Factsheet for new measures under Article 13 of Marine Strategy Framework Directive 2008/56/EO

This measure fact sheet is the result of coordination between the UBA project Implementation of the Marine Strategy Framework Directive (MSFD) in Bulgaria – Development of Programmes of Measures under Article 13', carried out by Fresh Thoughts/Intersus, and the EC project (DG Environment) 'Technical and administrative support for the joint implementation of the Marine Strategy Framework Directive (MSFD) in Bulgaria and Romania – Phase 2", carried out by ARCADIS-Belgium.

Measure characteristics	**Management area:** - ***Black Sea***	**Code: BLKBG** **№ of measure: 22**
Measure title	Limiting the generation of underwater noise and energy in the marine environment from offshore installations (platforms)	
Short, precise description of the measure	Planning and implementation of the measure is necessary due to the following reasons: - At present, despite existing research, there is no clarity on the impact of energy sources (oil and gas) on the marine environment and in particular on the marine mammals. - Increasing numbers of dead dolphins (adult and minor) have been found in recent years, including the Harbour porpoise (Phocoena phocoena), the Common bottlenose dolphin (Tursiops truncatus) and the Short-beaked common dolphin (Delphinus delphis); Causes of death need to be identified and better understood. Implementation of the measure include the following activities: 1. Study the limit (threshold) values beyond which proven underwater noise could negatively impact marine mammals. 2. Introduce threshold values for underwater noise in Bulgarian legislation due to activities for exploration and production of oil and natural gas, based on the results of the studies. 3. Specify the requirements that have to be followed when conducting the legislative procedures for the exploration and extraction of oil and gas, based on the results of studies. 4. Regulate the control requirements.	
EU measure category	*Categorisation of the measure in accordance with the "PoM Recommendations":* **2a**	

Key Types of Measures	KTMs as defined in the „PoM Recommendations“. Measures can be categorised in one or multiple KTMs. **KTM 28 Measures to reduce inputs of energy, including underwater noise, to the marine environment** KTM 37 Measures to restore and conserve marine ecosystems, including habitats and species
Environmental targets	*Categorisation of the measures in accordance with the nationally defined operational environmental objectives.* During the preparation of the Initial assessment of the marine environment (Art. 8), determination of criteria and definitions of good status, environmental targets and indicators for achieving them (Art. 9 and 10) and the preparation of monitoring programs (Art. 11), such targets were not developed / revised (Descriptor 11). The reason is the significant insufficient data and lack of knowledge on the impact of underwater noise for marine waters.
Descriptors	*Categorisation of the measures to the descriptors in lined with Annex 1 MSFD. The descriptors are identified by their short form:* **D1- Biodiversity (marine mammals)** **D11 – Energy lines**
Main pressures	Using the analysis carried out in 2012 as a basis, categorisation of the measures in accordance with the pressures defined in Annex 3 MSFD, Table 2: - C Other physical disturbance/Underwater noise
Main drivers	The sectors/activities targeted by the measure • Setting and operation of temporary and / or permanent structures offshore (other than for energy production) • Setting and operation of submarine cable and pipeline • Setting and operation of temporary and / or permanent platforms offshore for energy production (oil and gas)
Characteristics	Using the analysis carried out in 2012 as a basis, categorisation of the measures in accordance with the characteristics defined in the “PoM Recommendations”: - Marine mammals
Link to other directive/legislation/ policy	Aligning objectives with other legal commitments Convention on Environmental Impact Assessment in a Transboundary Context (ESPOO Convention) Directive 2001/42/EC of the European Parliament and the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment - SEA Directive; Directive 2011/92/EU on the assessment of the effects of certain public

	and private projects on the environment. The last one has been amended by Directive 2014/52/EU of the European parliament and of the Council of 16 April 2014 (Environmental Impact Assessment (EIA) Directive). **National legislation**: Environmental protection Law Regulation on the conditions and requirements for environmental assessment of plans and programs, transposed Directive 2001/42/EC (SEA Directive) Regulation on the conditions and the order for implementing environmental impact assessment,transposed Directive 2014/52/EC (EIA Directive)
Necessity for transnational regulation	Information as regarding the necessity for regulations at EU, regional and international level to achieve MSFD environmental objectives. No
Mode of implementation	*Stating the implementation process in line with the „PoM Recommendations"; multiple options possible:* • Technical • Legislative
Implementation zone	*i.e. the spatial impact of the measure: MS land / FW, WFD TW, WFD CW, Territorial waters, EEZ* Exclusive Economic Zone (EEZ) of the Republic of Bulgaria
Contribution of the measure to achieving the target	– using technical information Underwater noise can have significant negative impact on marine animals and their communities. The initial assessment of the Bulgarian marine waters, published in June 2013, did not include an assessment of the underwater noise, energy and its impacts. At the moment there is not enough information on the sources of underwater noise and energy. Noise can cause two main adverse effects on mammals: gaps in distribution caused by impulsive sounds and communication difficulties, caused by low frequency noise. The study will help to identify sources of underwater noise, energy (vibes) and their impact. The establishment of a legal framework and penalty system will enable the Bulgarian authorities to address the problem of underwater noise at the source. The implementation of the measure will contribute to reducing underwater noise. The study will gather information needed to set environmental targets for achieving Good Environmental Status (GES) on Descriptor 11 in 2018 (revision of Article 10). The collected data will be used for planning of specific measures to reduce / prevent negative impact on the marine environment in the second cycle of the MSFD.

Transboundary impact	*Information on the impact of the measures on transboundary neighbours* The implementation of the measure is not expected to have negative effects on the marine environment of neighbouring countries.
Costs	1) Planning and implementation of research studies (tender procedure, costs for contracting projects, potentially costs for monitoring equipment). 2) Amendment of national legislation (costs for expert drafting meetings). 3) Costs for enforcement/controls (incl. increasing the number of control persons /inspectors).
Effectiveness	Effectiveness of the measure in reaching targets (either qualitative description, or according to indicators: indicators for environmental targets and for GES, proposal for statistical indicators in support of Art. 18 interim reports Research has shown increases in ambient noise levels in the past 50 years, mostly due to shipping activity. This has the potential to mask biological signals (e.g. communication between marine mammals and fish), reducing the range over which individuals are able to exchange information. It is also known that marine mammals alter their communication signals in noisy environments. It is further likely that prolonged exposure to increased ambient noise leads to physiological and behavioural stress. Thus, chronic exposure to noise can permanently impair important biological functions and may lead to severe consequences. The studies will help to estimate the spatial and temporal impact on the environment (the total period and total habitat loss by impulsive noise sources). This research will help to establish a baseline level and will contribute to elaborating targets and indicators on D11 to enable a proper monitoring system. In addition, setting up a system of permitting and penalties will help to encourage the sources of underwater noise to reduce their impacts. The measure, along with the establishment of a registry, will lay the foundation upon which measures to reduce underwater noise can be implemented.
Indicator(s) to measure effectiveness	Reduction in: 1) short duration—loud, low and mid frequency impulsive noise (which includes sonars) (10 Hz to 10 kHz); 2) long lasting-low frequency (continuous) noise (ambient noise)

Socio-economic assessment	The measure will have a **medium effectiveness** in reaching MSFD objectives/environmental targets by setting thresholds to reduce underwater noise generated from existing sources and set up a permitting and penalty system. The measure will contribute to monitoring of underwater noise by analysing limits to noise. The 1st step of the measure, which constitute the scientific study of underwater noise, will led to moderate to high costs. Costs include staff salaries and potentially purchasing new equipment to study threshold values. The 2nd and 3rd steps will incur administrative costs to set up a permitting and penalty system. Additional costs will incur to monitor whether the activities suspended do not violate their permits. The administrative costs and the costs for monitoring (control) activities are moderate. The cost-effectiveness of the measure, i. e. comparing costs with potential benefits in terms of reaching MSFD objectives, can be described as being of medium level. Unfortunately, no quantitative assessment of the cost-effectiveness could be conducted, as especially the information on the benefits (in a quantified form) is not available.
Coordination	*Selection of the governance level that will coordinate the implementation of the measures, i.e. local, sub-national, national, bilateral, sub-regional, regional, EU-level, international* at national and local level
Technical feasibility	*Options:* • Applied; limited experience / uncertainties • New development
Body responsible for the measure implementation	Ministry of Environment and Waters (MoEW), Black Sea Basin Directorate (BSBD), Ministry of Energy, Ministry of Regional Development and Public Works
Financing opportunities	*Including EU-cofinancing* National funding (Environmental Protection Fund) or European financing through project execution under call related to marine environment
Temporal coverage	**2017-2021**
Difficulties in implementation	*Provide information on the potential challenges that could likely faced in implementation.* This measure directly depends on the implementation of the following measure “Upgrading of the established register for ambient and acute (impulsive) noise following standardised mandatory reporting requirements with aim to became operational tool“. During the implementation of the measure, it is possible the competent

	authorities might face the following difficulties that could delay or even stop the application of the measure: - lack of funding for the purchase of equipment to cover the whole part of the Bulgarian Black Sea marine region. - lack of funds to conduct research in the scope of this measure. - potential delays to granting permission or even rejection of other institutions / Concession contractors for installation of equipment and its regular maintenance.