



South Stream Offshore Pipeline – Turkish Sector

**Addendum to the Environmental and
Social Impact Assessment (ESIA)**

October 2014

Addendum to the Environmental and Social Impact Assessment (ESIA) South Stream Offshore Pipeline – Turkish Sector



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

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1 Introduction

1.1 Purpose of the Environmental and Social Impact Assessment (ESIA) Addendum

This document is the post-disclosure addendum to the Environmental and Social Impact Assessment (ESIA) Report for the South Stream Offshore Pipeline – Turkish Sector (the Project).

The purpose of this ESIA Addendum is to:

- Provide details of the stakeholder engagement undertaken during the ESIA disclosure period;
- Respond to comments made by stakeholders during the ESIA disclosure period between 11 June 2014 and 11 July 2014;
- Respond to requests received during the ESIA disclosure period for additional information; and
- Record new commitments made by the Project.

This ESIA Addendum is to be read in conjunction with the ESIA Report for the South Stream Offshore Pipeline – Turkish Sector.

1.2 ESIA Report Disclosure

The draft ESIA Report for the Turkish Sector of the South Stream Offshore Pipeline (the Project) was publicly disclosed on 11 June 2014 and the disclosure period ran until 11 July 2014. During this time, the draft ESIA Report was available in Turkish and in English languages on South Stream Transport B.V.'s website (www.south-stream-offshore.com). In addition, ESIA documents were distributed to key stakeholders for consultation and comment, and printed copies were made available for review at a number of locations within Turkey, as detailed in Section 2 of this ESIA Addendum. This addendum has been produced in response to comments and requests received during this disclosure process.

Four ESIA consultation meetings were undertaken in June 2014, and a number of key stakeholders were invited to these meetings. Further information on the ESIA consultation meetings is presented in Section 2.2 of this ESIA Addendum.

2 Stakeholder Engagement Undertaken During ESIA Disclosure

2.1 Introduction

Stakeholder engagement is a critical part of the ESIA process and is on-going throughout the life of the Project. It is important to ensure that consultation and disclosure efforts are effective, and in particular that stakeholders have been meaningfully consulted throughout the process. Stakeholder engagement is managed through South Stream Transport's Environmental and Social Management Plan (ESMP) via the Project Stakeholder Engagement Plan (SEP) and Stakeholder and Consultation Database (SCD).

The following provides details of the consultation process that was followed during disclosure of the draft ESIA Report to stakeholders, including a description of the engagement mechanisms, the advertisement and notification process, and details of the consultation meetings. It also summarises the comments received during the ESIA disclosure period and how these comments have been considered and responded to in this ESIA Addendum.

South Stream Transport has also developed a Grievance Procedure to ensure that complaints are addressed in a timely and consistent manner. Stakeholders were informed about the Grievance Procedure during consultations on the ESIA Report and a non-technical leaflet explaining the Feedback and Grievance Process was also prepared and distributed at the consultation meetings. A Feedback and Grievance Process brochure is also available on South Stream Transport's website at <http://www.south-stream-offshore.com/esia/stakeholder-feedback/>, which includes the various means by which stakeholders in Turkey can contact South Stream Transport. A local contact number is also provided in the Feedback and Grievance Process brochure.

2.2 ESIA Disclosure and Consultation

2.2.1 Approach to ESIA Disclosure and Consultation

As described in **Chapter 6 Stakeholder Engagement** of the ESIA Report, the consultation programme for the ESIA considered the combined outcomes of both Environmental Impact Assessment (EIA) and ESIA engagement activities. The focus of engagement activities during the ESIA process is to ensure that stakeholders are provided with the opportunity to:

- Access clear and appropriate information (i.e. non-technical, local language) information on the Project and its potential impacts;
- Provide feedback on the content of the ESIA including the assessment of impacts, and the proposed mitigation, management and monitoring measures; and
- Provide input regarding plans for future engagement activities, including preferences for methods, materials and schedule.

As the Project is more than 110 kilometres (km) from the Turkish coast and impacts are marine-related, the potential for direct impacts on Black Sea coastal communities and stakeholders was considered to be minimal. However, previous engagement activities undertaken during the development of the ESIA Report, as well as for the national EIA Report, had indicated the areas of key concern to stakeholders. Namely; potential impacts on the migration of anchovy which could potentially affect Turkish fishing industry, the consequences of unplanned events such as oil spills and gas leaks and potential impacts on and measures to protect the Black Sea marine environment.

A targeted consultation programme for the ESIA disclosure period involved identifying key stakeholders who could have an interest in the Project. Attention was focused towards fishing cooperatives and unions that operate in the Black Sea, as well as national NGOs and research institutes with a specific focus on the Black Sea region and/or marine environments.

In terms of location, engagement activities were focussed in both the business centres (i.e. Istanbul and Ankara), where the majority of national non-governmental organisations (NGOs) and research organisations are based, and in Trabzon, which is located on the Black Sea coast and accounts for 20% of the total fish production in Turkey (Ref. 1).

Whilst other regions along the Western Black Sea coast, such as the port towns of Sinop and Samsun, were initially identified as potential locations for hosting consultation and disclosure activities for the ESIA Report, previous engagement efforts generated insufficient interest in the Project among members of the public and organisations in these regions. Instead, fishing cooperatives and unions in both regions were directly notified of the disclosure of the draft ESIA Report and given the opportunity to meet with representatives of South Stream Transport to discuss the findings of the ESIA Report.

2.2.2 Disclosure of ESIA Report

The draft ESIA Report was disclosed, along with the Non-Technical Summary (NTS) and SEP on 11 June 2014. Announcements about the consultation meetings, including the date and timings, were communicated to stakeholders at the same time that the documentation was disclosed, via the press release, public announcement in the newspapers (Figure 2.1), and direct invitations all released and communicated two weeks in advance of the meetings to ensure that stakeholders had adequate time to receive the invitation and review the ESIA documentation. All ESIA consultation meetings were open to members of the public.

Figure 2.1 Trabzon Karadeniz Newspaper ESIA Disclosure Announcement



GÜNEY AKIM AÇIK DENİZ DOĞALGAZ BORU HATTI – TÜRKİYE BÖLÜMÜ TASLAK ÇSED RAPORUNUN YAYINLANMASI

South Stream Transport B.V., Güney Akım Açık Deniz Doğalgaz Boru Hattı - Türkiye Bölümü ("Proje") için Çevresel ve Sosyal Etki Değerlendirmesi (ÇSED) Raporu'nun taslağını yayınlamıştır.

South Stream Transport, Proje ile ilgililen paydaşların taslak ÇSED Raporu hakkında geribildirim vermelerine olanak tanımak için, halka açık bir dizi toplantı düzenleyecektir. Geribildirimler, ÇSED Raporu sonuçlandırılmadan göz önünde bulundurulacaktır. Halkın katılımı toplantılarının tarihleri ve yerleri aşağıdadır:

Şehir	Gün ve Saat	Toplantı Yeri
Istanbul	25 Haziran 2014 09.30 – 10.30	Plaza Hotel Istanbul Barbaros Bulvarı 165 34349 Balmumcu / Beşiktaş - Istanbul
Ankara	26 Haziran 2014 09.30 – 10.30	JW Marriott Hotel Ankara Kızılırmak Mahallesi Muhsin Yazıcıoğlu Caddesi No:1 Söğütözü, 06520 Ankara
Trabzon	27 Haziran 2014 16.00 – 17.00: ÇSED Sunumu 17.00 – 19.00: Proje Hakkında Bilgilendirme Oturumu	Zorlu Grand Hotel Maras Caddesi No:9 61100, Trabzon

Proje Bilgileri
Önerilen Güney Akım Açık Deniz Doğalgaz Boru Hattı birbirine paralel, dört adet 813 mm (32 inç) çapında çelik borudan oluşacak ve Karadeniz boyunca, Rusya kıyısındaki Anapa yakınlarından başlayıp Türkiye Mühürsür Ekonomik Bölgesi'nden (MEB) geçerek, Bulgaristan kıyısındaki Varna yakınlarına kadar uzanacak ve yaklaşık 931 km uzunluğunda olacaktır. Güney Akım Açık Deniz Doğalgaz Boru Hattı, tamamlandığında Rusya'dan Orta ve Güneydoğu Avrupa Ülkelerine doğal gaz taşıyacak olan Güney Akım Boru Hattı Sisteminin bir bölümünü oluşturacaktır.



Açık deniz boru hattının Türkiye Bölümü yaklaşık 470 km uzunluğundadır ve doğuda Rusya MEB' sınırından başlayarak Türkiye MEB'inden geçecek ve batıda Bulgaristan MEB sınırında son bulacaktır. Türkiye MEB içerisinde, boru hattını yaklaşık 2.000 m ile 2.200 m s derinliklerinde doğrudan deniz tabanına döşenecektir. Türkiye'de herhangi bir kıyı bölümü veya tesis planlanmamaktadır ve bu Proje için Türk limanları kullanılmayacaktır.

Türkiye MEB'indeki ilk boru hattının inşasının 2015 yılında, ticari işletiminin ise 2015 yılı sonunda başlaması planlanmıştır. Dört boru hattının tamamının 2017 yılında tamamlanması planlanmaktadır. Türkiye MEB sularındaki her bir boru hattı inşasının yaklaşık 6 ay sürmesi beklenmektedir.

Güney Akım Açık Deniz Doğalgaz Boru Hattı, yürürlükte tüm iş güvenliği mevzuatı ve standartları ile, Türk ve uluslararası mevzuat ve standartlara uygun olarak ve iyi uluslararası endüstri uygulamaları doğrultusunda geliştirilecektir.

Çevresel ve Sosyal Etki Değerlendirmesi
ÇSED süreci, uluslararası finans kurumlarının standartları ve kılavuz ilkeleri ile uyumlu olarak gerçekleştirilmektedir. Taslak ÇSED Raporu, bağımsız uluslararası uzmanlar tarafından uluslararası ÇSED gerekliliklerini karşılamak üzere hazırlanmıştır. Raporunda aşağıdakiler sunulmaktadır:

- Proje'nin tanımı;
- Yürütülen paydaş katılım faaliyetlerinin tanımı;
- Proje Alanı'nın var olan çevresel, sosyal ve kültürel miras özelliklerinin ("mevcut durum") tanımı;
- Proje'nin çevresel, sosyal ve kültürel miras etkilerinin değerlendirilmesi;
- Etkilerden kaçınmak veya bu etkileri en aza indirmek ve faydaları artırmak için alınacak önlemler.

Bunlara ek olarak, South Stream Transport Türk ulusal mevzuatı gerekliliklerine uygun olarak bir Çevresel Etki Değerlendirmesi (ÇED) de gerçekleştirmiştir. Nihai ÇED Raporu Mayıs 2014'te Çevre ve Şehircilik Bakanlığına (ÇŞB) sunulmuştur.

Taslak ÇSED Raporu İle İlgili Halka Açık Toplantılar
South Stream Transport B.V. gelecekte çevresel ve sosyal yönetim için güçlü bir temel oluşturmasını ve ilgili ve önemli konuları uygun şekilde göz önünde bulundurulmasını sağlamak için, tüm tarafları taslak ÇSED Raporu ile ilgili geribildirim vermeye davet etmektedir.

Taslak ÇSED Raporu İle İlgili Görüşlerin Gönderilmesi
Taslak ÇSED Raporu ve Teknik Olmayan Özet internette, <http://www.south-stream-offshore.com/tr/csed-ve-izimler/turkiyede-csed/> adresinde erişime açıktır. Buna ilaveten, diğer bir proje bilgisi olan ve Türkiye için hazırlanan Paydaş Kabul Planı da belirtilen internet sayfasında mevcuttur. Ayrıca, basılı kopyalar;

- Istanbul: ELC Group Merkez Ofisi, İstanbul (adres aşağıda verilmiştir); ve
- Trabzon: Zorlu Grand Hotel (Banket Ofisi), Maras Caddesi No:9, 61100 Trabzon

adreslerinden edinilebilmektedir.

Taslak ÇSED Raporu ile ilgili görüşler 2014 Temmuz ayının ortalarına kadar e-posta, internet geribildirim formu veya posta yoluyla gönderilebilir.

e-posta: esia@south-stream-transport.com

İnternet geribildirim formu: <http://www.south-stream-offshore.com/tr/csed-ve-izimler/paydas-gorusleri/>

Posta adresi:

ELC Group A.S.	South Stream Transport B.V.
İlgili:	İlgili:
South Stream Transport B.V.	ÇSED & İzinler Ekibi
Rüzgarlı Bahçe Mah.	Parnassusweg 809
Cumhuriyet Cad. Energy Plaza	1082 LZ Amsterdam
No: 2/6	Hollanda
34805 Kavaçık/Istanbul Türkiye	

Alinan tüm görüşler ÇSED Raporu'nun sonuçlandırılmasında göz önünde bulundurulacak ve kamuya açıklanacaktır.

South Stream Transport B.V. Hakkında
South Stream Transport B.V., Karadeniz'den geçecek bir açık deniz doğalgaz boru hattının planlanması, inşası ve işletilmesi için kurulmuş uluslararası bir ortak girişimdir. Bu ortak girişimde Rus şirketi Gazprom %50, İtalyan şirketi Eni %20, Fransız enerji şirketi EDF ve Alman şirketi Wintershall %15'er paya sahiptir. Proje hakkında daha fazla bilgi için, lütfen www.south-stream-offshore.com adresini ziyaret ediniz.

The ESIA disclosure period ran for 30 days and ended on 11 July 2014. During this period, the ESIA documentation was made available as follows:

- Online at www.south-stream-offshore.com along with a press release published online and distributed to media outlets announcing disclosure of the draft ESIA Report;
- Via a public announcement published in national, regional and local newspapers Hurriyet, Samsun Haber, Sinop Bizim Karadeniz and Trabzon Karadeniz that provided details of disclosure of draft ESIA Report, locations of the comment boxes and consultation meeting details;
- Printed copies were available for review at the following locations (along with secure comment boxes and comment forms):
 - Istanbul: ELC Group Headquarters, Rüzgarlı Bahçe Mah. Çınar Sok. No:2, Energy Plaza Kat:6 Kavacık, Beykoz, İstanbul, Turkey; and
 - Trabzon: Zorlu Grand Hotel, Banquet Office, Maraş Caddesi No: 9, 61100 Trabzon.
- Project information was sent directly to identified stakeholders including:
 - Courtesy copies of ESIA and NTS submitted to the Ministry of Environment and Urbanisation and the Ministry of Foreign Affairs;
 - Emails sent to targeted stakeholders with electronic copy of NTS and information on how to access the full ESIA report, both online and at comment box locations; and
 - Hard copy letters and sufficient printed copies of the NTS sent to fisheries cooperatives in Istanbul, Trabzon, Samsun and Sinop to disseminate among member cooperatives and to make accessible to fishers, along with information on how to access the full ESIA Report.
- Upon direct request to South Stream Transport via post, email, fax or telephone (South Stream Transport contact details communicated via channels listed above).

A week following disclosure, stakeholders were contacted by telephone to check they had received the documentation and meeting invitation and confirm their attendance.

2.2.3 ESIA Consultation Meetings

As shown in Table 2.1, consultation meetings were held in Istanbul, Ankara and Trabzon in June 2014. At these meetings, stakeholders had the opportunity to attend meetings to discuss the draft ESIA Report. The meetings allowed stakeholders to put forward their views on the ESIA and the mitigation measures proposed, and also to express their preferences for communication methods during future phases of the Project.

Table 2.1 ESIA Consultation Meetings

Meeting	Date, Time	Location	Attendance
Istanbul Consultation Meeting	25 June 2014 09.30 – 10.30	The Plaza Hotel Istanbul Barbaros Bulvarı 165 34349 Balmumcu / Beşiktaş - Istanbul	14 organisations invited, 2 stakeholders attended (1 media and 1 marine area user)
Ankara Consultation Meeting	26 June 2014 09.30 – 10.30	JW Marriott Hotel Ankara Kızılırmak Mahallesi Muhsin Yazıcıoğlu Caddesi No:1 Söğütözü, 06520 Ankara	11 organisations invited, 6 stakeholders attended (2 academic/research organisations, 1 NGO, 2 marine area users and 1 unknown)
Trabzon Consultation Meeting	27 June 2014 16.00 – 17.00: ESIA Presentation 17.00 – 19.00: Project Information Session	Zorlu Grand Hotel Maraş Cad. No:9, 61100, Trabzon	8 organisations invited, 1 stakeholder attended (academic/research organisation)

Representatives of South Stream Transport and URS, the independent consultancy who prepared the draft ESIA Report and led the ESIA stakeholder engagement consultation process, presented information about the Project and the findings of the ESIA Report, followed by a 'question and answer' session. Photos from the meetings are provided in Figure 2.2 and Figure 2.3. The meetings were organised to facilitate the exchange of information and opinions, and allowed representatives of South Stream Transport and URS to answer questions and to listen to stakeholder views and concerns related to the ESIA process, anticipated Project impacts and proposed mitigation measures.

At all of the meetings, visual and printed materials were made available to support the presentations and discussion, and a hard copy of the full ESIA Report was available in Turkish for review. USB flash drives with the full ESIA Report, NTS and SEP, and hard copies of the NTS, SEP and the Feedback and Grievance Process leaflet were also available to stakeholders who attended the meetings. In addition, there were visual displays illustrating various aspects of the Project and the ESIA process, and a translation service was provided for all meetings (Turkish and English) where necessary.

For all meetings, stakeholders were invited to provide comments and suggestions both in the meeting itself and afterwards by filling out a Comment Form or submitting comments via the Project ESIA email address or by post. Participants also had the opportunity, after the formal question and answer sessions, to speak individually with representatives of South Stream Transport and URS.

Figure 2.2 Istanbul Consultation Meeting



Figure 2.3 Ankara Consultation Meeting



As shown in Table 2.1, attendance during the ESIA consultation meetings was limited. The stakeholders who participated were mostly derived from fisheries cooperatives, NGOs or other academic or research organisations with interests in the marine environment and all had received invitations to attend.

In some meetings, themes were evident in the comments received. In Istanbul all comments related to potential impacts to fish and fisheries, with concerns stemming from the experience of fisheries from a previous project undertaken in the Istanbul Straits; in Ankara, stakeholders were keen to receive further information on the Project's approach to marine protection, biodiversity and monitoring; whilst in Trabzon all comments related to the risks of unplanned events.

The key themes of the comments and associated responses are provided in Chapter 3 of this ESIA Addendum and the full list of stakeholder comments received during the 30-day ESIA disclosure period is provided in Appendix 1 of this ESIA Addendum.

Comments made during the consultation meetings were responded to by the South Stream Transport and URS representatives present at the meetings. Following the meetings, all comments made during the meetings were further analysed and more detailed responses have been produced, using information gained from the ESIA process. These detailed responses, together with responses to comments received via the comment boxes, are presented in this ESIA Addendum.

2.2.4 Receiving Feedback from Stakeholders

For the ESIA consultation and 30-day ESIA disclosure period, comments were welcomed by post, email, fax, telephone or in person to the contact details provided via the South Stream Transport website, public announcement, press release, Feedback and Grievance Process leaflet and direct invitations sent to stakeholders. Comments received outside the 30-day disclosure period are recorded and considered by the Project as part of ongoing stakeholder engagement and these will be noted in updates to the Project SEP, which can be found at <http://www.south-stream-offshore.com/esia/stakeholder-feedback/>.

3 ESIA Consultation Comments and Responses

This chapter provides details of the comments raised throughout the ESIA disclosure period. All comments received from stakeholders have been considered and addressed, where relevant, in this ESIA Addendum. Comments received (and their responses) have been categorised in alignment with the ESIA Report chapters headings. A number of comments related to more than one ESIA chapter heading. In these instances, the comments and responses are cross referenced to the relevant sub-section(s) of this ESIA Addendum¹.

In total, 27 questions, suggestions or comments were raised during the 30-day ESIA disclosure period; 26 during ESIA consultation meetings and one received via email. The comments received during the ESIA disclosure period were split, where relevant, so each point a stakeholder raised could be provided with a tailored response. In some instances, particularly during the ESIA consultation meetings, a one-to-one dialogue was established with one stakeholder in which numerous points were discussed, often relating to one specific topic. For information on the number and type of comments raised, refer to Appendix 1 of this ESIA Addendum.

The comments have been categorised into the following ESIA chapter headings:

- Stakeholder Engagement: 3 comments;
- Biological Environment: 5 comments;
- Socio-Economics: 4 comments;
- Unplanned Events: 6 comments;
- Waste Management: 1 comment; and
- Other issues²: 8 comments.

Where comments raised have been previously addressed in the ESIA Report, the responses in the following sections make reference to the section of the ESIA Report in which they are addressed.

3.1 Stakeholder Engagement

One stakeholder was interested in the level of engagement undertaken with fisheries organisations to date. Meetings have been held with fisheries co-operatives in Ankara, Istanbul,

¹ Note that the responses provided are intended to be technically correct at the time of writing. Due to the evolution of Project planning, design and schedule, this may not be the same as the response that was provided at the time the question or concern was raised. Some responses have been expanded with additional information from the ESIA for improved understanding.

² Other questions, suggestions or comments raised during ESIA consultation meetings either related to topics outside the remit of this ESIA Addendum such as, statements of support for the work undertaken in preparing the ESIA Report and marine protected areas, or general queries related to technical and design aspects of the Project. These comments were directly responded to in the ESIA consultation meetings and are not further addressed in this ESIA Addendum.

Trabzon, Samsun and Sinop during the EIA and ESIA process. The purpose of these meetings was to:

- Gather information for the EIA/ESIA baseline;
- Discuss potential impacts and to gather opinions on the Project; and
- Provide Project information.

Information on all stakeholders engaged with prior to the disclosure of the ESIA Report, including fisheries organisations is provided in Appendix 6.2: Engagement to Date of the ESIA Report and further elaborated in the SEP.

Previous engagement carried out for the EIA and ESIA process had highlighted concerns among fisheries that the Project may impact anchovy migration patterns and thus disrupt fishing activity in the Turkish Sector. For the purposes of the disclosure of the ESIA Report, engagement efforts focused on ensuring that fisheries were made aware of the findings of the ESIA Report in relation to impacts on fish and fisheries, and of the ways by they can contact South Stream Transport.

Engagement was targeted towards regional fisheries cooperatives from the Western Black Sea coast (namely Trabzon, Samsun and Sinop), as this is where the majority of Turkish fishing activities are concentrated. Pre-meetings were held with Trabzon and Samsun fishing cooperatives to inform them about ESIA Report disclosure and discuss preferences for engagement. The national fisheries cooperative union was also identified as an important stakeholder with the ability to disseminate Project information among fisheries more broadly. The Project was also advised to engage with the fishing groups in Istanbul.

Each of the identified fisheries cooperatives received a direct notification of ESIA Report disclosure via letter, and invitations to attend ESIA consultation meetings in Istanbul, Ankara or Trabzon. Alternatively they were provided with the option to request one-to-one meetings. Notifications included details on how to submit comments on the ESIA Report. Sufficient hard copies of the ESIA NTS were delivered to each of the regional fishing cooperative unions to distribute among their members.

South Stream Transport had additionally planned to attend the national Fishery Symposium to present Project information to fisheries during the ESIA disclosure period, and contacted the Central Union of Fisheries Cooperatives (SUR-KOOP; Ankara) regarding attendance. However, SUR-KOOP do not plan to hold a symposium in 2014; it will be held in 2015 but the exact date and the location is not yet confirmed. Therefore, South Stream Transport will continue to engage with SUR-KOOP to discuss dissemination of information to fisheries and the potential to present Project information at the symposium next year depending on scheduling (i.e. if prior to construction).

South Stream Transport will also look for further opportunities to disseminate Project information to fisheries, and ascertain suitable means to directly notify fisheries along the East and West Black Sea coast of the Feedback and Grievance Process prior to the start of construction activities in the Turkish Sector. Further information on ongoing engagement with fisheries is outlined in Section 3.3 of this ESIA Addendum.

3.2 Biological Environment

Comments were raised in person about the biological environment, including impacts to fish, the proposed Project monitoring programme and approach to biodiversity. One comment was received via email regarding the presence of “carbonate mounds” on the abyssal plain and protection thereof. A summary of the responses to these queries is provided in the following sections.

3.2.1 Fish

Comments were raised by one stakeholder relating to impacts on fish from noise, light or sediment dispersion and how these would affect the behaviour of fish species present in the Central Black Sea and their migration patterns. A summary of the responses given is provided in the following sections. Comments relating to impacts on fisheries are responded to in Section 3.3 of this ESIA Addendum.

3.2.1.1 Impacts from Sediments

One stakeholder commented on the potential impacts of sediment suspension from Project Activities on fish migrations in the Black Sea. The comment was made in the context of a concern that the Project would result in similar impacts to that of another development undertaken in the Istanbul Straits which, it is claimed, generated significant suspended sediment that in turn disrupted fish migrations and affected fishing catches. However, the circumstances of this development were very different to that of the South Stream Offshore Pipeline. The development referenced during the meeting occurred in the Sea of Marmara which is shallow at only approximately 60 metres (m) water depth and involved the excavation of over 1,000,000 cubic metres (m³) of sediment from an area 1.4 km in length. It is likely that fish migrating through the narrow strait would not have been able to swim around or avoid the sediment in their migration from the Black Sea to the Sea of Marmara which could have caused the disruption to catches.

The Project will involve pipes being laid directly onto the seabed in water depths of 2,000 m. There will be no seabed intervention (e.g. dredging, excavating, trenching, disposal of sediments) for the Project. As such, the Project will only cause limited seabed disturbance either from the physical placement of the pipeline onto the seabed, or additional small-scale disturbance from the use of remotely operated vehicles (ROVs) during pre-construction and construction surveys and maintenance surveys during the Operational Phase. Given the small amount of sediment disturbance and the characteristics of the sediment (mostly clayey mud) any sediment dispersion will be small-scale, limited and localised. Impacts to marine life in the Black Sea are not anticipated, as the sediment dispersion will not be sufficient in extent to the upper water column (0 to 150 m water depth) where fish species are present.

Sediment dispersion for the South Stream Offshore Pipeline was also considered for the Russia and Bulgaria Sectors. In these countries, there is some small-scale seabed intervention in the nearshore, such as dredging of the microtunnel exit pits. In Bulgaria where there is more seabed intervention (around 300,000 m³ of sediment), the Fishing Study (Appendix 9.1 of the ESIA Report) concludes that the sediment dispersion is rapid (four days after the end of

dredging) and the higher concentrations of suspended sediment are near the seabed so the effect will be temporary, localised and unlikely to impact any migratory species.

3.2.1.2 Impacts from Noise and Light

The generation of noise and light from Project vessels and the associated potential to impact fish species was commented on by one stakeholder during the ESIA consultation meetings. In terms of light, the ESIA Report states such impact is **Not Significant** because of its highly localised and short-term nature (Section 8.8.2). The greatest potential for impacts to fish species from the Project is due to noise generated by the passage of construction vessels and pipe-laying activities. Therefore, noise impacts were assessed in detail in the ESIA Report. Underwater noise modelling was undertaken for a number of different scenarios involving Project vessels and was presented in Appendix 8.1: Underwater Noise Modelling of the ESIA Report. The impact assessment focused on fish species of conservational concern (i.e. on the International Union for National Conservation (IUCN) Red List (Ref. 2) or in the Red Data Book of the Black Sea (Ref. 3)) and on species of commercial importance for fisheries. Of the commercial species, anchovy is the most commonly caught species for Turkish fisheries and were therefore given greater consideration in the assessment. Anchovy (*Engraulis encrasicolus*) are known as "hearing-specialists" which means that they can be sensitive to underwater noise levels. As reported in the ESIA Report (Section 8.8.2), the underwater noise modelling undertaken identifies that:

- The pipe-lay vessel may generate noise impacts at a range of approximately 0.5 km (area of effect approximately 0.1 km²);
- Sound levels generated by the pipe-lay vessel are insufficient to cause mortality to fish; and
- Fish will likely move away from loud noises and their actual exposure in reality will be significantly less.

The ESIA Report therefore concludes with regards to hearing specialist fish that the impact will be of **Low** significance.

Although the significance of the Project's impact on the biological environment is **Low**, the Project has put a number of design controls and mitigation measures in place to make sure impacts are reduced to a practical minimum. In terms of fish, the relevant measures include:

- Appropriate lighting design during night-time works will be implemented, including use of directed illumination, screens, shades, timers, actuators, etc. as required; and
- Intake screens for water abstraction will be used to prevent ingress of fish, including eggs and larvae and large invertebrates.

3.2.1.3 Impacts on Fish Migration

Concerns that the Project would impact the migration route of fish species, particularly the anchovy, were raised by a fishery stakeholder during ESIA consultation meetings. The main Project Activities that can impact migration are noise and light generation. As discussed in Section 3.2.1.1 and 3.2.1.2 of this ESIA Addendum, there is unlikely to be any significant impact on fish species from noise or light.

Anchovy are the only species in the Black Sea to migrate across the Project Area. Anchovy migrate southward through the Central Black Sea between October and November (Ref. 4 and Ref. 5) from northern waters of the Black Sea to the areas near the Turkish and Georgian coasts. In the spring, a reverse migration occurs. The ESIA Report (Section 8.8.2) concludes that the significance of the impact is **Low** for the following reasons:

- As the construction spread will be moving at approximately 2.75 km per day, it can be considered a stationary object and anchovy will be able to avoid this area. Migrating schools of fish are fast moving and their presence at a particular point is temporary; and
- The main migration corridor could extend around 125 km in width through the Turkish Exclusive Economic Zone (EEZ), whilst noise impacts from the construction spread would only extend up to 0.5 km in radius for hearing specialists. This impact zone is therefore transitory and is a small part of the width of the anchovy migration corridor.

Project Activities are therefore unlikely to result in disorientation or cessation of migratory behaviour.

Anchovy also migrate along the western coast of the Black Sea i.e. through Romanian and Bulgarian waters and onto the wintering grounds in Turkish waters. Owing to stakeholders concerns about the potential for transboundary impacts (i.e. impacts from the Bulgarian or Russian Sectors of the South Stream Offshore Pipeline affecting Turkey, or vice versa) on migratory species, such as anchovy, this was considered in Appendix 9.1: Fishing Study of the ESIA Report. No impacts are anticipated to migratory species in the Black Sea from Project Activities. The assessment of potential impacts to fish species in Bulgaria focused on impacts from sedimentation, noise and light emissions and concludes that it is unlikely that the construction activities and the subsequent operation of the Pipeline in Bulgaria will have an impact on the feeding grounds, spawning grounds and migration routes. Therefore, it is unlikely that there will be any knock-on impact on these species in Turkish waters (Appendix 9.1 Fishing Study; Section 4.5.2.1).

3.2.2 Biodiversity “Net Gains” and Monitoring

Two stakeholders expressed an interest in further information on the proposed monitoring programme for the Project. One stakeholder also expressed an interest in the Project’s approach to the concept of biodiversity “net gains”.

The Central Black Sea, including the Project Area, is considered potential critical habitat³ for one bird species; the Mediterranean shearwater (*Puffinus yelkouan*) and two species of marine mammal; the bottlenose dolphin (*Tursiops truncatus ponticus*) and common dolphin (*Phocoena phocoena relicta*). Due to the absence of fish surveys and data on fish species present in the Central Black Sea, a conservative approach was adopted to critical habitat identification.

³ Critical habitats are areas with high biodiversity value, including habitat of significant importance to Critically Endangered and/or Endangered species (as listed on the IUCN Red List); habitat of significant importance to endemic and/or restricted-range species; habitat supporting globally significant concentrations of migratory species and/or congregatory species; highly threatened and/or unique ecosystems; and/or areas associated with key evolutionary processes.

Therefore, the Central Black Sea was also considered potential critical habitat for seven fish species; sprat (*Sprattus sprattus*), anchovy (*Engraulis encrasicolus*), Black Sea garfish (*Belone belone euxini*), bluefish (*Pomatomus saltatrix*), Black Sea horse mackerel (*Trachurus mediterraneus ponticus*), Atlantic bonito (*Sarda sarda*) and chub mackerel (*Scomber colias*).

Because critical habitat has been identified, there is an additional requirement for biodiversity monitoring / research. As such, the Project has committed to developing a Biodiversity Action Plan (BAP), which will seek to achieve 'net biodiversity gains', in compliance with International Finance Corporation (IFC) Performance Standard (PS) 6, by identifying additional opportunities to protect and conserve biodiversity and improve conservation measures for those species of conservation concern for which the critical habitat was identified.

The concept of "net gains" should be considered in the context of Project impacts. There are no significant (i.e. moderate and above) impacts anticipated on biodiversity. Therefore "net gains" should be considered as expanding on the current research being undertaken on biodiversity and aiming to add to the scientific knowledge in these areas. In order to achieve this, relevant stakeholders will be identified by the Project during 2014 and preliminary meetings will be held to gather information on the existing or projected biodiversity programs monitored by national, regional and local government, universities, NGOs and local ecologists. This engagement will draw on the expertise of research institutions and conservation programmes and will primarily be geared towards participating in active research programmes, such as supporting the expansion of the scope or duration of certain research programmes.

The areas in which organisations will be consulted relate to:

- The requirement to have marine mammal and seabird observers on the vessels and to collect information on any potential schemes which can help the Project achieve "net gains"; and
- Projects or programmes related to Black Sea anchovy, as they are the only fish species to have a migration route that crosses the Project Area.

Information collected during these meetings will assist in developing the BAP, defining specific biodiversity actions and building potential partnerships with stakeholders.

With regard to monitoring activities, prior to the commencement of construction in the Turkish Sector, South Stream Transport will consult relevant scientific and academic organisations in order to inform the Environmental and Social Monitoring Programme (ESMoP) and draw on the expertise of these organisations. Any stakeholder engagement activities relating to the proposed ESMoP will begin in early 2015 in advance of construction and the results of which will be made publicly available as part of the Annual Environmental and Social Monitoring Report.

3.2.3 Carbonate Mounds

The only comment received via email regarded the potential presence of carbonate mounds and the associated bacteria communities. Large carbonate "chimneys" have historically been observed in the Black Sea and the potential presence of these structures was analysed during Project surveys to inform the ESIA Report.

An account of the present-day oceanography and physical environment of the Black Sea, together with an account of its recent history was provided in Appendix 8.2: Seabed Survey Report of the ESIA Report. The data collected for the Project was analysed to identify seabed features including biological features. Data sets included swath bathymetry, side-scan sonar, video and still photography.

Identification of features related to fluid seepage, such as mud volcanoes, pockmarks or carbonate mounds, was one of the main objectives of the Seabed Survey Report (Appendix 8.2 of the ESIA Report). However, large mud volcanoes similar to those identified at many locations around the Black Sea (e.g. Lericolais, 2006 in Ref. 6) do not appear to be present along the proposed pipeline route. Similarly, carbonate mounds only occur in extremely localised areas (Ref. 6).

Carbonate mounds were identified on side-scan sonar data from just below the continental shelf edge on both the Russian and Bulgarian slopes. On both slopes carbonate mounds occur in the same relatively narrow depth band between approximately 110 and 140 m. This suggests that in addition to fluid seepage, the location of these features is constrained by other factors, most likely the level of oxygen in the water column. No carbonate mounds, mud volcanoes or microbial mats were observed in the Project Area (i.e., the Turkish Sector) during the review of this data (Section 8.5.3.2 of the ESIA Report).

In terms of the presence of features associated with fluid escape for the entire pipeline route (Russian, Turkish and Bulgarian waters), the main conclusions of the Seabed Survey Report were:

- On both the Russian the Bulgarian slope carbonate mounds occur between water depths of 110 and 140 m;
- Fluid seeps are present on the outer Bulgarian shelf edge with associated bacterial activity. Mussels are present in this area but these are unlikely to be chemosynthetic mussels;
- No features were identified, on the abyssal plain that are likely to have an impact on the proposed Pipeline route. Nearly all of the area is covered by a soft, sometimes jelly-like, layer of organic detritus. Some pockmarks were identified as well as other features that are likely to be due to fluid escape at the seabed; and
- Life is limited to bacteria in waters deeper than 150 to 200 m. No significant bacterial communities, such as cold seep communities with associated macrofauna, were encountered along the pipeline route.

For more information, refer to Appendix 8.2: Seabed Survey Report of the ESIA Report.

3.3 Socio-Economics

During the ESIA consultation meetings, a fishery stakeholder raised a number of comments regarding impacts on fisheries. These were expressed as concerns that there was the potential for the Project to impact fish (as discussed in Section 3.2.1 of this ESIA Addendum), and therefore to cause a reduction in catches for Turkish fishermen, specifically for those that may concentrate their fishing effort offshore. A summary of the responses given is provided in the following paragraphs.

Engagement during the EIA and ESIA process in Turkey underlined that potential Project impacts on fish and fisheries was a key concern among stakeholders, particularly fishing organisations. The potential for the Project to impact upon fish and fisheries was studied in depth and a Fishing Study (Appendix 9.1 of the ESIA Report) commissioned, undertaken by specialist fishing consultants MRAG Ltd. on behalf of South Stream Transport, covering Russia, Bulgaria and Turkey (Ref. 7). The study investigated the geographical distribution of Turkish fishing activity and did not identify any conclusive evidence of fishing taking place in the Project Area within the Turkish EEZ. Nevertheless, fisheries stakeholders have reported that larger commercial vessels will fish in the Project Area during the anchovy migrations.

The Fishing Study (Ref. 7) for Turkey assessed potential impacts on fishing in the Project Area (i.e., 110 km offshore). A temporary safety exclusion zone of approximately a 2 km radius around the pipe-lay vessel will be enforced to avoid incidents with marine traffic, including fishing vessels. Should any vessels fish within the vicinity of the Project Area during construction, the construction activity and associated safety exclusion zone could mean that a certain area of limited size will be temporarily lost to fishing for a short duration. However, the transient and temporary nature of the exclusion zone means that there is limited potential for significant impacts on offshore fishing activity. Further evidence in support of this is provided by the Fishing Study and the analysis conducted on the potential for impacts on commercial fishing fleets in Russia and Bulgaria which are known to traverse and fish within fishing grounds that overlap with the Project Area in the Russian and Bulgarian EEZs respectively (Ref. 7).

The potential for Project impacts on fish migration patterns, particularly on anchovy, to have knock-on impacts on fisheries in Turkey was also considered in the Fishing Study (Appendix 9.1 of the ESIA Report). Given the limited potential for impacts to fish (as discussed in Section 3.2.1 of this ESIA Addendum), knock-on impacts upon fisheries are not anticipated.

It was also noted by the same stakeholder that the lights used by the pipe-lay vessel may attract plankton which would in turn attract their predators, the fish species like anchovy, which the fisheries target. Light from night-time works has the potential to affect fish, either by direct attraction or through alterations in the distribution of their planktonic prey. Because of its highly localised and short-term nature (i.e., only during the night-time), any associated impact is unlikely to be significant. The Project will further reduce any potential by using appropriate lighting design during night-time works, including use of directed illumination, screens, etc. as required. Skyward and seaward light projection will be eliminated as far as is safe and practicable.

The Fishing Study for Russia and Bulgaria concludes that it is unlikely there will be any effect on the catches of the fleet. Should any effects occur it is unlikely they will be outside the normal variation in the annual catches and will be indistinguishable from those recorded in the baseline study. Consequently, both the Russian and Bulgarian ESIA's, which relied upon the Fishing Study to inform their conclusions, assessed that the impacts, if any, on commercial fishing fleets in those two respective countries' EEZs would be **Not Significant**. More information is included in Appendix 9.1 of the ESIA Report.

Although the ESIA Report concludes that it is unlikely there will be impacts on fisheries, the following measures will be implemented to monitor that the impacts on fisheries are not greater than those predicted.

These include:

- On-going stakeholder engagement with fisheries. Prior to the start of construction, South Stream Transport will engage with Turkish fisheries to provide relevant details on the construction activities, schedule and information regarding the navigational exclusion zone which will be established around the pipe-lay vessel, and information materials will be produced to widely disseminate this information among fisheries and vessel operators.
- Implementation of a Grievance Procedure that will ensure that grievances are brought to the attention of the appropriate Project staff and addressed in an appropriate and timely way; and
- Implementation of a Compensation Management Framework and Livelihood Restoration Plan which would apply in the event that fishing livelihoods are affected. This will define the process by which additional mitigation, compensation and supporting measures will be developed and applied in order to repair, re-establish, and restore livelihoods affected by the Project (including impacts related to unplanned events).

In addition to the above measures stated in the ESIA Report, South Stream Transport recognises that the potential to impact anchovy fishing is a key concern of Turkish fishery stakeholders. Therefore, the Project will undertake anchovy monitoring to ensure that impacts on fisheries is not greater than that predicted in the ESIA Report. The exact nature of the monitoring programme will be defined in the period prior to construction in the Turkish Sector, but is likely to involve support to research programmes and ongoing engagement with fisheries both prior and during construction.

3.4 Unplanned Events

3.4.1 Collision Risk

The potential for collisions between the pipe-lay vessel and other marine users and what the Project has done to assess this risk was enquired about in one of the ESIA consultation meetings.

During construction, there will be a 2 km radius safety exclusion zone around the pipe-lay vessel which third party vessels will not be able enter. This will be a moving exclusion zone, so construction activities will not block shipping traffic for an extended period of time. In addition, not all of the supply and support vessels identified in **Chapter 5 Project Description** of the ESIA Report will be present around the pipe-lay vessel at the same time. The construction contractors will be responsible for notifying the authorities of the pipe-lay vessel's position on a daily basis. The authorities will then inform all fleets of the pipe-lay vessel's position.

A Project-specific assessment has been undertaken for the probability of vessel collision; this is presented in Appendix 9.A of the Turkish EIA Report (available on South Stream Transport's website). This assessment was undertaken by Anatec UK Ltd in conjunction with Emre N. Otay from Bogaziçi University in Istanbul (Ref. 8 and Ref. 9).

The collision risk assessment derived an estimate of the total number of vessel movements across the Black Sea per year based on a proprietary database. Shipping routes identified to

cross the Pipeline route within the Turkish EEZ are trafficked by an estimated 21,115 ships per year, the vast majority of which are cargo vessels or tankers. The level of shipping on individual routes varies significantly, with the busiest route (between the Bosphorus Strait and Kerch Strait / Sea of Azov) used by over 5,000 vessels per year in each direction.

Based on a pipe-laying vessel (PLV) installing four parallel pipes along the Turkish Sector at an average speed of 2.5 to 2.75 km per day (km/day), the probability of a ship-to-PLV collision during construction is estimated to be 1.3×10^{-3} .

Based on the total length of the PLV transits (approx. 1,880 km) and the average speed (2.625 km per day), the duration of the construction period is two years. Therefore, the analysis concluded that the risk of a collision was very low with the annual risk of collision in the order of 6.5×10^{-4} . However, even though the risk of a collision is low, a number of mitigation measures will be in place during the Construction Phase including:

- A proposed 2 km radius safety exclusion zone around the pipe-lay vessel;
- The pipe-lay vessel to act as a guard vessel, keeping a radar, automatic identification systems (AIS) and visual lookout on passing traffic and attempting to contact any vessel on a potential collision course;
- Details of the pipe-lay operation and exclusion zones will be communicated to vessel operators through the routine channels of the appropriate maritime authorities; and
- The pipe-lay vessel will have appropriate marking and lighting. It will also broadcast continuously appropriate navigation status information on AIS.

3.4.2 Oil Spills and Gas Leaks

Although the ESIA consultation meeting was focused on the Turkish Sector, South Stream Transport were open to receiving questions relating to any part of the South Stream Offshore Pipeline. One example was a comment raised regarding trawl fishers in the Varna area of Bulgaria and the potential risks and consequences of a gas leak caused by snagged fishing gear or anchoring. Mitigation measures will be put in place during operation to reduce the likelihood of interactions between the Project pipelines and fishing gear. There will be an exclusion zone in place along the pipeline route from the shoreline to a 100 m water depth to restrict activities of third parties that could come into contact with the pipelines (e.g. dragged anchors, fishing gear) and thereby damage the pipelines or place themselves at risk. The South Stream Offshore Pipeline has considered the potential for gas leaks to occur from a number of scenarios including third party damage (i.e. fisheries trawls). Statistically, an unplanned pipeline rupture is a very rare event and the probability of such an extreme situation is very low, failure frequencies from an external interference (i.e. from anchors or fishing gear) has a probability rate of 0.000046 per 1,000 km per year. For more information on collision risk in Bulgaria, refer to the ESIA for the South Stream Offshore Pipeline – Bulgarian Sector.

A key objective of the South Stream Offshore Pipeline is to minimise the likelihood of occurrence of an oil spill and to develop Oil Spill Prevention and Response Plans that would effectively minimise the potential for adverse impacts on marine species and habitats in the event of a spillage. Specific actions to be taken by South Stream Transport in the event of an oil spill are discussed in Section 13.5.4 of the ESIA Report. The mitigation measures identified will

minimise the probability of an oil spill occurring, and thus reduce the potential adverse impacts to marine habitats in the event of a spill.

3.4.3 Sabotage and Terrorism

During the ESIA consultation meetings, one stakeholder commented on the potential for an act of terrorism or sabotage, and how the Project plans to manage the threat of such incidents. The probability of terrorism or sabotage is low, but could have severe consequences. The pipeline will be continually monitored and shut-down quickly should any scenarios require this action. With regards to pipeline monitoring, this is covered in Section 5.8.1.1 of the ESIA Report. South Stream Transport has prepared a Security Plan which has identified potential security threats during the Project, including potential terrorist incidents. The plan will include the development of emergency and crisis management responses in that case of a serious security incident. In developing the Security Plan, South Stream Transport has considered how the security provisions and procedures being provided by the Project need to interact with available national security capabilities.

The construction contractors will be responsible for developing their own Security Plan detailing how they will handle security issues relating to their work. The construction contractors will be responsible for day-to-day implementation of the security measures outlined in the Security Plan, and shall devise means to monitor the local, national and regional threat environment in order to facilitate continuous improvement in security service delivery.

The same stakeholder also mentioned the applicability of the International Ship and Port Facility Security (ISPS) code to the Project. The Project vessels are subject to this code therefore it is the construction contractors' responsibility to ensure the compliance of the vessels to the requirements of the code. The ISPS code takes the approach that ensuring the security of ships and port facilities is a risk management activity and provides a standardised, consistent framework for evaluating risk (Ref. 10).

3.5 Waste Management

During the ESIA consultation meetings a comment was raised on the generation of wastes, particularly the printing of materials for the meetings. The minimisation of wastes is a priority for the Project which is committed to recycling and reusing materials where possible. The Project will adopt a waste management hierarchy which ranks waste management options according to what is best for the environment. In particular, the prevention, re-use and recycling of Project items where possible will help maximise resource use efficiency throughout the Project. With regards to the materials printed for ESIA consultation meetings, these were required to ensure that South Stream Transport have provided all relevant information to the interested stakeholders at meetings. However, as specified above, the Project aims to ensure the re-use and recycling of Project items where possible which is also relevant to this disclosure material.

4 Summary

This document provides details of the stakeholder engagement undertaken for consultation and disclosure of the draft ESIA Report and responds to comments or requests received during the ESIA disclosure period which ran from 11 June 2014 to 11 July 2014. This ESIA Addendum is to be read in conjunction with the ESIA Report for the South Stream Offshore Pipeline – Turkish Sector.

The majority of comments received during the ESIA disclosure period fell into three categories: fish and fisheries, biodiversity, and collision risk.

The main concerns for offshore fishing were impacts from noise, light and sediment impacts to fish species and exclusion from fishing areas. The ESIA Report has concluded that there is a **Low** significance impact on fish species, therefore there is unlikely to be knock-on impacts on fisheries in Turkey.

As the Project assessed the Central Black Sea as critical habitat for the fish, bird and mammal species mentioned in Section 3.2.2 of this ESIA Addendum, South Stream Transport will produce a BAP to ensure the goal of achieving 'net biodiversity gains' for those species of conservation concern for which the critical habitat was identified.

In terms of collision risk, the collision risk assessment presented in the Turkish EIA Report concludes that there is a low probability of a Project vessel colliding with a third party vessel in the Black Sea. Design controls and mitigation measures will be in place to help to reduce the potential for a collision occurring such as the communication of the pipe-lay vessels position to maritime authorities and a 2 km radius safety exclusion zone around the pipe-lay vessel during construction.

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Acronyms / Abbreviations

Abbreviation/Term	Description
AIS	Automatic identification system
BAP	Biodiversity Action Plan
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
ESMoP	Environmental and Social Monitoring Programme
ESMP	Environmental and Social Management Plan
GPS	Global Positioning Systems
IFC	International Finance Corporation
ISPS	International Ship and Port Facility Security
IUCN	International Union for Conservation of Nature
km	Kilometres
km ²	Square Kilometres
m	Metres
m ³	Cubic metres
NGO	Non-governmental organisations
NTS	Non-technical summary
PLV	Pipe-ley vessel
PS	Performance Standard
ROV	Remotely Operated Vehicles
SCD	Stakeholder and Consultation Database
SEP	Stakeholder Engagement Plan
UNESCO	United Nations Educational, Scientific and Cultural Organisation

Appendix 1: Stakeholder Comments Received during the Disclosure Process

The following table presents all comments received by South Stream Transport during the ESIA consultation and disclosure period. Table A.1 is grouped by ESIA consultation meeting and the comment received via email is shown separately. It should be noted that some details have been removed to protect the details or interests of the individuals or organisations involved.

Table A.1 Stakeholder Comments Received During the ESIA Consultation and Disclosure Period

Type of Stakeholder	Topic Area	Comment	Response provided in ESIA Addendum
<i>Comments Received Via Email</i>			
Academic and/or Research Organisations	Biodiversity	One of the most important ecosystem properties of the Black Sea to be possibly impacted from the South Stream Project is the carbonate chimneys on the deep Black Sea bottom. These chimneys up to 4 m are special structures made up by bacteria and deserve protection. You may see them in the YouTube video (http://www.youtube.com/watch?v=stfvp3Z4hU8), http://www.genomenetwork.org/articles/08_02/without_oxygen.shtml . The project should make sure there are no such chimneys along the pipeline route not to impact these unique structures. This is missing in the report.	Refer to Section 3.2.3
<i>ESIA Consultation Meeting – Istanbul – 25 June 2014</i>			
Marine Area Users	Stakeholder Engagement Fishing	Which fisheries and fishing organisations have you met with?	Refer to Section 3.1
Marine Area Users	Fishing	Anchovy display two seasonal migrations from Ukraine and from Georgia. If they migrate during your construction activities I fear that they may change route and migrate away from Turkish waters. This is exactly what happened during another development undertaken in the Istanbul Straits. We don't want the same thing to happen during this Project. We went four years without anchovy being they were scared away and it ruined us. It not only affects us, but has knock-on impacts on related industries such as food processing. We have hundreds of workers on fishing fleets.	Refer to Section 3.2.1.3

Continued...

Type of Stakeholder	Topic Area	Comment	Response provided in ESIA Addendum
Marine Area Users	Fishing	You say that the Project is 110 km offshore so will not impact fishing, but this is nothing for us. We fish everywhere including Ukraine and Georgia. We understand that there will not be impacts in coastal waters, but we are offshore fishermen. The impacts will affect our trawlers. This issue concerns us all.	Refer to Section 3.3
Marine Area Users	Fish Sediments Noise and Vibration	This Project will have noise and light impacts on fish and when you lay the pipeline it will release a lot of sediment from the seabed into the water column. Therefore, we are very concerned about this Project.	Refer to Section 3.2.1.1 and 3.2.1.2
Marine Area Users	Fishing Sediment	Another development undertaken in the Istanbul Straits stopped us from fishing in the Marmara sea for four years because the anchovy went back into the Black Sea. This destroyed the fishing industry and many of us were not able to pay back our loans. The anchovy are crucial to our livelihoods and if the same happens again it would be a disaster.	Refer to Section 3.2.1.1
Marine Area Users	Fishing	I'm unsure of which fishermen you've met with who've said the Project won't impact the fisheries. It's not true and there will be impacts. I consider myself to have expertise in this area. I'm a shipbuilding graduate so I understand the impacts of ships on the marine environment. Even a single kilogram of lost catch will have an impact on us.	Refer to Section 3.1
Marine Area Users	EIA / ESIA (Process and Documentation)	Representative stated that he was not opposed to the Project and noted that the fisheries will be happy to support the Project to address any gaps in fishing information and inform us of any impacts.	Refer to Section 3.1
Marine Area Users	Political	Representative felt it was important for Turkey to become an energy hub in the region.	No response required

Continued...

Type of Stakeholder	Topic Area	Comment	Response provided in ESIA Addendum
<i>ESIA Consultation Meeting – Ankara – 26 June 2014</i>			
Marine Area Users	Technical and Design Aspects	Could you explain the welding procedures for the Project?	No response required, response provide in meeting.
NGO	Biodiversity	You mentioned the Project was aiming to provide net benefits to biodiversity. Could you expand on this? The concept of net benefits it quite interesting. I first came across the concept during the BTC project which went further than just mitigating impacts during its construction and operation towards ensuring further benefits to biodiversity. This was done through Environmental Investment Programmes towards protection and conservation of species. This not only brought no net loss, but additional benefits. I would like to see more than just research, but also the practical benefits from investing in the protection of ecosystems. For other pipeline developments undertaken onshore in Turkey, critical species and ecosystems were identified along the entire pipeline route and investment programmes was targeted towards their protection. They also took on board proposals from NGOs. If such an investment proposals were developed and submitted to your Project, what would you do with them?	Refer to Section 3.2.2
NGO	EIA / ESIA (Process and Documentation)	I would like to thank you for the information you have shared with us, and also that you have provided us with USBs with all your reports on them.	No response required
NGO	Waste Management	I think you should consider whether it is necessary to have a cover and packaging for the USB, and all the waste in printing the reports. As with other project components, you should be mindful of the waste you are generating.	Refer to Section 3.5
Academic and/or Research Organisation	Statement of Support	I would like to congratulate your Project for the work that has been undertaken in developing these reports and your work to date.	No response required

Continued...

Type of Stakeholder	Topic Area	Comment	Response provided in ESIA Addendum
Academic and/or Research Organisation	Protected Areas	As you are aware, Turkey is developing in terms of our understanding of environmental issues and we aim to raise the standards of our environmental scientists to international standards. We have around 20 marine protected areas in Turkey, but none of them are being proactively protected. We ask you to focus on these marine protection areas so that we can reap the benefits of the biodiversity in the Black Sea. It is all our responsibility, the environmental community as well as commercial and industrial projects, to ensure that this can happen.	The response to this comment is not within the remit of the ESIA as South Stream Transport are not responsible for the establishment of marine protected areas
Academic and/or Research Organisations	Stakeholder Engagement	We ask you to begin identifying partners as soon as possible to begin developing programmes and focus your programmes towards marine protection in the future. The representative also made mention of MedPAN – a network of marine protection organisations, involving partners in Italy, France and Israel.	Refer to Section 3.2.2
Academic and/or Research Organisations	Monitoring	Can you expand upon the monitoring activities you will be undertaking regarding the marine environment? We can provide you with researchers and scientists to work with you in these programmes. Our organisation is also a member of the United Nations Educational, Scientific and Cultural Organisation (UNESCO) committee.	Refer to Section 3.2.2
Academic and/or Research Organisations	Stakeholder Engagement	I congratulate you on your findings regarding shipwrecks and that you have shared these findings with us and the Ministry of Culture and Tourism. I wish to contact you directly to receive more information on them.	No response required

Continued...

Type of Stakeholder	Topic Area	Comment	Response provided in ESIA Addendum
Marine Area Users	Protected Areas	You keep mentioning protected areas, but are you working with the General Directorate of Fisheries and Aquatic Products regarding putting these in place? And what is the remit of these protected areas, are you going to prohibit fishing in certain areas and who will control that? How will you regulate the income of fishermen by doing so?	The response to this comment is not within the remit of the ESIA as South Stream Transport are not responsible for the establishment of marine protected areas
Marine Area Users	Fishing Light Noise and Vibration	The impact on fisheries is a critical issue for us. You state you will have a safety exclusion zone around the vessel which will be in operation for months. Plus there will be noise from the vessel and lighting around it. This will attract plankton, which will mean it will attract fish. This will have a detrimental impact on fishing activities and is a concern for fishermen.	Refer to Section 3.2.1.2 and 3.3
<i>ESIA Consultation Meeting – Trabzon – 27 June 2014</i>			
Academic and/or Research Organisations	Statement of Support	Firstly, I would like to congratulate your Project for the work that has been undertaken in developing these reports and your work to date. Detailed investigations had been performed regarding Pipeline Project.	No response required
Academic and/or Research Organisations	Collision Risk	I have some questions which would make a contribution to your Project. As you know, six countries have a coastline with Black Sea and density of vessel traffic is very high in the Project Area. The Project cuts through a number of busy shipping lines where there is intense maritime traffic. A large number of these are sub-class vessels that do not comply with IMO standards and are not operated by highly qualified staff. Does this increase the risk of accidents?	Refer to Section 3.4.1
Academic and/or Research Organisations	Unplanned Events	There are a lot of trawl fishers in the Varna area. Have you considered the risks of this with regard to your pipeline and the consequences of an oil spill?	Refer to Section 3.4.2

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Type of Stakeholder	Topic Area	Comment	Response provided in ESIA Addendum
Academic and/or Research Organisations	Collision Risk	<p>The maritime notification procedures may not be sufficient in ensuring safety. There are no tangible borders around the vessel. In the Black Sea there can be ships where no one is manning the vessels.</p> <p>Even with radio communications, how do you mitigate against the possibility of collision of vessels in the Black Sea with the pipe-lay vessels?</p>	Refer to Section 3.4.1
Academic and/or Research Organisations	Collision Risk	<p>The shipping traffic data you present may not account for all the vessels present in the area as they are not equipped with Global Positioning System (GPS) tracking. So you may encounter 20 / 30 times the number of vessels whilst you are out there.</p> <p>There are a number of Volga boats, whose security levels are quite low. I think these vessels account for about 20 % of the vessels in the Black Sea. There are a number of sources of information and international memorandums that look into this issue.</p> <p>Blue Stream is not a good example as it did not intersect all the busy shipping routes in the middle of the Black Sea as your Project does. Pipelines were laid perpendicularly in Blue Stream Project while pipelines will be laid horizontally in your Projects. So that, these two Projects are totally different. I am a marine captain myself and I've had experienced of those routes. Before you know it, you may encounter 5 to 6 vessels in front of you. The Istanbul-Odessa shipping lane is particularly busy.</p>	Refer to Section 3.4.1
Academic and/or Research Organisations	Unplanned Events	<p>Does this Project comply with ISPS (International Ship and Port Facility Security Code)?</p> <p>There are a number of military vessels in the area, plus traffic. I believe that the ISPS code is applicable. All the vessels above 500 gross tonnage are subject to the ISPS code. I believe the security standard you should be applying is level 2 of the ISPS.</p>	Refer to Section 3.4.3
Academic and/or Research Organisations	Terrorism Sabotage	<p>If there was a terrorism sabotage on the Project during pipe-laying or operation, how would you manage it, and what will be the impacts of such an episode? Has the Project given any thoughts to acts of terrorism or sabotage during pipe-laying or operation?</p>	Refer to Section 3.4.3

Complete.