



South Stream Offshore Pipeline – Turkish Sector

**Environmental and Social Impact
Assessment (ESIA)**

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URS

This report has been prepared by URS Infrastructure & Environment UK Limited on behalf of South Stream Transport B.V.

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Glossary

Accession

"Accession" is the act whereby a state accepts the offer or the opportunity to become a party to a treaty already negotiated and signed by other states. It has the same legal effect as ratification. Accession usually occurs after the treaty has entered into force.

Acropolis

A citadel or fortified part of an ancient Greek city, typically one built on a hill.

Actual human rights impact

An "actual human rights impact" is an adverse impact that has already occurred or is occurring.

Adverse human rights impact

An "adverse human rights impact" occurs when an action removes or reduces the ability of an individual to enjoy his or her human rights.

Aerobic Respiration

Respiration requiring oxygen.

Affected Party/Parties

A country involved in a transnational linear project whose territory may be significantly adversely affected by the activity in a Party of Origin. See Party of Origin below.

Algae

Algae are photosynthetic organisms that occur in the sea, in freshwater and moist habitats on land. They vary from small, single-celled forms (e.g. phytoplankton) to complex multicellular forms (seaweeds).

Anaerobic Respiration

A form of respiration using electron acceptors other than oxygen.

Anaerobic

Relating to the absence of free oxygen.

Anionic Surfactant

Chemicals that act as a surface agent to reduce the surface tension of liquids. Commonly used in synthetic detergents but also used in industrial processes such as plastic and paint manufacture.

Anoxic

Relating to or marked by a severe deficiency of oxygen.

Anthropogenic

Relating to, or resulting from, the influence of human activity on the environment.

Archaeological context

The physical setting, location, and cultural association of artefacts and features within an archaeological site.

Archaeological excavation

A programme of controlled, intrusive fieldwork with defined research objectives which examines and records archaeological deposits, features and structures and, as appropriate, retrieves artefacts, environmental evidence and other remains within a specified area or site (on land or underwater). The records made and objects gathered during fieldwork are studied and the results of that study published in detail

appropriate to the project design and the significance of the results.

Archaeological sites

Locations with physical evidence for where people once lived, hunted, farmed, camped, held ceremonies or were buried.

Archaeology

The scientific study of the physical evidence of past human societies recovered through collection, artefact analysis, and excavation. Archaeologists not only attempt to discover and describe past cultures, but also to formulate explanations for the development of cultures. Conclusions drawn from study and analyses provide answers and predictions about human behaviour that add, complement, and sometimes correct the written accounts of history and prehistory.

Artefact

An object or part of an object that has been used or created by a human and provides physical clues to the activity carried out by humans in the area of discovery. These include worked stone tools and tool-making waste, bone, pottery and metalwork.

Assemblage

A group of artefacts related to each other based upon their recovery from a common archaeological context.

Associated Facility

Defined by IFC PS 1 as: "facilities that are not funded as part of the project and that would not have been constructed or expanded if the project did not exist and without which the project would not be viable".

Atterberg Limits

Tests which identify the consistency and behaviour of sediment

Bacterioplankton

The bacterial component of the plankton.

Bar

Metric unit of atmospheric pressure.

Baseline

Term used to describe existing conditions of the physical, biological, socio-economic, and cultural heritage environmental aspects. The ESIA process assesses likely impacts on baseline conditions.

Baseline Data

Data gathered during the Environmental and Social Impact Assessment and used to describe the relevant existing conditions (see 'Baseline').

Bathymetry

Measuring the depths of the oceans.

Before Christ

Before Christ (BC) is a designation used to label or number years prior to the birth of Christ, as calculated by the Gregorian calendar.

Before Present

Before Present (BP) years is a time scale used to specify when events in the past occurred; standard practice is to use 1950 as the "present", reflecting the artificial alteration of the proportion of the carbon isotopes in the atmosphere due to nuclear weapons testing in the 1950s. The BP scale is generally used for dates established by radiocarbon dating.

Beneficiary

An individual or group of individuals that derive(s) benefit from ecosystem services.

Benthic

Of or relating to the bottom of a sea, lake, or other body of water.

Benthos

Flora and fauna organisms that live on/in sediment at the bottom of a water column.

Bronze Age

The prehistoric period following the Stone Age and preceding the Iron Age characterised by the use of weapons and implements made of bronze and by intense trading activity. It is generally dated from around 3000 BC.

Carbon Monoxide (CO)

Carbon monoxide is a colourless, odourless, and tasteless gas that is slightly lighter than air. It is toxic to humans and animals when encountered in higher concentrations.

Cathodic Protection System

Protections of a metal structure from corrosion under water by making it act as an electrical cathode.

Cenozoic

The Cenozoic Era is the current and most recent of the three geological eras covering the period from 66 million years ago to the present.

Chance Find

An archaeological site or object that was unknown prior to discovery during construction (despite best efforts to identify

all sites prior to construction through cultural heritage surveys).

Chance Find Procedure

Chance find procedure is a project-specific procedure that outlines what will happen if previously unknown physical resources are encountered during project construction or operation. The procedure includes record keeping and expert verification procedures, chain of custody instructions for movable finds, and clear criteria for potential temporary work stoppages that could be required for rapid disposition of issues related to the finds.

Coccolith

A minute rounded calcareous platelet, numbers of which form the spherical shells of coccolithophores.

Comment Form

A paper form through which stakeholders can submit written comments, views and opinions. Comment forms are distributed at public consultation meetings and made available in locations where ESIA documentation is disclosed and made available for comments.

Conservation

The measures taken to extend the life of cultural heritage in ways that will best sustain its significance and heritage values (ICCRROM 1998).

Consultation

The process of formally consulting or discussing a subject. For the purposes of this document, consultation involves two-way communication between the project developers and affected or interested stakeholders.

Copepod

Any of a large subclass (Copepoda) of usually minute freshwater and marine crustaceans.

Critical Cultural Heritage

Critical cultural heritage consists of one or both of the following types of cultural heritage: (i) the internationally recognised heritage of communities who use, or have used within living memory the cultural heritage for long-standing cultural purposes; or (ii) legally protected cultural heritage areas, including those proposed by host governments for such designation (IFC 2012 Performance Standard 8, para 13). To be considered critical, the cultural heritage must be internationally recognised prior to the proposal of the project (IFC 2012, Guidance Note 8, paragraph GN24).

Ctenophore

Any of a phylum (Ctenophora) of marine animals superficially resembling jellyfish but having biradial symmetry and swimming by means of eight bands of transverse ciliated plates. Also called comb jelly.

Cultural Heritage

Cultural Heritage is defined as the heritage that includes artefacts, monuments, groups of buildings and sites that have a diversity of values including symbolic, historic, artistic, aesthetic, ethnological or anthropological, religious, scientific and social significance (UNESCO 1972).

Cultural Landscape

Landscapes which represent combined works of nature and by humans, and they express a long and intimate relationship between people and their natural environment (UNESCO 2007).

Cultural Resources

Movable or immovable cultural heritage objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, spiritual, aesthetic, or other cultural significance. Physical cultural resources may be located in urban or rural settings, and may be above or below ground, or under water. Their cultural interest may be at the local, provincial or national level, or within the international community.

Cumulative Impact

The combination of multiple impacts from existing projects, the proposed project, and/or anticipated future projects that may result in significant adverse and/or beneficial impacts that would not be expected in case of a stand-alone project.

Decommissioning

Planned shut-down of a facility, equipment, plant, etc., from operation or usage. Commencing 2065.

Density ($\sigma\text{-T}$)

$\sigma\text{-t}$ is a quantity used in oceanography to measure the density of seawater at a given temperature.

Diatom

Planktonic algae possessing a siliceous cell called a frustule. Globally, diatoms are the most abundant group within the phytoplankton.

Dinoflagellate

A group of single celled organisms possessing a flagellum (whip like locomotory structure). Many are

photosynthetic organisms and form a major component of marine phytoplankton.

Disclosure

Release of information into the public domain. For the purposes of this document, disclosure refers to the release of the project and EIA/ESIA information to affected and interested stakeholders.

Ecosystem

A biological community of interacting organisms and their physical environment.

Ecosystem services

The benefits people obtain from ecosystems. Following the lead of the Millennium Ecosystem Assessment, ecosystem services are typically classified along functional lines into four broad categories:

- i. Provisioning services: the products people obtain from ecosystems such as food and fibre, fuel in the form of peat, wood or non-woody biomass, or water from rivers, lakes and aquifers. Goods may be provided by heavily managed ecosystems, such as agricultural and aquacultural systems and plantation forests, or by natural or semi-natural ones, for example in the form of capture fisheries or the harvest of other wild foods;
- ii. Regulating services: the benefits people obtain from the regulation of ecosystem processes including, for example, the regulation of climate, hazards, noise, water, soil and air quality, and pollination;
- iii. Cultural services: the cultural, spiritual, and educational benefits people obtain from ecosystems through, for example, recreation and tourism, spiritual or religious

upliftment, or cultural heritage; and

iv. Supporting services: the natural processes that maintain the other services such as soil formation, nutrient and water cycling, or primary production.

Emergency Preparedness and Response Plan

The Emergency Preparedness and Response Plan defines how South Stream Transport plans, prepares and manages incidents and emergencies.

Emergency Response Plan

Emergency Response Plans are required for each high risk emergency incident/ scenario as identified by the Emergency Risk Analysis. Contractors who will be doing the work will be responsible for preparing Emergency Response Plans for their work activities, and specifically those events identified by the Emergency Threat Analysis.

Emergency Shutdown Valve

A valve designed to stop the flow of gas in the pipeline upon the detection of a dangerous event. This provides protection against possible harm to people, equipment or the environment.

Emergency Threat Analysis

Emergency Threat Analysis determines the risks posed by potential emergencies and the need for specific Emergency Response Plans and related procedures as a contingency for emergency events.

Engagement

A process that involves consultation and/or disclosure.

Ethnology

The study of the characteristics of different peoples and the differences and relationships between them.

Environmental and Social

For the purposes of this EIA, the term "Environmental and Social" refer to all environmental, socio-economic and cultural heritage factors of the Project.

Environmental and Social Impact Assessment / Environmental Impact Assessment

Systematic review of the environmental or socio-economic changes a proposed project may have on its surrounding environment.

Environmental and Social Management Plan

A planning instrument that contains the following key elements: mitigation measures, monitoring programme, and institutional arrangements for implementation.

Environmental and Social Management System

A system established to plan, manage, document and monitor an organisation's activities and processes and resultant environmental and social impacts in accordance with requirements of ISO 14001:2004 and IFC Performance Standard 1.

Equator Principles (EP)

A credit risk management framework for determining, assessing and managing environmental and social risk in project finance transactions. The EPs are designed to help financial institutions overcome the challenges of incorporating risks associated

with biodiversity and ecosystem services into their lending decisions.¹

Espoo Convention

The Espoo (EIA) Convention sets out the obligations of Parties to assess the environmental impact of certain activities at an early stage of planning. It also lays down the general obligation of States to notify and consult each other on all major projects under consideration that are likely to have a significant adverse environmental impact across boundaries. The Convention was adopted in 1991 and entered into force on 10 September 1997.

Eutrophication

Excessive nutrient enrichment of a body of water, often leading to detrimental ecological changes.

Exclusive Economic Zone

Seazone prescribed by the United Nations Convention on the Law of the Sea over which a state has special rights over the exploration and use of marine resources, including energy production from water and wind.

Fault

A planar fracture or discontinuity in a volume of rock, across which there has been significant displacement of one side with respect to the other. Rapid movement of faults causes earthquakes.

Fauna

The animals of a particular region, habitat, or geological period.

¹ Definition as per the EP website www.equator-principles.com.

Footprint

The spatial impact/ impression on the seabed or land from a project.

G-20

The G20 is a forum for international cooperation on the most important issues of the global economic and financial agenda. It brings together finance ministers and central bank governors from 19 countries: Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, the Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States of America plus the European Union, which is represented by the President of the European Council and by Head of the European Central Bank.

Gastropod

A class of molluscs comprising slugs and snails, typically having a flattened muscular foot with a head bearing stalked eyes.

Geohazard

Geological or geomorphological situation that represents, or has the potential to develop further into, a situation leading to damage or uncontrolled risk. It includes landslides, seismic faults and volcanic activities, among other situations.

Geomorphology

Refers to the study of the evolution and configuration of landforms and the processes which shape them.

Good International Industry Practice

Good International Industry Practice is the exercise of professional skill, diligence, prudence, and foresight that would reasonably be expected from skilled and

experienced professionals engaged in the same type of undertaking under the same or similar circumstances globally or regionally.

Grievance

Formal complaint by individuals, groups or organisations who feel they have been adversely affected by project-related activities.

Grievance procedure

Process of recording and addressing grievances so that they can be tracked through to a resolution.

Halocline

A vertical gradient in ocean salinity.

Holoplankton

Holoplankton are organisms that are planktonic for their entire life cycle. Examples of holoplankton include diatoms, radiolarians, dinoflagellates, foraminifera, amphipods, krill, copepods, and salps.

Hominin

The group consisting of modern humans, extinct human species and all our immediate ancestors (including members of the genera Homo (e.g. Homo neanderthalensis, Homo erectus, Homo habilis), and various species of Australopithecus, Paranthropus and Ardipithecus).

Hydrochemistry

Water quality refers to the chemical, physical and biological characteristics of water.

Hydrocarbon

A compound of hydrogen and carbon, such as any of those which are the chief components of petroleum and natural gas.

Hypoxic

Oxygen deficiency.

Ichthyoplankton

Term used to describe the fish egg and fish larvae component of the plankton.

Intangible Cultural Heritage

The Convention for the Safeguarding of the Intangible Cultural Heritage (UNESCO 2003) defines the intangible cultural heritage as the practices, representations, expressions, as well as the knowledge and skills (including instruments, objects, artefacts, cultural spaces), that communities, groups and, in some cases, individuals recognise as part of their cultural heritage. It is sometimes called living cultural heritage, and is manifested inter alia in the following domains:

- Oral traditions and expressions, including language as a vehicle of the intangible cultural heritage;
- Performing arts;
- Social practices, rituals and festive events;
- Knowledge and practices concerning nature and the universe; and,
- Traditional craftsmanship.

International Finance Corporation (IFC)

Organisation that is a member of the World Bank and promotes sustainable private sector investment in developing countries.²

International Finance Corporation Performance Standards

The Performance Standards provide guidance on how to identify environmental and social risks and impacts, and are designed to help avoid, mitigate, and manage risks and impacts as a way of doing business in a sustainable way. There are eight Performance Standards that clients must meet throughout the life of an investment by IFC.

Larva

Juvenile form of an animal, differing in shape and appearance from the adult. Larvae undergo metamorphosis before reaching the adult form. Larvae can form an important component of the plankton in marine systems.

Meroplankton

Meroplankton are organisms that are planktonic for only a part of their life cycles, usually the larval stage. Examples of meroplankton include the larvae of echinoderms (such as sea urchins and sea stars), crustaceans, marine worms, some marine gastropods and most fish.

Meteorology

Refers to the study of weather.

² Definition as per the IFC website www.ifc.org.

Methanotrophic

Prokaryotes that are able to metabolize methane as their only source of carbon and energy.

Metocean

Abbreviation of the words 'meteorology' and 'oceanography'.

Mesozoic

Relating to or denoting the era between the Palaeozoic and Cenozoic eras, comprising the Triassic, Jurassic, and Cretaceous periods.

Millennium Ecosystem Assessment

The Millennium Ecosystem Assessment (MA), a collaboration of over 1,360 experts, was published in 2005 and provided the first state-of-the-art scientific appraisal of the condition and trends in the world's ecosystems and the services they provide and the options to restore, conserve or enhance their sustainable use.

Million tonnes of oil equivalent (mtoe)

A unit of energy representative of the amount of energy released by combustion of one million tonnes of crude oil. Conversion of mtoe to bcm were calculated using a factor of 1 mtoe=0.89(bcm).

Miocene

Relating to or denoting the fourth epoch of the Tertiary period, between the Oligocene and Pliocene epochs.

Mitigation Measures

Management measures put forward to prevent, reduce and where possible, offset any adverse environmental or socio-economic impacts. For the purposes of this

document, these measures also include enhancement strategies aimed at increasing beneficial impacts.

Monument

Architectural works, works of monumental sculpture and painting, including cave dwellings and inscriptions, and elements, groups of elements or structures of special value from the point of view of archaeology, history, art or science (UNESCO 1972).

Multi-beam echo sounder

A device that sends beams of sound through water and receives their reflections, the results of which can be processed by a computer to determine depth of the water and map the bottom surface.

Necropolis

A cemetery, especially a large one belonging to an ancient city.

Neolithic

The Neolithic culture (c. 7000-2000 BC) developed animal husbandry and agricultural cultivation, alongside hunting wild animals, fishing and gathering wild foods.

Nitrogen Dioxide (NO₂)

Nitrogen dioxide is one of several nitrogen oxides and is emitted by (and forms from emissions of) cars, trucks and buses, power plants, and off-road equipment. In addition to contributing to the formation of ground-level ozone, and fine particle pollution, NO₂ is linked with a number of adverse effects on the respiratory system.

Oceanography

Branch of science that deals with the physical and biological properties and phenomena of the sea.

OECD Common Approaches

The mission of the Organisation for Economic Co-operation and Development (OECD) is to promote policies that will improve the economic and social well-being of people around the world. The OECD provides a forum in which governments can work together to share experiences and seek solutions to common problems. The OECD Common Approaches are Recommendations of the Council on Common Approaches for Officially Supported Export Credits and Environmental and Social Due Diligence adopted by the OECD Council on 28 June 2012.

Oil Spill Prevention and Response Plan

All contractors and operators of vessels working on behalf of South Stream Transport will be contractually bound to developing and implementing an Oil Spill Prevention and Response Plan which will define actions to be taken to minimise the risks of marine oil spillages, as well as the actions to be undertaken following a spillage.

Organochlorine

Any of a large group of pesticides and other synthetic organic compounds with chlorinated aromatic molecules.

Palaeolithic

Relating to or denoting the early phase of the Stone Age, lasting about 2.5 million years, when primitive stone implements were used.

Palaeontology

The branch of science concerned with fossil animals and plants.

Party/Parties of Origin

A country involved in a transnational linear project where an activity is planned to be undertaken, which may affect an Affected Party. See Affected Party above.

Pelagic

The open part of a water body that is not influenced by the coast or seabed.

Pelite

Clay

pH

Measure of the acidity or basicity of an aqueous solution.

Phenol

A mildly acidic toxic white crystalline solid obtained from coal tar and used in chemical manufacture, and in dilute form (under the name carbolic) as a disinfectant.

Photic zone

The depth zone of the water column in the sea or other water body that is exposed to sufficient sunlight for photosynthesis to occur. Also known as the 'euphotic' zone the depth of which depends on the clarity of the water and consequent light penetration.

Phytoplankton

The plant component of the plankton comprising a variety of organisms. The most common components of marine phytoplankton are the diatoms and dinoflagellates.

Plankton

Minute plants (phytoplankton) and animals (zooplankton) that drift in the surface waters of seas and lakes.

Pliocene

Relating to or denoting the last epoch of the Tertiary period, between the Miocene and Pleistocene epochs.

Polychaete

An important group of segmented marine worms that can be either free-living or tube-dwelling. A major component of the benthos in many areas, polychaete tubes may also form biogenic reefs.

Potential human rights impact

A "potential human rights impact" is an adverse impact that may occur but has not yet done so. Potential impacts are analogous to human rights risks, i.e. the risks that an activity may lead to one or more adverse human rights impacts.

Pre-Commissioning

Pre-commissioning is the process of proving the ability of a pipeline and piping systems to meet operational requirements prior to putting the pipeline into service.

Prehistoric

The time before recorded history and writing. Includes the Palaeolithic, Epipalaeolithic, Neolithic, Copper Age/Chalcolithic/Eneolithic, Bronze Age and Iron Age periods.

Preservation

The preferred sectoral good practice method of treating cultural heritage remains. Where feasible and appropriate,

this involves preserving sites in place (in situ).

Priority ecosystem services

IFC Performance Standard 6 (para. 24) defines priority ecosystem services as:

- i. Those services on which project operations are most likely to have an impact and, therefore, which result in adverse impacts to Affected Communities; and/or
- ii. Those services on which the project is directly dependent for its operations (e.g. water).

The Performance Standards also state that *"when Affected Communities are likely to be impacted, they should participate in the determination of priority ecosystem services in accordance with the stakeholder engagement process as defined in Performance Standard 1"*.

In order to identify priority services in a transparent and systematic manner which supports participation of Affected Communities, priority services are identified in this assessment as those services for which the impacts are assessed to be of moderate or high significance.

Project Area

The Project Area is defined by a 2 km buffer either side of the outermost pipeline. The Project Area has an overall length of approximately 470 km. It extends from the border of the Russian and Turkish EEZs to the border of the Turkish and Bulgarian EEZs in the Black Sea.

Project Area of Influence

Where the project involves specifically identified physical elements, aspects, and

facilities that are likely to generate impacts, environmental and social risks and impacts will be identified in the context of the project's area of influence. This area of influence encompasses, as appropriate:

- The area likely to be affected by:
 - The project and the client's activities and facilities that are directly owned, operated or managed (including by contractors) and that are a component of the project;
 - Impacts from unplanned but predictable developments caused by the project that may occur later or at a different location; or
 - Indirect project impacts on biodiversity or on ecosystem services upon which Affected Communities' livelihoods are dependent.
- Associated facilities, which are facilities that are not funded as part of the project and that would not have been constructed or expanded if the project did not exist and without which the project would not be viable.
- Cumulative impacts that result from the incremental impact, on areas or resources used or directly impacted by the project, from other existing, planned or reasonably defined developments at the time the risks and impacts identification process is conducted."

Project Proponent

The developer, or sponsor, of a project. For the Project, this is South Stream Transport B.V.

Protozoa

A phylum or grouping of phyla which comprises the single-celled microscopic

animals, which include amoebas, flagellates, ciliates, sporozoans, and many other forms.

Public meeting

Open meeting which may be attended by any member of the public. Need not be a meeting required under specific legislation.

Pycnocline

The layer in which the density gradient is greatest within a body of water.

Phytoplankton

Plankton consisting of microscopic plants.

Ratified

sign or give formal consent to (a treaty, contract, or agreement), making it officially valid.

Receptor

The aspect of the environment (air, water, ecosystem, human, fauna, etc.) that is affected by/interacts with an environmental or socio-economic impact.

Residual Impacts

Residual impacts are impacts that remain after mitigation measures, including those incorporated into the project's Base Case design and those developed in addition to the Base Case design, have been applied.

Sacrificial Anodes

A sacrificial anode is the main component of a galvanic cathodic protection system used to protect buried or submerged metal structures from corrosion.

Scoping

Early stage in the ESIA process that appraises the likely key issues requiring detailed assessment. A scoping process (in relation to IFC PS1) is the establishment and maintenance of a process for identifying the initial environmental and social risks and impacts of a project. The aspects of the project (i.e., type, scale and location) along with available baseline data is used to guide the scope and level of effort devoted to the risk and impacts identification in the ESIA. The scoping process is to be consistent with Good International Industry Practice (GIIP) and will determine the appropriate / relevant methods and assessment procedures. The process also involves a mechanism for the collection of comments made by different stakeholders.

Screening

The process by which a decision is taken on whether or not EIA is required for a particular Project.

Seismicity

The frequency, intensity and distribution of earthquakes in a specific area

Sensitivity

The recovery rate of the receptor from significant disturbance or degradation.

Setting (cultural heritage)

The setting of a heritage structure, site or area is defined as the immediate and extended environment that is part of, or contributes to, its significance and distinctive character. Beyond the physical and visual aspects, the setting includes interaction with the natural environment; past or present social or spiritual practices,

customs, traditional knowledge, use or activities and other forms of intangible cultural heritage aspects that created and form the space as well as the current and dynamic cultural, social and economic context (ICOMOS 2005 X'ian Declaration on the Conservation of the Setting of heritage structures, sites and areas).

Shipwreck

The structural remains of a sunken vessel, including the cargo, ship's gear, and the personal belongings of crew and passengers.

Side-scan sonar

Device with an emitter that sends out sounds waves that are reflected back to a receiver and translated into a three dimensional representation of the seabed surface.

South Stream Offshore Pipeline

The overall South Stream Offshore Pipeline covering all three countries (Russia, Turkey and Bulgaria).

South Stream Transport

Previously, the Project was developed by Gazprom during 2009-2011, and then by South Stream Transport AG during 2011-2012. South Stream Transport then moved head office from Switzerland to the Netherlands and established South Stream Transport B.V., in November 2012.

Spill Response Plan

Plan which will be developed and maintained by each Project contractor defining the measures to be taken to minimise the risk of onshore oil spillages and the responses to be taken in the event of a spillage.

Stakeholder

Any individual, group or organisation potentially affected by a project, or which has an interest in, or influence over, a project.

Stakeholder Engagement

As stated by IFC in PS 01 "Stakeholder engagement is the basis for building strong, constructive, and responsive relationships that are essential for the successful management of a project's environmental and social impacts." Thus, it is an activity covering different types of interactions with stakeholders over the life of a project. Can include, but is not limited to disclosure and consultation during preparation of an ESIA Report.

Stakeholder Engagement Plan

A Stakeholder Engagement Plan (SEP) forms part of the ESIA documentation and is intended to provide a plan and implementation strategy to guide stakeholder engagement throughout the project lifecycle.

Stray finds

Isolated finds of single archaeological artefacts, often portable objects, which do not form part of a wider archaeological site.

Study Area

The mapped geographical area in which potential impacts are predicted (as determined through scoping) and therefore warrants investigation during the ESIA process. This is different for each biophysical and social environmental aspect.

Sub-bottom profiler

An acoustic system that determines the nature of sediment layers beneath a water-sediment interface by sending an acoustic signal and receiving its reflection distorted by the partial penetration of the seabed by the signal.

Tectonics

Concerned with the processes which control the structure and properties of the Earth's crust and its evolution through time.

Terrigenous

A deposit made of material eroded from the land.

The Project

South Stream Offshore Pipeline – Turkish Sector.

Transboundary

Crossing a provincial, territorial or national boundary or border.

Transboundary Impacts

An impact which crosses any boundaries between two geopolitical boundaries (i.e. a border).

Transnational Linear Projects

Linear Projects that span multiple countries.

Vulnerable (or disadvantaged)

Term used to describe individuals and groups who may be directly and differentially or disproportionately affected by a project because of their disadvantaged or vulnerable status. This status may stem from an individual's or group's race, colour, sex, language, religion, political or other opinion, national or social origin, property,

birth, or other status. Other factors that may contribute to such a status are gender, age, ethnicity, culture, literacy, sickness, physical or mental disability, poverty or economic disadvantage, and dependence on unique natural resources.

Waste management facility

An installation which receives waste and either: transfers waste to another destination for processing; prepares the waste for reuse or recycling; carries out a recycling or recovery process; or permanently disposes of the waste.

Welding

Fabrication or sculptural process that joins materials by causing coalescence.

Well-being

The IFC Performance Standards do not provide a definition of well-being although they do make reference to the MA in the context of well-being which defines the term as follows:

"Human well-being is assumed to have multiple constituents, including the basic material for a good life, such as secure and adequate livelihoods, enough food at all times, shelter, clothing, and access to goods; health, including feeling well and having a healthy physical environment, such as clean air and access to clean water; good social relations, including social cohesion, mutual respect, and the ability to help others and provide for children; security, including secure access to natural and other resources, personal safety, and security from natural and human-made disasters; and freedom of choice and action, including the opportunity to achieve what an individual values doing and being. Freedom of choice and action is influenced by other constituents of well-being (as well

as by other factors, notably education) and is also a precondition for achieving other components of well-being, particularly with respect to equity and fairness."

Zooplankton

The animal component of the plankton, including holoplankton (animals that are permanently planktonic) and meroplankton (larval and juvenile stages of non-planktonic animals)

Abbreviations and Acronyms

Abbreviation/Term	Description
\$	Dollar
%	Percent
°C	Degrees Celsius
3LPP	Three-layer-polypropylene
ABS	Autonomous Buoy Station
ACCOBAMS	Agreement on the Conservation of Cetaceans in the Black Sea Mediterranean Sea and Contiguous Atlantic Area
AD	Anno Domini
ALARP	As Low As Reasonably Practicable
AP	Action Plan
APEC	Asia-Pacific Economic Cooperation
AS	Anionic Surfactants
ASNT	American Society for Non-destructive Testing
ASTM	American Society for Testing Materials
AUT	Automated Ultrasonic Testing
AUV	Autonomous Underwater Vehicle
BAP	Biodiversity Action plan
BC	Before Christ
bcm	Billion Cubic Metres
BMP	Biodiversity Management Plan
BOD	Biological Oxygen Demand
BOTAS	Turkish Petroleum Pipeline Corporation
BP	Before Present

Abbreviation/Term	Description
BRF	Behavioural Response Function
BUCR	Back Up Control Room
BUNKER	International Convention on Civil Liability for Bunker Oil Pollution Damage
BWM	Ballast Water and Sediments
CATS	Corrective Action Tracking System
CCR	Central Control Room
Cd	Cadmium
CD	Compact Disc
Cells/L	Cells per Litre
CEO	Chief Executive Officer
CFS	Climate Forecast System
CH	Clay of high plasticity
CH ₄	Methane
CHO	Cultural Heritage Object
CIA	Cumulative Impact Assessment
CIP	Community Investment Programme
CMP	Construction Management Plan
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CO ₂ e	Carbon dioxide (CO ₂) equivalent
CO ₂ -eq	Carbon Dioxide Equivalent
CoE	Council of Europe
CPT	Cone Penetration Test
CR	Critically Endangered

Abbreviation/Term	Description
CS	Compressor Station
CSR	Corporate Social Responsibility
dB	Decibel
DDT	Dichlorodiphenyltrichloroethane
dm ³	Cubic Decimetre
DMU	Discrete Management Unit
DNV	Det Norske Veritas
DoTPP	Department of Transit Petroleum Pipelines
DP	Dynamic Positioning
E&P	Exploration and Production
ECA	Export Credit Agency
ECoQO	Ecosystem quality objectives
EEC	European Economic Community
EEZ	Exclusive Economic Zone
EHS	Environmental, Health, and Safety
EIA	Environmental Impact Assessment
EIAAF	Environmental Impact Assessment Application File
EN	European Standards
EN	Endangered
ENVIID	Environmental and Socio-economic Issues Identification
EP	Equator Principles
EPFI	Equator Principles Financial Institutions
EPRP	Emergency Preparedness and Response Plan
EPRS	Emergency Pipeline Repair Strategy

Abbreviation/Term	Description
ERP	Emergency Response Plan
ESIA	Environmental and Social Impact Assessment
ESIVI	Ecosystem Services Identification, Valuation, and Integration
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
ESS	Ecosystem Services
EU	European Union
EU-28	28 member states of the European Union
EWC	European Waste Catalogue
FEED	Front End Engineering and Design
g/m ²	Grams per Square Metre
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GIIP	Good International Industry Practice
GIS	Geographic Information System
GPS	Global Positioning System
GRP	Gross Regional Product
GRT	Gross Registered Tonnage
GSHAP	Global Seismic Hazard Assessment Project
GVA	Gross Value Added
H ₂ S	Hydrogen Sulphide
HAZCON	Hazard Construction
HAZID	Hazard Identification
HAZOP	Hazard and Operability Study

Abbreviation/Term	Description
HCH	Hexachlorocyclohexane
HEMP	Hazards and Effects Management Process
HF SBP	High-Frequency Sub-bottom Profiling
HFC	High Frequency Cetaceans
HFO	Heavy Fuel Oil
HIA	Health Impact Assessment
hPa	Hectopascal
HRA	Health Risk Assessment
HSE	Health, Safety and Environment
HSSE	Health, Safety, Security and Environment
HSSE-IMS	Health Safety Security and Environmental Integrated Management System
IBA	Important Bird Area
ICOMOS	International Commission on Monuments and Sites
IEA	International Energy Agency
IfA	UK Institute for Archaeologists
IFC	International Finance Corporation
IFC PS	International Finance Corporation Performance Standards
IFO	Intermediate Fuel Oils
ILO	International Labour Organisation
IMO	International Maritime Organisation
IPIECA	International Petroleum Industry Environmental Conservation Association
IPPC	Integrated Pollution Prevention and Control
ISO	International Organisation for Standardisation
IUCN	International Union for the Conservation of Nature

Abbreviation/Term	Description
IW	Immediate Water
JBIC	Japan Bank for International Cooperation
kg	Kilogram
kg/m ³	Kilogram per Cubic Metre
km	Kilometre
KPI	Key Performance Indicators
kW	Kilowatt
l	Litre
LF SBP	Low-Frequency Sub-bottom Profiling
LNG	Liquefied Natural Gas
LW	Light Weight
m	Metres
m/s	Metres per Second
m/s ²	Metres per Second Squared
m ³	Cubic Metre
Ma	Million Years Ago
MA	Millennium Ecosystem Assessment
MAE	Marine Antipollution Enterprise
MAH	Major Accidents Hazards
MARPOL	International Convention for the Prevention of Pollution from Ships
MBES	Multi-Beam Echo Sounder
MBSC	Main Black Sea Current
MDO	Marine Diesel Oil
MEG	Mono Ethylene Glycol

Abbreviation/Term	Description
MFC	Mid Frequency Cetaceans
mg/dm ³	Milligram / Cubic Decimeter
mg/kg	Milograms per Kilogram
MGO	Marine Gas Oil
ML	Silt (soil)
mm	Millimetre
MMO	Marine Mammal Observers
MMSCM	Million Standard Cubic Metres
MMSCM/day	Million Standard Cubic Metres per day
MoCT	Ministry of Culture and Tourism
MoENR	Ministry of Energy and Natural Resources
MoEU	Ministry of Environment and Urbanisation
MoFA	Ministry of Foreign Affairs
MoFAL	Ministry of Food, Agriculture and Livestock
mol%	Mole percent
MSV	Multi Service Vessel
MTA	General Directorate of Mineral Research and Exploration
mtoe	Million tonnes of oil equivalent
Mw	Megawatt
N ₂	Nitrogen
NCDC	National Climatic Data Centre
NDE	Non-Destructive Examination
NEXI	Nippon Export and Investment Insurance
NGO	Non-Governmental Organisation

Abbreviation/Term	Description
Ni	Nickel
NM	Nautical Mile
NMFS	National Marine Fisheries Service
NMVOG	Non-Methane Volatile Organic Compound
N-NH ₄	Ammonium Nitrogen
N-NO ₂	Nitrite Nitrogen
N-NO ₃	Nitrate Nitrogen
NO ₂	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration
N _{org}	Organic Nitrogen
NO _x	Nitrogen Oxide
N _{tot}	Total Nitrogen
NTS	Non-technical summary
O ₂	Oxygen
OCR	Over Consolidation Ratio
ODA	Official Development Assistance
OECD	The Organisation for Economic Co-operation and Development
OGP	International Association of Oil and Gas Producers
OH	Organic clay / silt soil
OH&S	Occupational Health and Safety
OH&S	Occupational Health and Safety
OHSAS	Occupational Health & Safety Advisory Services
OMP	Operations Management Plan

Abbreviation/Term	Description
OPRC	International Convention on Oil Pollution Preparedness, Response and Co-operation
OWS	Oily Water Separator
PAC	Project-Affected Community
PAH	Polycyclic Aromatic Hydrocarbons
PDEU	Provincial Directorate of Environment and Urbanisation
PGA	Peak Horizontal Acceleration
PIG	Pipeline Inspection Gauge
PIMS	Pipeline Integrity Management System
PM	Particulate Matter
PO ₄ -P	Phosphate
POP	Persistent Organic Pollutants
ppb	Parts per Billion
ppm	Parts per million
PS	Performance Standards (of the International Finance Corporation)
PSU	Practical Salinity Units
PSV	Pipe Supply Vessel
PTS	Permeneant Threshold Shift
QRA	Quantified Risk Assessment
RCM	Recording Current Meter
RDB	Red Data Book
REC	Review and Evaluation Committee
rms SPL	Root-mean-square sound pressure level metric
Ro-Ro	Roll-on Roll-off

Abbreviation/Term	Description
ROTV	Remotely Operated Tow Vehicle
ROV	Remote Operated Vehicle
SAP	Strategic Action Plan
SAR	International Convention for Maritime Search and Rescue
SBES	Single-Beam Echo Sounder
SBP	Sub-bottom Profiling
SCADA	Supervisory Control and Data Acquisition
SCD	Stakeholder and Consultation Database
SEL	Sound Exposure Level
SEP	Stakeholder Engagement Plan
Si	Silicate
SIMOPS	Simultaneous Operations
SM	Silty sand soil
SMPEP	Shipboard Marine Pollution Emergency Plans
SO ₂	Sulphur Dioxide
SOLAS	International Convention for the Safety of Life at Sea
SOP	Standard operating procedure
SOPEP	Shipboard Oil Pollution Emergency Plan
SSFD	Scope and Special Format Determination
SSS	Side-Scan Sonar
SSTTBV	South Stream Transport BV
STCW	International Convention on Standards of Training, Certification and Watch keeping for Seafarers
SUR-KOOP	Central Union of fisheries Cooperatives

Abbreviation/Term	Description
SVP	Sound Velocity Profiler
T	Temperature
TBT	Tributyltin
TGNA	Turkish Grand National Assembly
TL	Turkish Lira
TPAO	Turkish Petroleum Corporation
TUIK	Turkish Statistical Institute
TURMEPA	Turkish Marine Protection Association
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UNECE	United Nations Economic Commission for Europe
UNEP IE	United Nations Environment Program Industry and Environment
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNFCCC	United Nations Framework Convention on Climate Change
URS	URS Infrastructure and Environment UK
UXO	Unexploded Ordnance
VEC	Valued Environmental and Social Components
WM	Wood Mackenzie
WMP	Waste Management Plan
WPC	World Petroleum Council
WRI	World Resources Institute
µm	Micrometre
µPa	Micropascal
σt	Density

