

• Replacement of catalyst elements.

• Replacement of other components.

• Supplementation with new components.

The following applies to the scope of the support:

• Support is granted with 50% of the documented costs, up to a limited amount of NOK 500 000 per vessel for the period 01.01.2016 - 31.12.2020.

• Support is provided within a total support framework of NOK 25 million for the years 2019 and 2020. The NOx Fund may consider expanding the framework and the time period when needed.

The following support conditions applies:

• Support is only given to SCR on ships and fishing vessels.

• Support is provided after the accrued cost. It is also possible to apply for financial support in advance of completion if the company wishes to do so.

• Support for service is given maximum once per calendar year.

• Support for replacement of catalyst elements is given maximum every 5 years.

• Component replacement support is provided for every 5 years for components which are easily worn and components which are no longer supported by the supplier.

• Support for replacement of other components is provided for maximum 10 years.

• When supporting new components which are not on the SCR system upfront, it must be proved likely that this will improve the SCR system functionality.

3.4 Specific requirements for emission measurement and service of SCR systems

3.4.1 Measurement requirements to new SCR systems supported by the NOx Fund

When installing a new SCR system, one of the following options for determining NOx factor shall be used:

1. NOx factor for engine is determined by measurement on board after SCR system with and without urea dosing.

a. Where multiple main and auxiliary engines of the same type are installed on a ship, it is enough that measurements from one engine can be used to calculate the NOx factor for all similar engines.

b. If the emission factor is determined by a qualified measurement company, the measurements shall be carried out in accordance with NOx Technical Code 2008, 6.3 "Simplified measurement method". For main engines, the emission factor shall be calculated from the weighted values for the current test cycle. For auxiliary engines the emission factor shall be established at 50% engine load.

2. NOx factor before and after SCR calculated based on EIAPP certificate and associated NOx Technical File (only applicable to TIER III certified engines).

3. To the extent that national or international rules and approval schemes for the installation and operation of continuous measuring equipment for NOx are established, such measurements can be used as a basis for reporting and self-declaration.

If there are several engines on board with different NOx factors, a common NOx factor for the ship can be calculated according to weighting according to installed power or average fuel flows. The NOx Fund shall be informed through self-declaration, or when requesting background data for quarterly reporting of NOx emissions.

3.4.2 Measurement requirements after 5 years of operation

After 5 years of operation of the SCR systems, optionally 5 years after the previous 5-year inspection, it must be documented that the SCR is still functioning properly and one of the following requirements must be fulfilled related documentation to the NOx Fund:

1. On board measurement: Measurement of NOx and NH_3 emissions on all engines with SCR systems in operation. One main engine is tested at all loading points, while the remaining equal main engines are tested at a representative load point. All auxiliary engines with SCR must be tested at 50% load. In order to avoid that a large part of the fleet risks not being approved in a transitional phase, the threshold value for NH_3 is set at 40 ppm (at 15% O2) at the beginning, but with a long term goal of reducing this limit value to 20 ppm over time.

2. Service on SCR systems and limited on board measurement: Service report showing that the SCR systems have been examined, service performed and that all engines with SCR systems are functioning. Service must be carried out in accordance with the supplier's recommendations on scope and frequency. In addition, NOx and NH_3 must be measured on at least one main engine at an engine load in the range of 50-75% and an auxiliary engine at 50% load. Engine shall be selected by the measuring company from the engines available for operation.

3. Continuous measurement: The company shall document on all engines with SCR that the continuous measurement system (for NOx and if relevant NH_3) has been serviced and calibrated in accordance with the supplier's recommendations. Measurement results from the last reporting quarter, must be able to be

presented. In addition, there must be confirmation from an external competent body (e.g. SCR supplier) that the SCR systems and measuring equipment are functioning properly.

4. EIAPP + NOx Technical file: If the IMO and / or the Norwegian Maritime Directorate provides a regime for control of operational compliance with TIER III requirements, then such a regime can be used to show that the SCR systems perform in accordance with EIAPP and associated NOx technical file.

For ships located outside Norwegian waters, the 5-year time limit may be postponed until the ship is back in permanent operation in Norway. The NOx agreement requires that NOx measures must be operated in NOx taxable speed regardless of how long since the measure was implemented.

3.4.3 Service Requirements

It should be documented that SCR facilities supported by the NOx Fund follow the supplier's recommendations for service. Service can be performed by the company itself according to the supplier's recommendations, but the documentation requirements will still apply. The NOx Fund will verify that all the recommended services have been performed 3 years after the SCR was new, or optionally 3 years after the last 5 years inspection.

Note that for vessels located outside Norwegian waters, the 3-year time limit can be postponed until the vessel is back in permanent operation in Norway. The NOx Agreement requires that NOx measures (including SCR) must be operated at NOx taxable speed, regardless of how long since the measure was implemented. This is also stated in most of the letters of commitment related to the NOx Fund's support.

4. Application review steps

4.1 Application

The enterprise fills out the application for support, optionally with the help of other parties. The NOx Fund will answer questions during this process if needed.

The NOx Fund's application form for support must be used and can be found on our website. Appendices may be used if the format does not fit the applicant's need to provide information.

The application for support for NOx-reducing measures must be sent to the Business Sector's NOx Fund by email (post@nox-fondet.no).

The NOx Fund must receive the application at least 4 weeks prior to a board meeting of the application shall be handled at this meeting.

4.2 Quality assurance of application and recommendation

The NOx Fund receives the application, register the data and files the application. Then the application is sent to a third party (DNV GL) for quality assurance purposes.

If any further information is required or information needs to be changed, this will be done in conjunction with the applicant.

The quality assurance results in a recommendation from the third-party regarding support.

4.3 Prioritizing of applications

When the amount of qualified application for funding exceeds the NOx Fund's available budgets, the NOx Fund must prioritize between applications.

Important aspects which will be considered in the prioritizations are:

- Effective rate of support. Meaning that measures with low cost for the NOx Fund per kg NOx reduced will have a positive effect on the support opportunities.
- Certain duration of the measure. This means that a secure technical good function on the measure and likely presence of the emission source in taxable area will have a positive effect on the support opportunities.
- The size and duration of the NOx reduction during the Agreement period. This means that large reductions with a certain effect throughout the entire Agreement period will have a positive effect on the support opportunities.
- The applicant's total granted and applied for support within a given period, including the number of applications and the total amount of support. In the case of particularly large applications, or several applications, the reduction of support in relation to ordinary support conditions can be introduced.

In addition to the above points, the NOx Fund can consider other issues specific to the emission unit, technology or applicant.

Prioritizing of applications can give the following results for each application:

- Letter of approval in accordance with ordinary support conditions.
- Reduced support in relation to ordinary support conditions.
- Postponement and new consideration at the next board meeting. In this case, the applicants with a high effective support rate will be encouraged to re-apply with a lower requested amount of support to ensure a higher prioritisation in the next prioritisation round.
- Rejection, even if the measure initially qualifies for support.

4.4 Decision and letter of approval

The recommendation to grant support is disclosed to the NOx Fund's Board of Directors, and then reviewed and decided by the board. The NOx Fund writes a letter of approval and sends it to the enterprise.

The NOx Fund publishes information about grants which have been approved on its website. Applicants may opt out of this by stating that their application is confidential. Information about the application will then not be published until the measure has been implemented.

4.5 Implementation

Usually there is not much correspondence between applicant and the NOx Fund during the implementation phase.

The NOx Fund often receives a short update on the status of the project when major milestones are met. The NOx Fund may also ask for a project status update.

The NOx Fund must be informed immediately if the measure is cancelled. This is important, in order to release allocated funds in order to grant support to other measures.

4.6 Self-declaration

The enterprise must submit a self-declaration which documents that the measure has been implemented, the emission reduction achieved during operations, and the costs.

If a measure requires the reporting of operations data for up to 12 months, the applicant may submit several self-declarations (main one first, then later updated with operational data) and receive partial support disbursements throughout the verification period.

The normal (but not required) procedure is for the first self-declaration to contain confirmation that the measure has been completely implemented, documentation of the costs, emission measurements, and the first period of operations data. This usually happens 3 months after the measure has been put into operation. The following declaration(s) then consists of a quarterly operational data update.

If the operational data is sent periodically, the disbursements will be made after the self-declarations have been received. For example, operations data for the first three months may qualify for 25% of the support, 50% after 6 months and 100% after 12 months.

Typical operational data to be reported are consumption of relevant types of fuel and electricity, urea consumption, continuous emission measurements (if available) and other indicators of the use and effect of the NOx reducing measure.

The enterprise must send a self-declaration with all relevant documentation as soon as possible. The NOx Fund may withdraw all the support granted, if the enterprise significantly breaches its obligation to submit self-declarations, including:

- If the NOx Fund has not received the first self-declaration within 6 months of completion and deployment of the measure.
- If the measure has not been implemented within 12 months of the implementation date stated in the letter of approval. A postponement of the deadline may be considered if applied for in advance.

The NOx Fund's self-declaration form must be used and can be found on our website. If the format does not fit the applicant's need to explain the situation, appendices may be used.

All self-declarations must be sent to: post@nox-fondet.no.

4.7 Quality assurance of the self-declaration

A third-party (DNV GL) will perform quality assurance of the self-declaration for the NOx Fund. If necessary, DNV GL will contact the enterprise and ask for any information that is missing or to check any details and, if necessary, to correct the information. The result of the self-declaration submitted and DNV GL's review and calculations will yield the verified NOx reduction which can be ascribed to the measure and that will provide the basis for the support disbursement. The support recommended will be calculated based on the verified NOx reduction multiplied with the support rate, upwards limited by the maximum grant stated in the support statement letter. Note that the NOx reduction that is used as a support will be calculated based on the methods described in the decision letter and otherwise described in this guideline. The data provided by the applicant during the application phase will not be used if these have changed when the measure has been implemented.

4.8 Disbursement of support

The NOx Fund will write a disbursement letter based on the verified result of the self-declaration, and the letter will be sent to the applicant by email. The applicant's authorized signatory will sign the letter and return it to the NOx Fund.

All signed disbursement letters must be sent to: post@nox-fondet.no.

The amount stipulated in the returned disbursement letter from the NOx Fund, will be sent for disbursement. Disbursements are made on a weekly basis.

4.9 Subsequent follow-up

After the support is disbursed, the NOx Fund may follow up the emission unit's presence in Norway (for mobile sources) and level of use.

The applicant is under an obligation to notify the NOx Fund if the status of the presence in Norway changes considerably compared with the operations specified in the support disbursement document, if this happens within 24 months of the measure being put into operation.

Full or partial repayment of the support must be expected if:

- The object where the measure is installed is closed less than two years after the measure was put into operation.
- The object is sold abroad and will no longer operate in a NOx-taxable area if this happens less than two years after the measure was put into operation.
- The object is moved elsewhere for long-term operation, without any possibility of NOx-taxable operation if this happens less than two years after the measure was put into operation.

Sanctions from the NOx Fund must also be expected if the enterprise breaches its obligation to operate the emission-reducing measure in NOx-taxed area throughout the entire period of the NOx Agreement 2018–2025.