

## GHG Footprint Assessment

[As of 06/11/2017]

Please consult the EIB Carbon Footprint Manual for guidance when completing the footprint calculation

### Section 1

PROJECT INFORMATION	
Project	TRANS ADRIATIC PIPELINE
Operation n°	20140596

### Section 2 - Absolute Emissions

SCOPE 1, 2 or 3 EMISSIONS (AS APPLICABLE)				
Description of source	Activity data	Units/yr	Emissions factor* t CO2-eq/unit	Emissions kt CO2-eq/yr
Fuel gas for compressor stations	7581	TJ	56.1	425.3
Fugitive emissions	878	km	58.1	51.0
				0.0
				0.0
				0.0
(A)			<b>Absolute Emissions</b>	<b>476.3</b>

### Section 3 - Baseline & Relative Emissions

BASELINE EMISSIONS				
Description of source	Activity data	Units/yr	Emissions factor* t CO2-eq/unit	Emissions kt CO2-eq/yr
Alternative supply to Europe - fuel gas	7581	TJ	56.1	425.3
Alternative supply - fugitive emissions	878	km	58.1	51.0
				0.0
				0.0
				0.0
(B)			<b>Baseline Emissions</b>	<b>476.3</b>
(A - B)			<b>Relative Emissions</b>	<b>0.0</b>

### Section 3 - Alternative Absolute and Baseline Emissions

Alternative Section to be used only in consultation with your Division CFTF Representative				
Description of source	Activity data	Units/yr	Emissions factor* t CO2-eq/unit	Emissions kt CO2-eq/yr
<b>Absolute Emissions (as above)</b>				
SIGNIFICANT ABSOLUTE EMISSIONS OUTSIDE OF PROJECT BOUNDARY				
				0.0
				0.0
				0.0
				0.0
				0.0
(A)			<b>With Project Emissions</b>	<b>0.0</b>
BASELINE EMISSIONS				
				0.0
				0.0
				0.0
				0.0

				0.0
	(B)	Without Project Emissions		0.0
	(A - B)	Relative Emissions		0.0

## Section 4

<b>FOOTPRINT CALCULATION ASSUMPTIONS</b>	<i>Assumptions are those taken by the EIB appraisal team; please indicate sources when different from those in the Carbon Footprint Methodology</i>		
<b>ABSOLUTE EMISSIONS EXPLANATION OF SCOPE 1, 2 &amp; 3 EMISSIONS (IF APPLICABLE)</b>	The project consists of construction of a 878 km pipeline across Greece, Albania and Italy, which will initially transport natural gas produced from Azerbaijan's Shah Deniz field. When fully operational and running at full capacity, it will transport 10 Gm3 of natural gas per annum to Europe. CO2 emissions from combustion of natural gas in the compressor stations are estimated to be 190 Mm3/a. The gross calorific value for natural gas from Shah Deniz 2 is 39.9 MJ/m3. The emission factor for combustion of natural gas is 56.1 tCO2/TJ.		
<b>RELATIVE EMISSIONS EXPLANATION OF OTHER SIGNIFICANT EMISSIONS AFFECTED BY THE PROJECT AND BASELINE CHOICE</b>	<p>Since domestic natural gas production in the EU is declining faster than demand, imports are expected to increase. For meeting the incremental imports, the baseline alternative to the Southern gas corridor is to increase Russian imports and USA LNG.</p> <p>Additional Russian imports can be delivered either via the existing transit route via Ukraine, or through the planned pipeline Nord Stream 2. Emissions from the Ukraine transit option are higher compared to TAP (due to the age and design of Ukraine's transmission system). Data for fuel use of future Nord Stream 2 pipeline is not available. However, the per unit fuel use for compression of Nord Stream 2 should be higher than TAP's because of the significantly higher design pressure. Thus, for both alternative options of Russian exports (Ukraine transit and Nord Stream 2), TAP's fuel use and relative emissions will be lower. Since exact fuel use of Nord Stream 2 is not known, the conservative assumption taken here is that it's relative emissions are at least equal to TAP's, and therefore the most conservative estimate of the relative emissions of the project compared to the baseline is assumed to be zero (rather than negative).</p> <p>USA LNG as an alternative incremental import might be more likely given the political decisions to diversify away from Russian imports. However, emissions from importing the same amount of gas via LNG are by some estimates triple those of this project. Since there are uncertainties as to what the real baseline alternative to imports via TAP would be, the LNG option is omitted here. However, taking the LNG option as the baseline would result in a very high relative emission savings for the project.</p>		
<b>CARBON FOOTPRINT METHODOLOGY</b>	<b>V 10.1</b>		

## Section 5

<b>Update FOOTPRINT CALCULATION JUSTIFICATION after BoD of project</b>		<b>Previous Value</b>	<b>New Value</b>
Date of Update			
Who updated			
Absolute Emissions			
Relative Emissions			
<b>Reason for Update</b>			
<b>Reference documents if needed</b>			