



Integrated ESIA Greece Section 9 - Environmental, Social and Cultural Heritage Management and Monitoring





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9 ENVIRONMENTAL, SOCIAL AND CULTURAL HERITAGE MANAGEMENT AND MONITORING

9.1 Overview

This section sets out TAP AG's approach to the management and monitoring of environmental and socioeconomic (including cultural heritage) issues related to the construction, operation and decommissioning of the TAP Project.

The main objective of the Environmental and Social Management and Monitoring Plan (ESMMP) is to provide a framework for the implementation of the measures identified in the impact assessment (*Section 8*) to avoid, mitigate or offset adverse impacts and to minimise and manage risks on the environment, construction and operation staff and local population from Project activities. Where possible, this plan will propose measures oriented to increase positive effects of Project implementation.

The broad purpose of the ESMMP is to:

- Ensure that good industry practice, with respect to environmental and social management, is adopted during all phases of the Project (construction, operation and maintenance, and decommissioning) and all engineering activities;
- Define strategies, methods and control approaches to ensure implementation of measures to effectively mitigate potentially adverse environmental or socioeconomic impacts; and
- Provide a framework for compliance monitoring (auditing and inspection) by which TAP AG intends to assure that the environmental and socioeconomic performance commitments for the Project are being met.

9.2 Environmental & Social Management and Monitoring Plan

The ESMMP contains information on the foreseen management and monitoring arrangements; i.e. mitigation measures and provisions for monitoring to assess the effectiveness of these measures. The related roles, responsibilities and estimated costs for undertaking these activities are still under preparation by TAP AG.



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Table 9-1, Table 9-2 and Table 9-3 present the management and monitoring actions to address the environmental and socioeconomic issues associated with each phase of the Project, as identified through the ESIA process, together with key performance indicators, implementation timelines and milestones.

The ESMMP tables presented below show summarised / aggregated management measures, but do not present a full list of all recommended measures. References to the impact assessment (*Section 8*) are made when necessary so that the reader can find the more comprehensive explanation of mitigation measures for each impact / risk, as required.

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Table 9-1 Environmental and Social Management and Monitoring Plan: Construction Phase

EBRD PR Reference	Issue / Risk (ESIA Section Reference)	Key Management Activity / Measure	Requirement: Legal and/or International best practice	Key Performance Indicator	Implementation Timeline / Performance Milestone
<i>EHS & Social Construction Management</i>					
PR 1 Environmental and Social Appraisal and Management	Implementation of ESMMP measures	Setting-up of Project Owner's Environmental and Social Management organisation in county / on-site procedures for construction stage to cover Construction HSE and Workers Management and Rights issues, Community Liaison and Public Grievance Procedures.	EBRD performance requirements	<ul style="list-style-type: none"> E&S management organisation set-up. HSE officers, CLOs, and CSR officers hired and stationed in country / on site, HSE/CSR reporting systems in place, regular inspection and monitoring of E&S performance of the contractors and regular E&S performance improvement meetings. 	Management organisation and relevant staff for implementation and monitoring in place before start of construction
<i>Ambient Air Quality</i>					
<ul style="list-style-type: none"> PR 3 Pollution Prevention and Abatement (Paragraphs 10 and 11) PR 4 Community Health, Safety and Security (Paragraphs 16 and 17) 	Temporary impacts on local air quality due to atmospheric emissions during the Project construction (Section 8.2.2)	<ul style="list-style-type: none"> Compliance with construction procedures and schedule. Dust suppression by water spraying (as needed, depending on soil type) in dry seasons at working strip and at unpaved roads located at <200 m from settlements. Pre-notification of critical dust producing activities. Covering of open loads on trucks. 	<ul style="list-style-type: none"> IFC Guidelines (Environmental, Health and Safety Guidelines – Paragraph 1.1) International best practice 	<ul style="list-style-type: none"> Best practice HSE clauses in EPC contract to include provision of dust suppression measures. Notification to local public via TAP community liaison efforts prior to dust or other air and noise generating activities. Records of Grievances. Confirmation of measure implementation by TAP AG's construction supervision. 	<ul style="list-style-type: none"> Contractual arrangements of obligations before construction. Implementation throughout construction
<i>Acoustic Environment</i>					
<ul style="list-style-type: none"> PR 3 Pollution Prevention and Abatement para 10 and 11 PR 4 Community Health, Safety and Security para 16 and 17 	Direct impact on human health (potential annoyance at residential buildings closest to work sites and CS; sleep disturbance; potential stress). (Section 8.3.2)	<ul style="list-style-type: none"> Community Liaison and Public Grievance Procedures (Section 0) Switch off equipment and vehicles when not in use. Promote the use of low nuisance vehicles/equipment especially in sensitive areas. Limit noisy construction activities and traffic to normal working hours (0600-2200). Conduct a noise assessment on site when conducting works outside normal working hours (i.e. hydrotesting) close to settlements. Locate stationary equipment as far as practicable from nearby receptors. Good maintenance of equipment. 	<ul style="list-style-type: none"> IFC (Environmental, Health and Safety Guidelines – Paragraph 1.7) Greek Dir 2001/14/EC (amm. Dir 2005/88/EC) JMD 9272/471/2007 International best practice 	<ul style="list-style-type: none"> Results of audits (application of mitigation measures).Project activity restrictions schedule 	Before and throughout construction phase.
	Direct impact on fauna species such as Wolf, Bear, Jackal, Avifauna by the use of blasting (potential disturbance and/or displacement, reduction of usable habitat) (Section 8.7.2.1.5)	<ul style="list-style-type: none"> Avoid blasting in certain locations for protection of wolf and bear populations during breeding and mating season (April-early August). 			

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EBRD PR Reference	Issue / Risk (ESIA Section Reference)	Key Management Activity / Measure	Requirement: Legal and/or International best practice	Key Performance Indicator	Implementation Timeline / Performance Milestone
Water Resources PR3 Pollution Prevention and Abatement, para 10	Affection to surface water by sediment plumes (Sections 8.4.2.1.1 and 8.4.2.1.2)	<ul style="list-style-type: none"> Avoid contact of vehicles and machinery with surface waters. Dampening of dust-generation surfaces. Application of HDD in specific locations (when technically feasible). Reduce the sediment load on water during dewatering activities of trenches by using settlement tanks. Adopt measures to control run-off water to and from construction sites. Monitor water quality at crossings weekly and one week after crossing. Installation of header drains where appropriate. 	<ul style="list-style-type: none"> Water Framework Directive (WFD); Directive for Water Quality to support Fish life (EU 78/659); Directive of Quality of Bathing (EU 76/160) International best practice 	<ul style="list-style-type: none"> Periodic monitoring of application of mitigation measures and results reporting Turbidity / suspended solids to be measured one week before works in or close to the river and during the works within the river. Take action when sediment runoff is detected and report actions taken. 	<ul style="list-style-type: none"> Before start of construction. During construction
PR1 Environmental and Social Appraisal and Management, para 5 and 7	Hydrotesting and consumption of freshwater resources (Sections 8.4.2.1.3 and 8.4.2.1.5)	<ul style="list-style-type: none"> Water Management Plan (Section 0) and monitoring Water will be reused in subsequent sections of hydrotesting where practicable. Water will be tested prior to discharge and local treatment will be provided if necessary. Discharge to be realized so as to minimize physical impacts on receptor morphology. Contact and co-operation with Authorities No additives will be used. Maximum water abstraction limit will be agreed with Authorities for the abstraction permit, in line with the Water Framework Directive requirements. Minimize water consumption by training workers and controlling the contractors. 	<ul style="list-style-type: none"> Water Framework Directive (WFD) International best practices 	<ul style="list-style-type: none"> Periodic monitoring on application of Water Management Plan. Quality of hydrotesting abstracted and discharged water (DO, SS, Oils and grease, coliforms) River flow Volumes of water used for hydrotesting and relative percentage of river flow. Training of workers at the beginning of works (register). Initial monitoring and reporting of subcontractor procedures. Monitoring water quality prior to discharge (DO, SS, Oils and grease, coliforms) Quantities of water used (hydrotesting, campsites, dust suppression, etc) 	<ul style="list-style-type: none"> Before and during construction During and after reinstatement phase

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PR3 Pollution Prevention and Abatement, para 10, 12 and 13	Contamination of freshwater resources by solid and liquid wastes (Sections 8.4.2.1.4 and 8.4.2.1.6)	<ul style="list-style-type: none"> Develop a Waste Management Plan (Section 0) and a Chemical Substances Management Plan (Section 9.3.8). Implement a Pollution Prevention Plan (Section 9.3.7) Drilling mud used on trenchless crossing methods will be an inert and non-toxic substance (incl. in Waste Management Plan) Hydrotesting discharged water will be free of any chemicals or oxidizers and tested prior to discharge. All areas for which there is a risk of leaks or spills will be bunded. Where necessary ground surface will be upgraded to hardstanding for use at temporary facilities to prevent contamination of groundwater. Monitoring of groundwater table by boreholes 	<ul style="list-style-type: none"> Water Framework Directive Directive for Water Quality to support Fish life (EU 78/659); Directive of Quality of Bathing Water (EU 76/160) International best practice 	<ul style="list-style-type: none"> Report on the initial monitoring of subcontractors and list of materials. Quantities and composition of drilling mud used Water quality at crossings: Turbidity / suspended solids, oil and grease. Reports on quality of hydrotesting abstracted and discharged water. Monitoring and reporting on application of Waste Management Plan, Chemical Substances Management Plan and Pollution Prevention Plan Monitoring water quality prior to discharge (DO, SS, Oils and grease, coliforms). 	<ul style="list-style-type: none"> PR3 Pollution Prevention and Abatement, para 10, 12 and 13
<i>Soil and Subsoil</i>					
PR3 Pollution Prevention and Abatement para 10, 12 and 13	Contamination of Soil by Solid and Liquid Wastes (Section 8.5.2.1.3)	<ul style="list-style-type: none"> Waste Management Plan (see Section 0) Chemical substances Management Plan (see Section 9.3.8). Fuel and chemicals handling and storage in secure bunded areas. Management of excavated contaminated soil as hazardous waste. Use of impermeable materials as clay for trenching / backfilling. 	<ul style="list-style-type: none"> JMD 8668/2007 JMD 36259/1757/E103/2010 International best practice 	<ul style="list-style-type: none"> Periodic monitoring of Waste Management Plan and Chemical Substances Management Plan Reporting and addressing non conformities to the mentioned plans 	<ul style="list-style-type: none"> Before and during construction Reinstatement phase
PR1 Environmental and Social Appraisal and Management, para 5	<ul style="list-style-type: none"> Disturbance and Degradation of: <ul style="list-style-type: none"> - Soil Erosion (Section 8.5.2.1.1) - Soil Compaction (Section 8.5.2.1.2) 	<ul style="list-style-type: none"> Proper top soil handling (not mixing with other trenched materials), re-use of original soil and reinstatement immediately after construction. Original surface contours will be reinstated after construction. Seeding, hydroseeding (possible), other soil revegetation practices and log dams (Mt. Vermio and Mt. Askion). Promotion and monitoring of natural revegetation processes. When possible, in erosion/compaction risk areas conduct the works during the dry period. Topsoil stockpiles will be restricted to a maximum height. Soil stockpiles will be protected from heavy rainfall (covering). Topsoil storage periods will be kept to a minimum otherwise will be vegetated. Access areas to heavy machinery will be restricted to the construction zone and access roads. On sensitive soils construction activities will be planned for the dry period. Deep ploughing will be applied following construction all along the construction strip. 	<ul style="list-style-type: none"> International best practices 	<ul style="list-style-type: none"> Monitoring and reporting of soil handling and storage measures (height of topsoil mounds, volumes of topsoil handled) Monitoring and reporting of restoration and erosion control measures. (number of serious occurrences; percentage of erosive events detected and corrected) Events where machinery has been identified outside the designated working areas. 	<ul style="list-style-type: none"> Before and during construction

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Landscape and Visual Amenity					
PR1 Environmental and Social Appraisal and Management, para 5	Physical changes to the landscape general unity (fragmentation) due to construction works, signs etc. (Section 8.6.2.2)	<ul style="list-style-type: none"> Construction and restoration activities shall have the shortest practicable duration Reduced working strip when necessary Use existing boundary areas and landscape features Materials and machinery will be stored tidily during the works Access roads will be maintained free of dust and mud Building structures will be designed to fit within existing topography Restoration measures will be detailed and implemented through a Landscape Management Plan (see Section 9.3.18) 	<ul style="list-style-type: none"> International best practice in Guidelines for Landscape and Visual Impact Assessment, IEMA 2002 	<ul style="list-style-type: none"> Supervision during construction by appropriate landscape/ecological site supervisor Verification of compliance of construction strip widths 	<ul style="list-style-type: none"> Before and during construction Reinstatement phase
PR1 Environmental and Social Appraisal and Management	Disturbance of the landscape habitats' features continuity such as the mature trees (cut of trees) or watercourses (Section 8.6.2.3)	<ul style="list-style-type: none"> Minimisation of vegetation clearance Avoid total tree removal where possible Temporary hoardings, barriers, traffic management and signage will be removed when no longer required Use of species characteristic to the area when re-vegetating. 	International best practice in Guidelines for Landscape and Visual Impact Assessment, IEMA 2002	<ul style="list-style-type: none"> Supervision during construction by appropriate landscape/ecological site supervisor Presence/absence of fencing for protecting vegetation where flora of conservation interest or emblematic trees have been identified The hoardings will be present and these will protect the health and condition of the retained vegetation located close to the compressor station sites. 	<ul style="list-style-type: none"> Before and during construction Reinstatement phase
PR1 Environmental and Social Appraisal and Management	Interruption of agricultural activities and use of farmlands (Section 8.6.2.4)	Construction and restoration activities shall have the shortest practicable duration	International best practice	<ul style="list-style-type: none"> Supervision during construction by appropriate landscape/ecological site supervisor Verification of compliance of construction strip widths 	<ul style="list-style-type: none"> Before and during construction Reinstatement phase
PR1 Environmental and Social Appraisal and Management	Changes in the viewshed and aesthetic value to residents (Section 8.6.2.5)	<ul style="list-style-type: none"> Removal of all surplus material after end of construction Minimization of the removal of mature trees Screen planting Above ground structures will be designed and located to be as visually unobtrusive as can be technically achieved 	International best practice in Guidelines for Landscape and Visual Impact Assessment, IEMA 2002	<ul style="list-style-type: none"> Supervision during construction by appropriate landscape/ecological site supervisor 	<ul style="list-style-type: none"> Before and during construction Reinstatement phase
Biodiversity					
EBRD PR6Biodiversity Conservation and Sustainable Management of Living Natural Resources para 5 Within Biodiversity Management Plan Element 1	<ul style="list-style-type: none"> Terrestrial Ecology, Freshwater Ecology and Protected Areas: Habitat loss / degradation, fragmentation, direct species loss, disturbance or displacement (Sections 8.7.2, 8.8.2 and 8.9.2) 	Implementation of construction <i>Biodiversity Action Plan</i> outlined in Section 9.3.17. [NB Detailed measures not repeated here.]	<ul style="list-style-type: none"> EBRD Performance Requirements Bern Convention EU Natura 2000 Legislation International best practice IFC PS6 Greek Law 4014/11 Greek Law 3937/11 	<ul style="list-style-type: none"> Pre / During / Post Construction Surveys, reporting results and comparisons. Implementation of BACI (Before – After – Control – Impact) Approach for Mitigation Measures Records of verifying implementation of mitigation and compensation measures. Monitoring of illegal access for logging on project roads 	<ul style="list-style-type: none"> Before and during construction Reinstatement phase

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Economy, Employment and Income					
<ul style="list-style-type: none"> PR2 Labour and Working Conditions para 10 PR10 Information Disclosure and Stakeholder Engagement, PR7 Indigenous Peoples 	<ul style="list-style-type: none"> Temporary employment and economic impact – national level and local level Vulnerable groups Skill and capacity enhancement (Section 8.10.2) 	<ul style="list-style-type: none"> Agree a capacity building program with authorities and other organizations Optimise contract opportunities to Greek companies Fair and transparent recruitment process for all openings Advertise jobs so they are accessible locally Include Roma camps and community leaders Demand and supply side analysis, TAP AG local content strategy, objectives, goals and targets; capacity building program; 	<ul style="list-style-type: none"> EBRD PR2, PR10 IFC PS and IFC General EHS Guidelines International best practice 	<ul style="list-style-type: none"> € spent on Greek goods and services Employment Strategy, percentage of unskilled labour from within the country Local content strategy, Percentage of contractors that receive training on socioeconomic policies. 	Before and after start of construction
PR2 Labour and Working Conditions para 10	Temporary economic impact – national level and local level (Section 8.10.2)	<ul style="list-style-type: none"> Purchasing strategy that stipulates how national and local purchase of goods and services will be optimised (see Section 9.3.13). Provide information locally (industry chambers and business organisations) 	<ul style="list-style-type: none"> EBRD PR2 IFC PS and IFC General EHS Guidelines International best practice 	Agreed Purchasing strategy for local goods and targets will be monitored	During contractor tendering process
Lands and Livelihoods					
<ul style="list-style-type: none"> PR5 para 24-30 PR7 Indigenous Peoples PR10 Information Disclosure and Stakeholder Engagement 	Temporary loss of livelihood and income (Section 8.11.2.1)	<p><i>Livelihoods Restoration Framework</i> (see Section 9.3.12): identifying reliable cadastral data, identify landowners and secure land titles compensation at replacement value. [NB In order to address land related issues and in particular compensation, TAP AG has developed the LEA - <i>Land and Easement Acquisition Strategy</i> and the <i>Draft Land Access Plan</i> – refer to Section 8.11.2.2. The objectives of the LEA are realised through the <i>Livelihoods Restoration Framework</i>.]</p>	<ul style="list-style-type: none"> EBRD PR5, PR7, PR10 IFC PS and IFC General EHS Guidelines International best practice 	<ul style="list-style-type: none"> Identification of all landowners and land users within 2 km corridor (cadastral data updated), Number of meeting minutes from consultations developed Livelihoods Restoration Framework monitoring by percentage of landowners affected with signed compensation agreements 	<ul style="list-style-type: none"> Before start of construction, Throughout construction and following construction as appropriate
<ul style="list-style-type: none"> PR4 Community Health, Safety and Security para 10 PR5 Land Acquisition, Involuntary Resettlement and Economic Displacement PR8 Cultural Heritage para PR10 Information Disclosure and Stakeholder Engagement para 12-13 	<ul style="list-style-type: none"> Displacement of non-residential physical structures Disturbance to animal grazing Disruption to collecting forest produce (Section 8.11.2.1) 	<ul style="list-style-type: none"> Information campaign to prevent new constructions within 40 m inner safety zone Compensate greenhouse owner/s and workers Consultation to construct animal crossings in suitable sections, applying distances as appropriate. Identify alternative firewood collection areas if necessary; distribute information to inform local communities of restricted access 	<ul style="list-style-type: none"> EBRD PR4, PR5, PR8, PR10 IFC PS and IFC General EHS Guidelines International best practice 	<ul style="list-style-type: none"> Presentations and other information disclosure materials available and accessible Meeting minutes from consultations; Signed compensation agreements; Monitoring 	Before start of construction and monitoring periodically throughout construction
Infrastructure and Public Services					
<ul style="list-style-type: none"> PR 4 Community Health, Safety and Security para 7, 8, 10, 11, 15, 16, 18 PR5 Land Acquisition, Involuntary Resettlement and Economic Displacement para 41 	Disruption/Damage to infrastructure and utilities (Section 8.12.2.1)	<ul style="list-style-type: none"> Diversions will be put in place Infrastructure and Utilities Management Plan (see Section 9.3.15) Documented agreements and collaboration with local authorities and utility companies Pre-construction survey of irrigation infrastructure and flooding channels Pre-construction and post construction status to be signed off by land owners Flooding Control Plan Documented agreements and collaboration with local authorities 	<ul style="list-style-type: none"> EBRD PR4, PR5. IFC PS and IFC General EHS Guidelines International best practice 	<ul style="list-style-type: none"> Traffic monitoring (number of vehicles per category). Public Utilities Assessment Plan; ESMMPs; monitoring logs Percentage of affected entities having a signed agreement Total number of hours of utility service interruptions (sewage, electricity, irrigation) Percentage and number of responses to relevant grievances; monitoring of grievance trends and response performance 	Prior to construction, on-going throughout construction

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<ul style="list-style-type: none"> PR10 Information Disclosure and Stakeholder Engagement para 15, 16, 24, 25 PR 4 Community Health, Safety and Security para 8, 9, 15, 16 PR5 Land Acquisition, Involuntary Resettlement and Economic Displacement para 11, 12, 39-42 	<ul style="list-style-type: none"> Temporary loss of water flow from disruption to flooding channels and irrigation systems (Section 8.12.2.1) 	<ul style="list-style-type: none"> Infrastructure and Utilities Management Plan (see Section 9.3.15) Irrigation Continuity Plan (see Section 9.3.15) Planned irrigation crossings in cooperation with local community Preconstruction survey and reinstatement of wells affected Documented agreements and collaboration with local authorities Preconstruction survey and reinstatement of irrigation channels Monitoring of grievance trends and response performance Compensation to stakeholders Community liaison officers present in front works 	<ul style="list-style-type: none"> IFC PS and IFC General EHS Guidelines International best practice 	<ul style="list-style-type: none"> Percentage and number of responses to relevant grievances; monitoring of grievance trends and response performance Meeting minutes and signed compensation agreements Monthly reviews of engagements with local communities Total number of hours of utility service interruptions (sewage, electricity, irrigation) Percentage of channels reinstated after trench filling Percentage of wells reinstated Pre-construction and post construction status to be signed off by land owners 	Before start of construction, throughout construction following post-construction restoration work

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Worker Management and Rights					
PR 2 para 7, 13, 15 EBRD Workers' Accommodation processes and standards (August 2009)	Worker health and safety (Section 8.13.2.1)	<ul style="list-style-type: none"> Worker Management Plan (see Section 9.3.14) Install barriers to prevent accidents; stop work authority. Health status surveillance programs Application of TAP AG Code of Conduct Health and Safety Management System H&S compliance with law and TAP AG Policy Evaluate contractor H&S performance PPE provision, regular training and monitoring. H&S monitoring and audits Health and Safety Management Plan 	<ul style="list-style-type: none"> Greek labour law. EBRD PR2 IFC PS and IFC General EHS Guidelines International best practice 	<ul style="list-style-type: none"> Total recordable incidents, lost time incidents, and other H&S data Health screening recordings signed by workers each 6 months PPE: register regular training and verifying conditions of the PPE H&S monitoring and audits (records on medical facilities and first aid equipment conditions) H&S performance evaluations for contractors 	<ul style="list-style-type: none"> Prior to construction Throughout the project During contract selection process
<ul style="list-style-type: none"> PR2 Labour and Working Conditions para 7, 8, 10, 13 PR10 Information Disclosure and Stakeholder Engagement 	<ul style="list-style-type: none"> Worker right (Section 8.13.2.1) Child Labour, Forced labour (Section 8.13.2.1) 	<ul style="list-style-type: none"> No discrimination policy Human Resource Policy (include commitments to non-discrimination and forbidding forced and child labour). Provide Human Resources Policy to all workers at the time of hire Sexual harassment Policy adoption Confirm contractor grievance procedure or provide employee grievance mechanism to non-employee workers Include requirements related to EBRD PR2 in all tender documents and contractors for technical service providers and contractors Social compliance monitoring Evaluate contractor performance regarding respecting workers' rights Provide clear written contracts Adopt open attitude to freedom of association Worker grievance mechanism Manage working hours and adopt HR practices Training on workers' rights Worker Management Plan (see Section 9.3.14) 	<ul style="list-style-type: none"> Greek labour law, EBRD PR2, PR10 IFC PS and IFC General EHS Guidelines International best practice 	<ul style="list-style-type: none"> Worker grievance trends, monitoring, workforce surveys results KPIs for worker rights, discrimination, worker grievances and monitoring outcomes Positive outcomes of Community and workers grievances Training records (complied with assigned training) Secured contractor contracts Number of times where TAP AG Code of Conduct has been breached Supplier contracts to include explicit language on child and forced labour. Supplier contracts to include information of assessment to verify compliance with core ILO standards. Summary of worker and non-employee grievance included in annual reporting. Induction documentation for all workers to include harassment Policy. 	<ul style="list-style-type: none"> Throughout the project During contract selection process
Community Health and Safety					
<ul style="list-style-type: none"> PR2 Labour and Working Conditions para 5, 16 PR4 Community Health, Safety and Security para 17, 18 PR10 Information Disclosure and Stakeholder Engagement para 24-26 	<ul style="list-style-type: none"> Increased transmission of communicable diseases (Section 8.14.2.1) 	<ul style="list-style-type: none"> Implement IFC/ EBRD guidelines regarding the construction and management of worker accommodation Training on communicable diseases Guidelines and training on worker and community interactions Community Health Management Plan Emergency Response Plan including local authorities and hospitals TAP AG Policy Voluntary health screening Community Health Management Plan (see Section 9.3.16) 	<ul style="list-style-type: none"> EBRD PR2, PR4, PR10 IFC PS and IFC General EHS Guidelines International best practice 	<ul style="list-style-type: none"> Monitoring and audits Employment screening records Voluntary health screening for all workers every 6 months Training records Records on medical facilities and first aid equipment conditions 	<ul style="list-style-type: none"> On-going during construction Throughout the project
<ul style="list-style-type: none"> PR2 Labour and Working Conditions para 16 PR4 Community Health, Safety and Security 	Access to health facilities (Section 8.14.2.1)	<ul style="list-style-type: none"> Primary health care and first aid at construction camp sites Agreements with local hospitals to provide emergency health care Community Health Management Plan (see Section 9.3.16) 	<ul style="list-style-type: none"> EBRD PR2, PR4 IFC PS and IFC General EHS Guidelines International best practice 	Reports on monitoring of medical facilities at worker accommodation and of health care and first aid services at camp sites.	<ul style="list-style-type: none"> Periodically throughout the project Agreements with hospitals prior to construction

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EBRD PR Reference	Issue / Risk (ESIA Section Reference)	Key Management Activity / Measure	Requirement: Legal and/or International best practice	Key Performance Indicator	Implementation Timeline / Performance Milestone
PR10 Information Disclosure and Stakeholder Engagement	<ul style="list-style-type: none"> Environmental changes (Section 8.14.2.1) Site trespass and injuries (Section 8.14.2.1) 	<ul style="list-style-type: none"> Prior to blasting activity, inform closest communities Fence camps, storage facilities and pipe laydown yards; install proper signage to alert of trespass risks (risks of entering a construction site) 	<ul style="list-style-type: none"> EBRD PR10 IFC PS and IFC General EHS Guidelines International best practice 	Information disclosure material, meeting minutes from engagement, community grievance trend monitoring and response performance	<ul style="list-style-type: none"> During construction as needed Before start of construction
Community Cohesion					
<ul style="list-style-type: none"> PR2 Labour and Working Conditions para 10 PR4 Community Health, Safety and Security PR10 Information Disclosure and Stakeholder Engagement para 12, 15, 21, 24, 25 	<ul style="list-style-type: none"> Unmet expectations for benefits (Section 8.15.2.1) Heightened tensions within and between communities (Section 8.15.2.1) 	<ul style="list-style-type: none"> Social and Environmental Investment Strategy in line with CSR policy objectives Community consultation on the strategy and disclosure Publicly disclose Livelihoods Restoration Framework Grievance Mechanism Meetings with Roma communities within the investigation corridor Social and Environmental Investment Plan (see Section 9.3.11) 	<ul style="list-style-type: none"> IFC PS and IFC General EHS Guidelines International best practice 	<ul style="list-style-type: none"> Social and Environmental Investment Strategy, CSR policy, KPIs to evaluate outcomes of investments, € spent on investment Number of meeting minutes from consultations developed Number of quarterly project update leaflets on progress of investment plan and on livelihood restoration Results of monitoring to ensure awareness of grievance submittal process, monitoring grievance trends Meeting minutes from engagement and consultations 	<ul style="list-style-type: none"> On-going throughout project Prior to Social and Environmental Strategy finalization
Traffic and Transport					
PR4, Community Health, Safety and Security, para 7 through 10	<ul style="list-style-type: none"> Impacts on Safety of Road Users and Others (Section 8.16.2.1) Highway Infrastructure Degradation (Section 8.16.2.1) Road User Delay (Section 8.16.2.1) 	Development of a <i>Traffic Management Plan</i> (see Section 9.3.5) In advance of works, planning and communication of road deviations and closures	<ul style="list-style-type: none"> EBRD PR 4 IFC PS4 and IFC General EHS Guidelines 3 & 4 requirements to ensure community safety and manage construction traffic. International best practice. 	<ul style="list-style-type: none"> Traffic Management Plan preparation part of the EPC tasks. Minutes of meeting from consultations and agreements with stakeholders (municipalities) and authorities incl. traffic police Number of days and kilometres of roads affected by the project (closure and deviations) 	<ul style="list-style-type: none"> Traffic Management Plan to be agreed with the Authorities before start of works
PR4, Community Health, Safety and Security, para 10	Public Road Infrastructure Degradation (Section 8.16.2.1)	<ul style="list-style-type: none"> Precautions to avoid damage to public roads. Where tracked equipment will be used, timber mats, tyres or steel plates will be laid as necessary (see Traffic Management Plan, Section 9.3.5). Any road damage will be repaired to an equal or better standard in a timely manner 	International best practice.	Records of road damage and evidence of satisfactory road repairs	During construction
PR4, Community Health, Safety and Security, para 7, 8, and 9	<ul style="list-style-type: none"> Impacts on Safety of Road Users and Others (Section 8.16.2.1) Road User Delay (Section 8.16.2.1) 	<ul style="list-style-type: none"> Liaise with regulatory authorities to gain approval to use, and regularly inspect, the road infrastructure. Liaise to approve all signs used, and prior to the movement of any abnormal loads. Advance warning of any proposed road diversions and closures. 	<ul style="list-style-type: none"> EBRD PR 4 IFC PS4 and IFC General EHS Guidelines 3 & 4 requirements to ensure community safety and manage construction traffic. 	Letters, MoMs and register of all communications	During construction
PR4, Community Health, Safety and Security, para 7, 8, and 9	<ul style="list-style-type: none"> Impacts on Safety of Road Users and Others (Section 8.16.2.1) Road User Delays (Section 8.16.2.1) 	<ul style="list-style-type: none"> Crossing for pedestrians will be provided. No diversion will prevent a public transport service or will require a diversion of more than 1 km for vehicles, or more than 500 m for pedestrians. Apply notification periods for diversions (see Traffic Management Plan, Section 9.3.5) 	<ul style="list-style-type: none"> International best practice. 	<ul style="list-style-type: none"> Records showing application of notification periods for road closures as follows: two weeks minimum notice on closure of up to 28 days; one month minimum notice on closure of 28 days to three months; three months' notice for closure over three months or for permanent closure. Register of dates and all notifications. Number of days and kilometres of roads affected (closed due to project activities) 	During construction, prior to closures or diversions

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<i>EBRD PR Reference</i>	<i>Issue / Risk (ESIA Section Reference)</i>	<i>Key Management Activity / Measure</i>	<i>Requirement: Legal and/or International best practice</i>	<i>Key Performance Indicator</i>	<i>Implementation Timeline / Performance Milestone</i>
PR4, Community Health, Safety and Security, para 7, 8, and 9	Impacts on Safety of Road Users and Others (Section 8.16.2.1)	<ul style="list-style-type: none"> Grant access to commercial and residential properties. Enforce speed limits Comply with all statutory vehicle limits (See Traffic Management Plan, Section 9.3.5). 		<ul style="list-style-type: none"> Records of audit compliance with speed limits Records of audit compliance with statutory vehicle limits 	During construction
PR4, Community Health, Safety and Security, para 7, 8, and 9	Impacts on Safety of Road Users and Others (Section 8.16.2.1)	<ul style="list-style-type: none"> All truck drivers working on the Project will receive mandatory training on safe driving and the Worker Code of Conduct Train to avoid unnecessary emissions and community nuisance. 		<ul style="list-style-type: none"> Register of training sessions and attendees Records of audit compliance with training requirements 	During construction, and at the beginning of activities
PR4, Community Health, Safety and Security, para 7, 8, and 9	Impacts on Safety of Road Users and Others (Section 8.16.2.1)	Education on traffic safety will be provided by the Community Liaison Officers to communities not normally subjected to high traffic loads.		<ul style="list-style-type: none"> Register of training sessions and attendees 	Before the beginning of construction activities.
Cultural Heritage					
PR 8 Cultural Heritage, para 10 & 17	Direct physical impacts (Section 8.17.2.1)	Consultation with relevant Greek authorities	<ul style="list-style-type: none"> Greek legislation EBRD Performance Requirements IFC PS 8 	Letters, MoMs.; Percentage of coverage within archaeological site protection checklist	Before start of construction and during construction as chance finds occur
PR 8 Cultural Heritage, para 10 & 13		<ul style="list-style-type: none"> Further site investigation (non-intrusive and intrusive methods) Archaeological delineation and marking of site boundaries; (see Cultural Heritage Management and Monitoring Plan, Section 9.3.6). 	<ul style="list-style-type: none"> Greek legislation EBRD Performance Requirements IFC PS 8 	Percentage of coverage within archaeological site protection checklist	Before start of construction
PR 8 Cultural Heritage, para 16		Chance Finds Procedures and archaeological monitoring	<ul style="list-style-type: none"> Greek legislation IFC PS 8 	Daily logs of archaeological monitoring; Chance Finds Record Forms; Percentage of Chance Finds recorded on forms and reported in daily logs	Plan prepared before start of construction, implemented during construction at construction fronts
PR 8 Cultural Heritage, para 15		Marking and protection of resources	<ul style="list-style-type: none"> Greek legislation EBRD Performance Requirements IFC PS 8 	Fenced off and marked; Percentage of coverage within archaeological site protection checklist	Before start of construction and during construction as chance finds occur
		<ul style="list-style-type: none"> Training staff to respond to Chance Finds Training of internal PMT and construction staff 	<ul style="list-style-type: none"> Greek legislation EBRD Performance Requirements IFC PS 8 	Percentage of appropriate staff trained.	Before start of construction and periodically during construction
		<ul style="list-style-type: none"> Structural recording & monitoring program 	<ul style="list-style-type: none"> Greek legislation EBRD Performance Requirements IFC PS 88 	Percentage of buildings assessed for impacts within built heritage protection checklist	Before start of construction and periodically throughout construction

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PR 8 Cultural Heritage, para 15	<ul style="list-style-type: none"> Direct physical impacts (Section 8.17.2.1) Vibration and pollution (Section 8.17.2.2) Blockage of user access (Section 8.17.2.3) Detrimental effects on the setting or ambience (Section 8.17.2.4) 	Restrictions on timing and location of Project activities (see <i>Cultural Heritage Management Plan, Section 9.3.6</i>)	<ul style="list-style-type: none"> Greek legislation EBRD Performance Requirements IFC PS 8 	Percentage of times the cultural heritage site construction restriction schedule has been followed	Schedule established before start of construction, implement during construction (during important festivals, etc... and in wet conditions, primarily between November 1 st and April 15 th)
PR 8 Cultural Heritage, para 15	<ul style="list-style-type: none"> Direct physical impacts (Section 8.17.2.1) Vibration and pollution (Section 8.17.2.2) Detrimental effects on the setting or ambience (Section 8.17.2.4) 	Guidelines in Employee Code of Conduct	<ul style="list-style-type: none"> Greek legislation EBRD Performance Requirements IFC PS 8 	Percentage of project management and construction staff attending to the Code of Conduct.	Established before start of construction, enforced during construction
PR 8 Cultural Heritage, para 12	<ul style="list-style-type: none"> Direct physical impacts (Section 8.17.2.1) Detrimental effects on the setting or ambience (Section 8.17.2.4) 	Avoidance of resources through Project design	<ul style="list-style-type: none"> Greek legislation EBRD Performance Requirements IFC PS 8 	Percentage of avoidance of cultural heritage resources	Before start of construction and during construction as avoidable chance finds are uncovered
PR 8 Cultural Heritage, para 11& 17	<ul style="list-style-type: none"> Direct physical impacts (Section 8.17.2.1) Vibration and pollution (Section 8.17.2.2) Blockage of user access (Section 8.17.2.3) Detrimental effects on the setting or ambience (Section 8.17.2.4) 	Consultation with community stakeholders	<ul style="list-style-type: none"> Greek legislation EBRD Performance Requirements IFC PS 8 	Presentations and statistics on disclosure documents, MoMs	Before start of construction, periodically throughout construction
PR 8 Cultural Heritage, para 15	Blockage of user access (Section 8.17.2.3)	Alternative access and public notification of blockage plan	<ul style="list-style-type: none"> Greek legislation EBRD Performance Requirements IFC PS 8 	Percentage of responses to relevant grievances	Developed before start of construction and implemented throughout construction
	Detrimental effects on the setting or ambience (Section 8.17.2.4)	<ul style="list-style-type: none"> Aesthetic and noise screening techniques Noise and vibration monitoring at cultural heritage sites relative to use 	<ul style="list-style-type: none"> International best practice Greek legislation International best practice, IFC PS 8 	Monitoring logs and recorded noise levels	<ul style="list-style-type: none"> Before start of construction During construction based on an assessment of risk
Non-routine Events (applicable to all three phases)					
IFC PS3, IFC PS4 and IFC General EHS Guidelines 3 & 4	<ul style="list-style-type: none"> Potential risks arising from non-routine events Impacts on surface water. (Section 8.18.2) Impacts on groundwater. (Section 8.18.2) Impacts on ecological habitats. (Section 8.18.2) 	<ul style="list-style-type: none"> Measures embedded in the Project design as described in <i>Section 4 - Project Description</i> and in <i>Section 8.18.3</i>. Hierarchy of safety measures: Eliminate: wherever possible, hazards are designed out Prevent: measures are taken to ensure that the hazard cannot be realised Detect: if a hazardous event occurs, the design ensures that it will rapidly be detected. Control: measures will be in place to control a hazardous event. Mitigate: suitable measures will be incorporated into the design to mitigate the effect of a hazardous event. 	<ul style="list-style-type: none"> IFC PS3, IFC PS4 and IFC General EHS Guidelines 3 & 4 requirements to ensure community safety and manage non-routine events. International best practice. Safety National and International Codes, Standards and Regulations, National regulations and laws of the transit countries. 	As built drawings provided by Contractor and approval certificates from TAP AG and local regulators.	During design, construction, commissioning and operation.

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EBRD PR Reference	Issue / Risk (ESIA Section Reference)	Key Management Activity / Measure	Requirement: Legal and/or International best practice	Key Performance Indicator	Implementation Timeline / Performance Milestone
IFC PS3, IFC PS4 and IFC General EHS Guidelines 3 & 4	<ul style="list-style-type: none"> Impacts on surface water. (Section 8.18.2) Impacts on groundwater. (Section 8.18.2) Impacts on ecological habitats (Section 8.18.2) 	<ul style="list-style-type: none"> Emergency Response Plan (see Section 9.3.3) The contractor selected by TAP AG will be required to undertake regular inspections to ensure adherence to the Emergency Response Plan. 	<ul style="list-style-type: none"> IFC PS3, IFC PS4 and IFC General EHS Guidelines 3 & 4 requirements to ensure community safety and manage construction traffic. International best practice. 	Records of inspections	The ERP shall be submitted by the selected contractor to TAP AG and the local regulatory authorities for approval 6 months prior to the commencement of the preliminary works i.e. 18 months prior to the commencement of the main works.

Note: This Table shows the most relevant management measures identified for the Construction Phase, but does not represent an exhaustive list of all recommended measures. References to the relevant impact assessment Sections are made where necessary, so that the reader can find the complete lists of measures for each impact / risk.

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Table 9-2 Environmental and Social Management and Monitoring Plan: Operation Phase

EBRD PR Reference	Issue / Risk (ESIA Section Reference)	Key Management Activity / Measure	Requirement: Legal and/or International best practice	Key Performance Indicator	Implementation Timeline / Performance Milestone
<i>Ambient Air Quality</i>					
<ul style="list-style-type: none"> PR 3 Pollution Prevention and Abatement (Paragraphs 10 and 11) PR 4 Community Health, Safety and Security (Paragraphs 16 and 17) 	Impacts from CS01 and CS00 emissions (Section 8.2.3)	<ul style="list-style-type: none"> Air quality monitoring in the area surrounding GCS00 and GCS01 to ensure no effect during a period of 1-2 years. Good Maintenance of the equipment. 	<ul style="list-style-type: none"> EBRD requirements IFC Guidelines (Environmental , Health and Safety Guidelines – Paragraph 1.1) Dir 2008/50/EC JMD 29457/2005 JMD 14122/549/E.103/2011 	<ul style="list-style-type: none"> Air emissions monitoring will be performed through a CEM System to monitor the emission sources (stacks) during the entire operation phase (temperature, exit flowrate, CO₂, CO, NOx, %O₂). Ambient Air Quality (CO, NOx) monitoring and compliance with legal limit values. 	Air emissions monitoring will to commence when CS00 and CS01 comes online and during the entire operation phase.
<i>Acoustic Environment</i>					
<ul style="list-style-type: none"> PR 3 Pollution Prevention and Abatement (Paragraphs 10 and 11) PR 4 Community Health, Safety and Security (Paragraphs 16 and 17) 	Potential annoyance at settlements in the vicinity of Compressor Stations (Section 8.3.3)	<ul style="list-style-type: none"> Noise control measures for the equipment Measurements of Noise Levels at the fence of the CS00 and CS01 plot Additional noise campaigns if required 	<ul style="list-style-type: none"> EBRD requirements IFC (Environmental , Health and Safety Guidelines – Paragraph 1.7) PD 1180/81 	<ul style="list-style-type: none"> Noise levels at the fence of CS plots at day and at night. Noise levels have to accomplish requirements indicated by PD1180/81 	Noise monitoring will be performed when CSs come online and during the entire operation phase.
<i>Water Resources</i>					
PR1 Environmental and Social Appraisal and Management, para 5 and 7	Limiting development of future irrigation systems (Section 8.4.3)	<ul style="list-style-type: none"> Appropriate scheduling Co-operation with relevant Authorities 	Best Practice	As required	As required
PR3 Pollution Prevention and Abatement, para 10,12 and 13, para 5 and 7	Contamination of Freshwater Resources (Section 8.4.3)	<ul style="list-style-type: none"> Waste Management Plan (see Section 0) Chemical Substances Management Plan (see Section 9.3.8) Monitoring on Rivers Evros, Filiouris, Kossinthos, Kompsatos, Nestos, Aggitis, Strimonas, Gallikos, Axios and Aliakmonas to ensure no effect during a 1-2 year period after construction 	<ul style="list-style-type: none"> Best Practice Water Framework Directive (WFD) Directive for Water Quality to Support Fish Life (EU Directive 78/659) Directive of Quality of Bathing (EU Directive 76/160) 	<ul style="list-style-type: none"> Periodic Monitoring of application of the Waste Management Plan and Chemical Substances Management Plan. Records of monitoring Water Quality analysis (DO, TSS, Oil and Grease, coliforms) Evros, Filiouris, Kossinthos, Kompsatos, Nestos, Aggitis, Strimonas, Gallikos, Axios, Aliakmonas: Turbidity, Phytobenthos, Macroinvertebrate populations, fish populations. 	Throughout operation
<i>Soil and subsoil</i>					
PR1 Environmental and Social Appraisal and Management, para 5	Disturbance and Degradation of Soil (Section 8.5.3)	The Pipeline Route Maintenance Plan, shall include also periodically check for any surface erosion	Best Practice	Records of periodic Monitoring of soil conservation status, especially regarding erosion, along the Pipeline	
<i>Landscape and Visual Amenity</i>					
PR1 Environmental and Social Appraisal and Management, para 5	Physical changes to the landscape general unity (fragmentation) by the 8m wide PPS (Section 8.6.3)	<ul style="list-style-type: none"> Reinstate vegetation within working strip (except for 8 m PPS), especially in forested areas. 	Best Practice in Guidelines for Landscape and Visual Impact assessment, IEMA 2002.	<ul style="list-style-type: none"> Monitoring of the vegetation growth and development (measured as percentage of surface successfully revegetated) Environmental expert 	Mitigation planting could take 10 – 15 years to reach maturity.

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PR1 Environmental and Social Appraisal and Management	Changes in the viewshed and aesthetic value to residents by the permanent presence of BVs and CSs (Section8.6.3)	<ul style="list-style-type: none"> • Appropriate lighting design • Appropriate building material colour design • Use of vegetation screening for block valve stations and especially alongside the CSs 	Best Practice in Guidelines for Landscape and Visual Impact assessment, IEMA 2002.	<ul style="list-style-type: none"> • Establishment and growth of vegetation planting as part of the mitigation landscape design for the compressor stations the block valve stations. 	Mitigation planting could take 10 – 15 years to reach maturity. Tall trees can be planted.
<i>Biodiversity</i>					
EBRD PR6Biodiversity Conservation and Sustainable Management of Living Natural Resources para 5 Within Biodiversity Management Plan Element 1	<ul style="list-style-type: none"> • Terrestrial Ecology, Freshwater Ecology and Protected Areas • Habitat loss / degradation, fragmentation, direct loss, disturbance / displacement (Sections 8.7.3, 8.8.3 and 8.9.3) 	Implementation of operation <i>Biodiversity Action Plan</i> for bear and wolf (see Section 9.3.17)	<ul style="list-style-type: none"> • EBRD requirements • Bern Convention • EU Habitats Directive • EU Birds Directive • International best practice • IFC PS6 • Greek Law 4014/11 • Greek Law 3937/11 	<ul style="list-style-type: none"> • Periodic Monitoring, including annual reporting on BAP findings and targets/goals achieved • Implementation of BACI (Before– After – Control – Impact) Approach for Mitigation Measures 	Throughout operation.
<i>Economy, Employment and Income</i>					
<ul style="list-style-type: none"> • PR2 Labour and Working Conditions para 10 • PR10 Information Disclosure and Stakeholder Engagement para 12 	<ul style="list-style-type: none"> • Permanent Employment Opportunities – national and local level (Section8.10.3) • Economic impact from transit fees (Section8.10.3) 	<ul style="list-style-type: none"> • Demand and supply side analysis; capacity building program; targeted training • Employment Strategy – fair, transparent, clear and accessible recruitment process for all openings • Disclosing of taxes and payments as part of annual reporting 	<ul style="list-style-type: none"> • EBRD PR2, PR10 • IFC PS and IFC General EHS Guidelines • International best practice 	<ul style="list-style-type: none"> • Demand and supply side analysis, TAP local content strategy, objectives, goals and targets; capacity building program; € spent on Greek goods and services • Employment strategy, information materials on job postings 	During construction, before start of operations phase
<i>Lands and Livelihoods</i>					
<ul style="list-style-type: none"> • PR5 Land Acquisition, Involuntary Resettlement and Economic Displacement para 24, 39-40 • PR10 Information Disclosure and Stakeholder Engagement 	Permanent loss of livelihoods and income from land use change in areas of permanent crop production (Section8.11.3)	<i>Livelihoods Restoration Framework</i> (see Section 9.3.12) – compensate affected stakeholders at replacement values for lost land and income from permanent crops.	<ul style="list-style-type: none"> • EBRD PR5, PR10 • IFC PS and IFC General EHS Guidelines • International best practice 	<ul style="list-style-type: none"> • Livelihoods Restoration Framework records • Meeting minutes from consultations • Signed compensation agreements 	Before start of operations phase
<i>Infrastructure and Public Services</i>					
<ul style="list-style-type: none"> • PR4 Community Health, Safety and Security • PR5 Land Acquisition, Involuntary Resettlement and Economic Displacement • PR10 Information Disclosure and Stakeholder Engagement 	Benefits to local settlements due to infrastructure and service improvements (Section8.12.3)	<i>Infrastructure and Utilities Management Plan</i> (see Section 9.3.15)	<ul style="list-style-type: none"> • EBRD PR4, PR5, PR10 • IFC PS and IFC General EHS Guidelines • International best practice 	<ul style="list-style-type: none"> • Infrastructure and Utilities Management Plan records • Signed agreements with authorities 	Before start of operations phase
<i>Worker Management and Rights</i>					
PR2 Labour and Working Conditions	Worker health and safety, rights, child labour, forced labour (Section8.13.3)	Same mitigations as implemented in construction phase will continue to be implemented in operations	<ul style="list-style-type: none"> • EBRD PR2 • IFC PS and IFC General EHS Guidelines • International best practice, Greek labour law 	See KPIs, etc. as implemented in construction phase	Throughout the project

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<i>Community Health and Safety</i>					
<ul style="list-style-type: none"> PR4 Community Health, Safety and Security para 10 PR10 Information Disclosure and Stakeholder Engagement para 12, 24-25 	<ul style="list-style-type: none"> Pipeline safety Environmental health (Section 8.14.3) 	<ul style="list-style-type: none"> Community Grievance Mechanism and education programme on safety Stakeholder engagement on long term impacts of compressor stations 	<ul style="list-style-type: none"> EBRD PR4, PR10 IFC PS and IFC General EHS Guidelines International best practice 	<ul style="list-style-type: none"> Monitoring to ensure accessibility/awareness of grievance submittal process, monitoring grievance trends, response performance Presentation, information disclosure materials 	Before start of operation, periodically during operation
<i>Community Cohesion</i>					
<ul style="list-style-type: none"> PR1 Environmental and Social Appraisal and Management PR10 Information Disclosure and Stakeholder Engagement para 12 	Heightened tensions within and between communities (Section 8.15.3)	<ul style="list-style-type: none"> Managing community liaison personnel Stakeholder Engagement Plan (Section 0) for operations phase, continued engagement 	<ul style="list-style-type: none"> EBRD PR1, PR10 IFC PS and IFC General EHS Guidelines International best practice 	<ul style="list-style-type: none"> Operations phase management systems and functions Stakeholder engagement plan finalized and posted on Project website 	<ul style="list-style-type: none"> Stakeholder Engagement Plan 6 months prior to operation phase Review stakeholder information and communication mechanisms annually
<ul style="list-style-type: none"> PR10 Information Disclosure and Stakeholder Engagement 	Community Cohesion (Section 8.15.3)	<ul style="list-style-type: none"> Annual Report Community grievance mechanism 	<ul style="list-style-type: none"> EBRD PR10 IFC PS and IFC General EHS Guidelines International best practice 	<ul style="list-style-type: none"> Annual Report Percentage of responses of relevant grievances; monitoring of grievance trends and response performance 	<ul style="list-style-type: none"> Annually On-going throughout the project
<i>Cultural Heritage</i>					
PR 8 Cultural Heritage, para 15	Vibration and pollution (Section 8.17.4.2)	Continuation of structural recording & monitoring program	<ul style="list-style-type: none"> EBRD International best practice IFC PS 8 	<ul style="list-style-type: none"> Vibration and pollution monitoring; Percentage of buildings assessed for impacts within built heritage protection checklist 	Periodically during operations

Note: This Table shows the most relevant management measures identified for the Operation Phase, but does not represent an exhaustive list of all recommended measures. References to the relevant impact assessment Sections are made where necessary, so that the reader can find the complete lists of measures for each impact / risk.

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Table 9-3 Environmental and Social Management and Monitoring Plan: Decommissioning Phase

EBRD PR Reference	Issue / Risk (ESIA Section Reference)	Key Management Activity / Measure	Requirement: Legal and/or International best practice	Key Performance Indicator	Implementation Timeline / Performance Milestone
<i>Ambient Air Quality</i>					
<ul style="list-style-type: none"> PR 3 Pollution Prevention and Abatement (Paragraphs 10 and 11) PR 4 Community Health, Safety and Security (Paragraphs 16 and 17) 	Temporary impacts on local air quality due to atmospheric emissions during the Project decommissioning (Section 8.2.4)	<ul style="list-style-type: none"> Working strip located at 200 m from settlements, when technically and environmentally possible. Works carried out in strict compliance with decommissioning procedures and schedule. Pre-notification of critical dust producing activities Good site management practices Sheeting of open loads on trucks 	<ul style="list-style-type: none"> EBRD IFC Guidelines (Environmental , Health and Safety Guidelines – Paragraph 1.1) Best Practice 	<ul style="list-style-type: none"> Project design Project design Project design & management Project design & Project activity restrictions schedule Project design 	<ul style="list-style-type: none"> Before start of decommissioning Before and during start of decommissioning Before start of decommissioning Before start and during decommissioning During decommissioning
<i>Acoustic Environment</i>					
<ul style="list-style-type: none"> PR 3 Pollution Prevention and Abatement para 10 and 11 PR 4 Community Health, Safety and Security para 16 and 17 	<ul style="list-style-type: none"> Direct impact on human health (potential annoyance at residential buildings closest to work sites and CS; sleep disturbance; potential stress)(Section 8.3) Direct impact on fauna (potential temporary disturbance and/or displacement, reduction of usable habitat) (Section 8.3 and 8.7) 	<ul style="list-style-type: none"> Switch off equipment when not in use Promote the use of low nuisance vehicles/equipment) Limit noisy decommissioning activities to the least noise sensitive times of day Locate stationary equipment as far as practicable from nearby receptors 	<ul style="list-style-type: none"> EBRD IFC (Environmental , Health and Safety Guidelines – Paragraph 1.7) Dir 2001/14/EC (amm. Dir 2005/88/EC) JMD 9272/471/2007 Best Practice 	<ul style="list-style-type: none"> Project design Project design Project activity restrictions schedule Project design 	<ul style="list-style-type: none"> During decommissioning phase Before start of decommissioning phase During decommissioning phase Before start of decommissioning phase
<i>Biodiversity</i>					
EBRD PR6 Biodiversity Conservation and Sustainable Management of Living Natural Resources para 5 Within Biodiversity Management Plan Element 1	<ul style="list-style-type: none"> Terrestrial Ecology, Freshwater Ecology and Protected Areas Habitat loss / degradation, fragmentation, direct loss, disturbance / displacement (Sections 8.7.4, 8.8.4 and 8.9.4) 	Implementation of decommissioning <i>Biodiversity Action Plan</i> - see Section 9.3.17.	<ul style="list-style-type: none"> EBRD requirements Bern Convention EU Habitats Directive EU Birds Directive International best practice IFC PS6 Greek Law 4014/11 Greek Law 3937/11 	<ul style="list-style-type: none"> Reporting of all final decommissioning targets / goals and findings achieved will be made available externally. Adaptive management will be employed where goals are not being met. Final site audit will be made of entire Project area with summary document of all BAP activities goals and achievements over the lifetime of the Project will be made with data supplied. 	<ul style="list-style-type: none"> During and post decommissioning.

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EBRD PR Reference	Issue / Risk (ESIA Section Reference)	Key Management Activity / Measure	Requirement: Legal and/or International best practice	Key Performance Indicator	Implementation Timeline / Performance Milestone
Economy, Employment and Income					
<ul style="list-style-type: none"> PR2 Labour and Working Conditions para 10 PR10 Information Disclosure and Stakeholder Engagement para 12 	Temporary economic impact and employment opportunities (Section8.10.4)	<ul style="list-style-type: none"> Employment Strategy requiring a fair and transparent recruitment process for all openings Advertise job opportunities Other mitigation measures as applied previously during Construction Phase (purchasing strategy, etc) 	<ul style="list-style-type: none"> EBRD PR2, PR10 IFC PS and IFC General EHS Guidelines International best practice 	Employment Strategy Percentage of labour from within the country and focused on recruiting from communities within vicinity to the pipeline	Before start of decommissioning
Lands and Livelihoods					
<ul style="list-style-type: none"> PR1 Environmental and Social Appraisal and Management para 7 PR 10 Information Disclosure and Stakeholder Engagement para 12-13, 15 	Land and Livelihoods – Temporary use of land during decommissioning, restoration of land use to previous state (Section8.11.4)	<ul style="list-style-type: none"> Consultation with neighbouring communities of permanent facility Community liaison Stakeholder Engagement Plan (see Section 9.3.11) 	<ul style="list-style-type: none"> EBRD PR1, PR10 IFC PS and IFC General EHS Guidelines International best practice 	Monthly (or more frequent if appropriate) reviews of planned and ad hoc engagements with local communities	Before start of and throughout decommissioning
Infrastructure and Public Services					
<ul style="list-style-type: none"> PR1 Environmental and Social Appraisal and Management para 7 PR10 Information Disclosure and Stakeholder Engagement 	Utilities services and infrastructure – Disruption / damage to infrastructure and utilities(Section8.12.4)	<i>Infrastructure and Utilities Management Plan (Section 9.3.15)</i>	<ul style="list-style-type: none"> EBRD PR1, PR10 IFC PS and IFC General EHS Guidelines International best practice 	Regular review of number of complaints received from local communities with regard to this particular issue	Prior to closure activities
Worker Management and Rights					
Continue to implement human resource policies for existing and new employees; develop and implement a retrenchment plan	Worker health and safety, rights, child labour, forced labour (Section8.13.4)	Same mitigations as implemented in construction phase will continue to be implemented in operations	<ul style="list-style-type: none"> EBRD PR2 IFC PS and IFC General EHS Guidelines International best practice, Greek labour law 	See KPIs, etc. as implemented in construction phase	Throughout the project
Community Health and Safety					
<ul style="list-style-type: none"> PR2 Labour and Working Conditions para 16 PR4 Community Health, Safety and Security para17 	<ul style="list-style-type: none"> Increased transmission of communicable diseases Access to Health Care Facilities Site Trespass and injury, Environmental Changes (Section8.14.4.1) 	Same mitigations will be implemented as during construction, taking on lessons learned	<ul style="list-style-type: none"> EBRD PR2, PR4 IFC PS and IFC General EHS Guidelines See construction phase for this issue/risk 	See construction phase for this issue/risk	See construction phase for this issue/risk
Community Cohesion					
PR1 Environmental and Social Appraisal and Management	Similar to those during the construction phase, depending on the chosen strategy at the time. (Section8.15.4)	Decommissioning impact assessment	<ul style="list-style-type: none"> EBRD PR1 IFC PS and IFC General EHS Guidelines International best practice 	Decommissioning impact assessment	Prior to closure

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<i>EBRD PR Reference</i>	<i>Issue / Risk (ESIA Section Reference)</i>	<i>Key Management Activity / Measure</i>	<i>Requirement: Legal and/or International best practice</i>	<i>Key Performance Indicator</i>	<i>Implementation Timeline / Performance Milestone</i>
<i>Cultural Heritage</i>					
PR 8 Cultural Heritage, para 15	Vibration and Pollution (Section 8.17.4.3)	Structural recording & monitoring program	<ul style="list-style-type: none"> EBRD International best practice 	Vibration and pollution monitoring; Percentage of buildings assessed for impacts within built heritage protection checklist	Before and after decommissioning of Project facilities
PR 8 Cultural Heritage, para 15	Vibration and Pollution (Section 8.17.4.3)	Restrictions on timing and location of Project activities	<ul style="list-style-type: none"> EBRD International best practice IFC PS 8 	Project activity restrictions schedule; cultural heritage site construction restriction schedule followed 100%	Throughout decommissioning (in wet conditions, primarily between November 1 st and April 15 th)

Note: This Table shows the most relevant management measures identified for the Decommissioning Phase, but does not represent an exhaustive list of all recommended measures. References to the relevant impact assessment Sections are made where necessary, so that the reader can find the complete lists of measures for each impact / risk.

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9.3 Topic-Specific Management Plans

9.3.1 Introduction

In addition to the Project ESMMP presented in *Section 9.2*, certain topic-specific management plans will be prepared by TAP AG, its planners, and contractors to address key areas of potential environmental and social impacts and risks associated with the Project, as indicated in *Table 9-1*, *Table 9-2* and *Table 9-3*. Key issue-specific management plans¹ likely to be prepared for the Project or modified from existing contractor-owned plans, will include:



Table 9-4 Summary List of Topic-Specific Management Plans²

Section 9	Issue-Specific Management Plan
0	Waste Management Plan
9.3.3	Emergency Response Plan
0	Water Management Plan
9.3.5	Traffic Management Plan
9.3.6	Cultural Heritage Management Plan
9.3.7	Pollution Prevention Plan
9.3.8	Hazardous Materials Management Procedure
9.3.9	Health and Safety Management Plan
0	Stakeholder Engagement Plan
9.3.11	Social and Environmental Investment Plan
9.3.12	Livelihoods Restoration Framework
9.3.13	Local Content Plan
9.3.14	Worker Management Plan
9.3.15	Infrastructure and Utilities Management Plan
9.3.16	Community Health Management Plan
9.3.17	Biodiversity Action Plan
9.3.18	Landscape Management Plan
9.3.19	Aggregates Management Plan

The content / framework of these plans is outlined in the following sections.

¹It is important to note that these plans are “live” documents and will be updated when more information becomes available as the Project develops. Also, due to the inter-related nature of the Project issues/risks being managed, some overlap will occur between plans. It is therefore important that an integrated approach to the development of these plans is adopted and that they are not produced in isolation.

² This list is not exhaustive and additional subsidiary plans may be introduced as the Project progresses to aid in the management of any newly identified impacts or sensitive receptors.

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9.3.2 Waste Management Plan

This plan will be developed to avoid solid and liquid discharges onto the soil or water. It establishes procedures for the storage, collection and disposal of waste, including liquid and solid waste and hazardous and non-hazardous waste.

The Waste Management Plan (WMP) will provide a planning framework for the following:

- Compliance with Greek waste policies ; and
- Outline of waste characteristics and sufficient capacity for managing waste: waste streams and quantities to be managed.



The WMP will be developed following TAP AG policies and will consider all relevant EBRD PRs.

Furthermore, it contributes to ensuring that the capacity and the nature of collection and treatment systems are in line with the waste types and amounts to be managed.

The overall objective is to minimise impact of waste generated during the construction phase through the following:

- minimise the amount of waste that is generated;
- maximise the amount of waste that is recovered for recycling – including segregation of recyclable wastes at source;
- minimise the amount of waste that is deposited at landfill;
- ensure any hazardous wastes (e.g. used oils, lead-acid batteries) are securely stored and transferred to appropriate facilities;
- avoid dust impacts from handling of construction wastes;
- ensure all wastes are properly contained, labelled and disposed of in accordance with local regulations; and
- ensure waste is disposed of in accordance with the waste management hierarchy.

The WMP will clearly distinguish between the construction, operation and decommissioning phases. The expected types of waste, expected volumes and treatment options have been presented in the *Section 4 - Project Description, Tables 4.3-4 and 4.3-5. Annex 8.5* describes also the Waste Management Plan for the Compressor Stations.

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The following items constitute the WMP, based on International best practices in waste management, and in compliance with EU directive and the Greek legislation.

- Waste minimisation principles:

The inventory management systems will be updated to identify the consumption of products, ensuring waste's traceability, and identifying potential wastage and overconsumption.

An inventory of all waste generated and disposed of will be retained (type and volume) and TAP AG will develop goals for reducing the quantities of waste generated, based on periodic review inventory.

- Separation of solid waste according to established classification:

Classification of Wastes will follow the European Waste Catalogue.



Waste generated during construction is likely to be classified into four categories for disposal: inert (earth, building rubble, unused construction material, etc.), domestic, oily & hazardous, and liquid.

Container/ skips will be associated to waste types (cardboard, plastic, metal scrap, oily, hazardous if any, etc), in order to permit the separation/segregation.

Wastes will be separated by camp site staff, and staff dealing with wastes will be trained. Handling of wastes on-site construction sites and camps will be instructed through "procedures". Service companies go through qualification process and will be audited during the service period.

- Solid waste storage:

A daily waste storage area comprising containers/skips will be at the construction site. At the end of the working day, wastes in skips will be transported to the camp site, and stored.

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During transport waste skips will be covered and secured tightly so as to avoid accidental falls and spills.

Storage will be located in the camp, partly roofed. Waste skips for oil wastes or other hazardous wastes will be waterproof. Procedures for filling fuel tanks of machines and handling of hazardous wastes/materials will be established prior to start construction.

- Waste reuse/ recycle opportunities:

Wastes will be separated according to local regulations and the recycling materials that are dealt in Greece. Recycling materials will be regularly collected to be recycled by local companies certified by the relevant authorities.

Most of the excavated soil will be used to backfill the trenches. Excess soil will likely be spread out and contoured along the route, according to relevant law (JMD 36259/1757/E103/2010).

Bentonite used during trenchless crossings (HDD) will be recycled.

- Waste transfer:

Waste transfer will be carried out by certified companies and vehicles will be fully equipped, depending on the type of waste transported. No exporting of waste is anticipated.



- Final disposal of waste:

Only companies certified by the relevant authorities will be used for waste disposal.

The inert waste, which poses no risk of pollution, will be disposed of at a controlled disposal site.

Domestic waste will be transported to a controlled municipal waste disposal site.

Oily and hazardous wastes will be disposed by specialist Contractors at sites that are equipped and approved for such wastes.

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Domestic liquid waste will be collected by specific sewer on the campsites, and evacuated to existing Wastewater treatment units by connecting to public sewer. If there is no public sewer available (or if the capacity is not enough), the sewer from the campsites will be treated either through sedimentation ponds and evaporation including landfilling of dried sludges (off-site on certified landfill) or through cesspits which will periodically be emptied by certified companies.

- Specificities of hazardous waste management:

In order to provide protection for the environment and human health, collection, transport and storage of hazardous waste will include action to ensure traceability from production area (mainly on construction site) to final disposal site.



The transport of hazardous waste shall only be undertaken in vehicles that 1) are suitably equipped for the type and quantity of hazardous waste to be transported, 2) are of a roadworthy standard and 3) have been previously registered for this purpose with the relevant authorities.

- Waste recording process:

All waste will be registered after every phase of this management plan: separation/segregation, storage, transfer and reception to the disposal.

This inventory will permit to ensure the traceability, particularly for the hazardous waste. Optimization of waste management is a continuous process, and this plan will be periodically reviewed all along the construction phase.

Finally, the plan will include provisions for the training of all workers on how to use the WMP, and will include procedures related to communication to stakeholders and community improvement opportunities.

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9.3.3 Emergency Response Plan



The *Emergency Response Plan (ERP)* assembles and describes in one document the site-specific actions and procedures to be taken in emergency situations occurring during construction, operations and decommissioning.

The objective of the ERP is to be prepared to respond to process upset, accidental, and emergency situations in a manner appropriate to the operational risks and to prevent their potential negative consequences. TAP AG will apply the requirements reported in the EBRD Policy (paragraphs 18–22 of PR 4) to identify major accident hazards, prevent major accidents and limit their consequences for humans and the environment, with a view to ensuring high levels of protection in a consistent and effective manner.

The ERP will clearly make a distinction between all the Project phases, since the actions to be undertaken will be different during the construction, operation and decommissioning phases.

The content of the ERP can be summarized as follows:

- Greek legal provisions for HSE Regulations during operation (although identified also in the HSE Plan);
- The identification of the potential hazards (i.e. natural disasters, civil disturbances, landslides, fire or explosions, malfunctioning of the devices during the processes, pressure issues, etc.) related with natural gas pipeline and its infrastructure installation and operation and the possible impact to the environment and health;
- Identification of the governmental authorities, the media and other relevant stakeholders to be notified and description of the procedures for communicating with them;
- The necessary measures to limit human and environmental consequences associated with pipeline accidents; cooperation between TAP AG, local and central authorities, as well as the communities, as described in the law on civil emergencies, as well as based on the best international practices; possibilities to incorporate transboundary activities in the case of any incident near the border (in particular, incidents at CS00 and CS01 during the operation phase);

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- Safety technical measures to be described and appropriate measures to protect the public safety or property from potential hazards; lessons learned approaches to pipeline accidents;
- Preliminary description of the organization structure, and explain interactions with project and operational procedures;
- Preliminary identification of the system and procedures for providing personnel refuge, evacuation, rescue, medical treatment and repatriation;
- Preliminary description of training activities and the arrangement for training response teams and for testing emergency systems and procedures.

The ERP for the construction phase will include the typical hazards associated to construction activities, including those from HDD and blasting. Typical hazards associated to gas pipelines that will be covered in the ERP will include, but are not limited to, the following:

- Under-pressure in the gas system;
- Third party interaction;
- Fire or explosion near or directly involving a pipeline facility;
- Any leak considered hazardous;
- Natural disasters (floods, tornadoes, hurricanes, earthquakes, etc.); and
- Civil disturbances (riots, etc.).

Finally, the plan will include provisions for the training of all workers on the Emergency Response procedures, and will include procedures related to communication to stakeholders and community improvement opportunities.

The ERP will be a 'live' document and will be under continuous revision by TAP AG, as a result of on-going legal developments and of incorporation of the lessons learned by exercises (or real incidents).

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9.3.4 Water Management Plan

The Water Management Plan (Water MP) will have the following objectives:

- Monitor water use: the plan will set procedures for estimating water used by the Project, identifying activities that use this resource and following a reporting procedure for registering used volumes of water.
- Minimize water use: the plan will provide a series of measures to be considered for minimising the use of water, including training of Project staff.
- Document water sources and extraction locations: water sources to be used will be pre-agreed with the relevant local authorities. Water sources will be identified and registered in the plan, together with the GPS coordinates and the maximum water volumes allowed from the source.
- Mitigate disturbance of irrigation systems: relevant irrigation systems will be mapped, and crossing designs and post-construction restoration proposals detailed in the plan.
- Stakeholder engagement: procedures will be put in place to record all communications with stakeholders, such as Water Authorities (mainly Water Departments of Decentralized Administrations or Regions and Municipal Water Companies) and local communities.



The Water MP will be developed following TAP AG policies and will consider all the relevant EBRD PRs and Greek legislation / permitting regulations on water use.

9.3.5 Traffic Management Plan

A Traffic Management Plan (TMP) will be developed to manage construction traffic generated by the Project, minimise traffic disruption and road user delay and provide for the on-going safety of road users, including pedestrians and cyclists. All of the traffic related impacts described previously can be mitigated very effectively by the implementation of standard best practices in terms of environmental controls and management practices during construction. These measures will be detailed in the TMP, which will describe in detail the measures that the Contractor will implement during the construction of the Project.

Key management issues addressed by the TMP will include:

- Access to construction areas;

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- Routing of construction traffic;
- Prevention of road user delay;
- Temporary traffic control and management;
- Reducing the probability of traffic accidents and improving safety for local road users and others;
- Preventing and remedying highway degradation;
- Road crossings; and
- Parking facilities.

The Contractor shall regularly update their TMP as the construction method is developed and vehicle movement requirements are identified in detail. The Contractor shall consult with the relevant government agencies to identify where the Project plans can complement existing road development plans at the district and provincial level. The Contractor will also consult with the principal representative of any communities that will suffer a significant increase in traffic in order to develop awareness of the mitigation measures within the TMP.

A TMP is important both in ensuring the safety of construction personnel and local communities. The TMP is intended to be a 'live' document and its traffic management principles will form the basis for subsequent detailed construction traffic management arrangements between the nominated Contractor and the highway authorities as and when the site construction contract is awarded.

The TMP will include the following minimum requirements:



- Levels of development related construction traffic that will use the road network;
- Site access arrangements to the working corridor and within the working corridor;
- Identification of key sensitivities along proposed access routes;
- Identification, demarcation and construction of all access routes;
- Measures to minimise disruption during the construction of new or altered road infrastructure (e.g. timing, one lane working, signage, diversions and advertise advance warning of diversions);

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- Measures to provide for the on-going safety of road users, including pedestrians and cyclists;
- Project driver training requirements with respect to road safety and environment;
- Project Schedule;
- Roles and responsibilities for implementation of the TMP;
- Measures to prohibit “off-route” driving;
- Speed limits and methods of enforcement;
- Means to inform the community of traffic risks;
- Vehicle equipment;
- Vehicle maintenance and refuelling locations;
- Inspection, auditing and reporting; and
- Driver competency.

To achieve the minimum requirements of the TMP the Contractor will:

- Assign heavy vehicle construction traffic to suitable routes to and from the working area;
- Control and supervise the arrival and departure of construction traffic at site entrances;
- Identify those responsible for carrying out and managing the procedures;
- Identify the programme of road restoration measures that are likely to be required post construction;
- Address how the Contractor can reduce the exposure of vehicle drivers, their passengers and other road users from the hazards of road-related accidents;
- Restrictions on construction traffic movements during periods of heavy traffic on the road network, if necessary;
- Agreement of routes to be used by vehicles delivering ‘abnormal loads’ (i.e. slow moving, very high, heavy or wide loads) and their timing in conjunction with the highway authority (and the Police); provision of advance warning of the routes and times of abnormal load deliveries;
- Temporary road closures (during works for new or altered roads) will be scheduled, as far as is practical, during times which will minimise disruption to road users (and planned in conjunction with the highway authority);

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- Advanced warning of the proposed temporary road closures and diversions will be provided to the public (e.g. suitable signage and information in the press);
- All Project vehicles will be regularly maintained and drivers will be trained in driving methods designed to avoid unnecessary emissions (e.g. switching engines off when waiting to enter site or stationary on site, avoiding engine stress and reducing vehicle speed in and near communities);
- Drivers of Project vehicles will be trained/briefed about safe driving with respect to other drivers, pedestrians and cyclists;
- Project vehicles to be identifiable to the Project (e.g. an easy to read/see sign or symbol on vehicles which shows that they are connected to the TAP Project); and
- The Contractor selected will be required to undertake regular inspections to ensure adherence to the Traffic Management Plan.



9.3.6 Cultural Heritage Management and Monitoring Plan

The *Cultural Heritage Management and Monitoring Plan* will have the objective of avoiding potential damages to cultural resources. The Plan will be developed following TAP AG policies and will consider all the relevant EBRD PRs. The Plan will include:

- Summary of applicable legislation, including Greek legislation, International legislation, the ESIA Commitments, and TAP's Policy;
- Known Cultural Heritage, presenting all resources identified;
- Protection of Known Cultural Heritage, including the recommendations and management measures described below;
- Verification and Monitoring, including procedures for the identification of additional resources not initially identified; and
- Roles and responsibilities, including communication lines between the on-site cultural heritage managers, the construction team and local and national conservation bodies.

Recommendations for the protection of cultural heritage resources affected by the Project, to be detailed in the Plan, will include the following:



- Avoidance of known cultural heritage sites through Project design and route optimisation, if technically feasible. Avoidance is the preferred mitigation method and will be considered along with the mitigation measures below.

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- Marking and protection of cultural heritage sites with temporary barriers such as a bright coloured plastic or mesh wire fence with highly visible flagging or tape. Also, marking of areas of high archaeological potential for avoidance in wet conditions.
- Project activity timing restrictions in the following situations: 1) in very wet conditions over areas of high archaeological potential or near sites sensitive to vibration, 2) following a chance find, and 3) around cultural heritage sites during key times of use or special cultural or religious events.
- Guidelines in the workers' Code of Conduct to prohibit employee activities that might interfere with nearby cultural heritage sites.

Cultural heritage resource management measures, to be detailed in the Plan, will include the following:

- **Government engagement** strategy to involve appropriate Greek authorities in: 1) further evaluation of sites and the use of intrusive and non-intrusive methods, 2) development of a chance finds procedure, 3) developing site-specific mitigation approaches for archaeological sites, and 4) archaeological rescue.
- **Community consultation strategy** to: 1) inform local stakeholders of Project activities, 2) understand site boundaries, user access, timing of use, and schedule of special events, 3) consider relocation or replacement of unavoidable monuments or sites with ICH value, 4) provide feedback to Project about community concerns, 5) plan alternative access if necessary, and 6) develop site-specific mitigation approaches.
- **Structural recording and monitoring program**, including: 1) pre-construction arrangement of professional conservators in the event of damage to sites, 2) pre-construction survey and recording of the condition and structural integrity of sites with above-ground components that lie within 50 m of the Project footprint, 3) follow-up protection or architectural reinforcement at sites found to be at risk from pollution or vibration, 4) Vibration-minimizing techniques and low impact construction techniques implemented along roads near sites at risk from vibration, and 5) periodic monitoring of site conditions throughout the life of the Project.
- **Chance finds procedures** to be implemented at construction fronts. This includes: 1) arrangement of on-call archaeologists and professional conservators prior to contract to handle an archaeological rescue if required at a chance find, 2) monitoring of construction activities by a professional archaeologist, 3) cessation of work in the vicinity of any new archaeological discovery, and 4) consultation with relevant authorities. Chance finds procedure will provide provisions for temporary storage and protection of finds, archaeological rescue, data recording, conservation and publication of findings.

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- **Alternative access and public notification** of blockage plan.
- **Noise and vibration monitoring plan** for cultural heritage sites that receive visitors.
- **Aesthetic and noise screening techniques** for cultural heritage sites that receive visitors.

The Plan will also include provisions for the training of all workers and will include procedures related to communication to stakeholders and community improvement opportunities.

9.3.7 Pollution Prevention Plan

The Pollution Prevention Plan will include the following six key elements:

- **General measures** to be followed on site during the construction phase. General measures will include housekeeping, good material handling practices, and inspection procedures.
- **Prevention of Accidental Spills** will be achieved through the application of a series of actions and measures to prevent leakages and spills and to enable effective response to unplanned releases of liquids, such as fuels, oils and chemicals.
- **Product Specific Practices** will be adopted for the following:
 - Petroleum products: vehicles and construction equipment will be monitored for leaks and receive regular preventive maintenance to reduce the potential for leakage. Petroleum products will be stored in tightly sealed containers that are clearly labelled;
 - Fertilizers: during re-vegetation works they will be applied in the minimum amounts recommended by the manufacturers. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills;
 - Paints: containers will be tightly sealed and properly stored when not required for use. Excess paint will not be discharged to the storm sewer system but will be properly disposed of according to manufacturer's instructions.
- **Isolation of Potentially Hazardous Materials:** A supply of drums will be available for use in the event of spills or if potentially hazardous materials are found during project construction. The contaminated material will be placed in the drums, sealed and placed in the storage area to await proper characterization and disposal. In the event that a larger amount of material needs to be isolated, it will be placed directly into a lined roll-off

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container from a licensed hazardous waste transporter. The roll-off container will be placed out of the flow of construction traffic and equipment, in a bermed area to contain and isolate possible leaks and rainwater.

- **Product Substitution:** a policy of using environmental friendly products will be adopted. In particular, when feasible, non-chlorinated solvents, paints with low volatile organic compound content, and non-lead based paints will be used. Organic biocides will replace chlorine in cooling water systems, if feasible, and assessment will be developed to determine the availability of less harmful substances.
- **Prohibited Materials:** The following materials or chemicals are prohibited from purchase due to their extreme hazardous or toxic nature: PCBs, leaded paints, chromium-based cooling water treatment and mercury-filled meters.



The Plan will be developed according to TAP AG policies and will consider all the relevant EBRD PRs, and will include provisions for the training of all workers and will include procedures related to communication to stakeholders and community improvement opportunities.

9.3.8 Hazardous Materials Management Procedure

Chemical substances will be required for several different activities in the TAP Project. Many of these chemical substances are not harmful to the environment or to human health. However, some have the potential to cause harm, in certain doses, and should only be used when the risks are appropriately managed. The purpose of a *Hazardous Materials Management Procedure* is to define how TAP AG and their contractors will select, handle, store and dispose of the chemicals in order to prevent damage to people and the environment.

The plan will be developed following TAP AG policies and will consider all the relevant EBRD PRs. As a minimum, general management and monitoring measures to be included in the Plan will include the following:

- All TAP AG employees and Contractors are responsible for handling chemicals in an appropriate way.
- Chemical selection will be subject to a risk assessment to define hazards, mitigate potential risks and select the one with the least damaging/persistent properties;
- All chemicals will be tracked and inventoried through storage, use and final disposal;
- Chemical Waste: specific measures are provided for hazardous waste containers (in the Waste Management Plan – refer to *Section 0*);

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- All personnel shall be trained, and personnel who are potentially exposed to hazardous chemicals must undergo a special chemical management training;
- Chemicals will be stored in secure areas;
- Spill control procedures will be prepared and personnel appropriately trained;
- Chemicals will be stored and handled as per the requirements of international standards;
- Chemicals will be stored in bunded areas away from watercourses;
- Material safety data sheets for chemicals will be available on site;
- Absorbent and containment material will be available where hazardous materials are used and stored and personnel trained in their correct use;
- Protective clothing, appropriate to the materials in use, will be provided; and
- Regular inspections to ensure that chemical storage facilities continue to meet the criteria defined in the *Hazardous Materials Management Procedure*.

The plan will include procedures related to communication to stakeholders and community improvement opportunities.



9.3.9 Health and Safety Management Plan

TAP AG's Health, Safety and Environment (HSE) Policy establishes the objectives of TAP AG regarding Health and Safety (H&S) Management, states that TAP AG is committed to integrating HSE at all levels of business through hands-on leadership and behaviour, and highlights the objective of ensuring safe operations that protect people, the environment, communities and assets. TAP AG has an on-going focus on improving HSE performance.

The *H&S Management Plan* will be developed according to all relevant EBRD PRs and Greek legislation to provide a framework for:



- Planning for Health and Safety;
- Accident and Incident Investigation; and
- Health and Safety Auditing.

The H&S Management Plan will include the following elements as a minimum:

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- **TAP AG's HSE Policy;**
- **H&S Organization:** detailed organisation chart and description of roles and responsibilities associated to managing H&S within TAP AG. The organization proposed in the plan will take into account the competency of the proposed professionals, and will provide mechanisms to ensure co-operation and communication between the H&S management team members.
- **H&S Standards,** including:
 - Site safety inductions;
 - Hazards identification and risk assessment, including task analysis and construction hazards;
 - H&S targets, and a procedure for safety performance evaluation and review;
 - Emergency procedures;
 - Toolbox meeting procedure;
 - Site visit registers; and
 - MSDS sheet register.
- **Accidents and Incidents,** including:
 - Definitions;
 - Reporting and registering procedures; and
 - Root-cause analysis.
- **H&S Auditing,** including:
 - Auditing Plan;
 - Setting audit objectives and measuring H&S performance; and
 - Site safety inspection checklists and first-aid equipment checklist.

The H&S Management Plan will include provisions for the training of all workers and will include procedures related to stakeholder H&S communications.

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9.3.10 Stakeholder Engagement Plan

The *Stakeholder Engagement Plan* is developed to build and maintain positive relationships between the Project and relevant stakeholders. These relationships are discussed in more detail in *Section 7 – Stakeholder Engagement*. The SEP establishes procedures for constructive engagement and continuous dialogue that are essential to good business practice and corporate citizenship, as well as Project risk management and performance improvement.

TAP AG has developed guiding principles for stakeholder engagement set forth in the *Corporate Stakeholder Engagement Strategy* (TAP-HSE-ST-0009) to guide Project interactions with stakeholders. According to these principles, stakeholder engagement is to be conducted in a manner that is: Proactive, Transparent, Two-way, Timely, Inclusive, Appropriate, Accessible, Relevant, Free and Accountable. These principles are to be adhered to during all engagements with stakeholders and are applicable for all project functions and its contractors. TAP AG’s Stakeholder Engagement Strategy outlines the principles and methods that will govern TAP AG’s engagement with all existing and potential stakeholders at each stage of the project which are specified in the Stakeholder Engagement Plan.

The purpose of stakeholder engagement is to allow stakeholders to interact with the decision making process, express their views and influence mitigation and technical solutions to concerns voiced during the process. Stakeholder engagement is an inclusive and culturally appropriate process which involves sharing information and knowledge, seeking to understand the concerns of others and building relationships based on collaboration. It allows stakeholders to understand the risks, impacts and opportunities of a project in order to achieve positive outcomes.

TAP AG is following the local Greek EIA requirements which include public consultation and disclosure, and in addition the EBRD PR10 requirements on stakeholder engagement. For structuring the activities TAP AG has developed a *Stakeholder Engagement Plan* (SEP).



The process of stakeholder engagement for project planning and implementation is being undertaken through six phases. TAP AG has been engaging with stakeholders in Greece since 2008 for the West Section of the pipeline. At the beginning of 2012, TAP shareholders decided about extending the project towards East. For TAP East, the Pre-Scoping & Route Refinement phases have been merged into what is called “Route Verification” due to the bundling principle that dictates the existing natural gas pipeline to be followed as much as possible.

Phases 1 to 4 have been completed for both sections of the project. Details on these Phases and outcomes are documented in Section 7 and Annex 7 of the ESIA Report. The process is presented in summary in Figure 9-1 below.

Figure 9-1 Phases of Stakeholder Engagement for TAP Project ESIA

TAP Greece West Section	TAP Greece East Section		
<p>Phase 1- Pre-Scoping</p> <p>Strategic engagement with government and key informant groups in order to provide overall information about the Project, gauge its viability and identify any key issues early.</p>	<p>Phase 1&2- Route Verification</p> <p>High level strategic engagement with government and key informant groups, in order to provide information about the Project, gauge its viability and identify any key issues early.</p>	Completed	
<p>Phase 2 – Route Refinement</p> <p>Introduce the Project to key stakeholders including national, regional and local authorities and potentially affected communities, to identify any key issues and sensitivities such as sites of interest to be considered in route selection as well as identify any vulnerable groups and gather baseline information.</p>			
<p>Phase 3 – Scoping</p> <p>Revisit the stakeholders contacted during the Route Refinement phase at a national and regional level along with those along the chosen route in order to provide further detail on the project and generate feedback on the scope, approach, key issues and key stakeholders to be consulted.</p>	<p>Phase 3 – Scoping</p> <p>Engage with key stakeholders such as national, regional and municipal communities, as well as NGOs and other interested parties, to inform them about the route selection and project design and to understand any issues which may inform the ESIA Terms of Reference and the development of mitigation measures for the Project.</p>		
<p>Phase 4 – Main ESIA Preparation Phase</p> <p>Maintain the relationships developed during the previous phases, and ensure all stakeholder issues have been identified. Revisit national and regional authorities and affected communities along the chosen pipeline route to provide a project update and an opportunity to comment, express any concerns and discuss issues. Also familiarise stakeholders with the grievance mechanism and provide information on the next stages of the Project.</p>			
<p>Phase 5 – ESIA Disclosure and Consultation</p> <p>Present stakeholders with the final Integrated ESIA report at the end of the ESIA process. Includes providing information on the project impacts and mitigation measures designed to minimise or, where possible, to enhance them.</p>			Planned
<p>Phase 6 – On-going Engagement during Project Implementation</p> <p>Continue to engage with stakeholders throughout the Project lifetime in order to manage the relationship between TAP AG and stakeholders.</p>			

Source: ERM (2012) and ASPROFOS (2013)

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For *Phase 5* Public disclosure and consultation on the results of the ESIA, the Stakeholder Engagement Plan has been updated. The aim of *Phase 5 - ESIA Disclosure and Consultation* is to disseminate and present the ESIA report in Greek to all stakeholders including the public. This provides communities with more clarity about the Project, particularly in relation to the pipeline route, loss of land and impacts and mitigation measures and opportunities. Comments raised by stakeholders during the ESIA disclosure and consultation will be documented as an *Addendum* to the ESIA along with the Project Response of how these comments (and comments previously received) have been taken into account.

For *Phase 6* the Stakeholder Engagement Plan will be updated. During Phase 6 TAP AG will continue to undertake stakeholder engagement activities throughout the Project development and Implementation and monitor and evaluate outreach effectiveness for further improvement of the process if needed. During Project construction, TAP AG will inform about construction activities through community bulletins on the Project website and via press and media announcements and local postings in the settlements. TAP AG will be in close contact to the local municipalities via the *Community Liaison Officers* (CLOs) who will also follow-up on grievances that may occur (see *Section 9.3.11*). Also during Project operation, TAP AG will keep stakeholders informed on planned activities (e.g. pipeline maintenance or station venting) and will proactively provide information on pipeline safety and emergency response by leaflets and information events. Regarding the envisaged Social and Environmental Investment Programme, TAP AG will organise stakeholder and community meetings as required.



The objectives of stakeholder engagement activities are to share information and knowledge relating the Project and potential impacts so that stakeholders understand the risks, impacts and opportunities and to seek to understand the concerns of others and building relationships based on collaboration to achieve positive outcomes.

The following items support the basic principles and skills for an effective Stakeholder Engagement Plan:

- Systematic stakeholder identification and analysis, building from stakeholder analysis conducted as part of the ESIA. Stakeholders are categorized into ‘high’, ‘medium’ and ‘low’ importance groups based on level of influence, potential to be impacted by the Project and likely frequency of Project interaction and other factors as appropriate. Stakeholder profiles, interests and concerns are analyzed to inform the development of appropriate information disclosure and stakeholder engagement activities.

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- Development of appropriate information disclosure and stakeholder engagement schedule and activities (Stakeholder Engagement Action Plan), considering general engagement methods outlined in the Strategy for Stakeholder Engagement but customized based on stakeholder profiles and project needs.
- Development of an HSE Plan prior to consultations covering the whole Stakeholder Engagement process.
- Prior to the consultations, stakeholders are provided with comprehensive, readily understandable information about the project, its schedule, outline of stakeholder consultation activities, potential environmental and social impacts and any existing proposals for mitigation measures. Engagement and information disclosure activities are developed to keep stakeholders updated on changes in the project design or schedule on regular basis.
- Local grievance procedure has been established informed by ESIA stakeholder engagement and data collection activities so that they are fully compliant with TAP AG's grievance procedures for the relevant project phase as well as appropriate for the local stakeholder context. The Stakeholder Engagement Action Plan includes timelines to develop and disclose information on the local grievance management process in consultation with stakeholders. TAP AG will ensure necessary resources for carrying out the requirements of the third-party grievance management process in direct engagement with local stakeholders. In order to address grievances, complaints and reports on non-compliance in a timely, impartial and transparent manner, TAP AG will maintain overall responsibility for the implementation of its third party grievance process (Third Party Grievance mechanism procedure- TAP-EXT-MA-0001);
- All stakeholder engagement activities performed on behalf of the TAP Project are logged in the Stakeholder and Consultation Database (SCD). TAP AG and all its subcontractors register all project stakeholders, consultation activity, issues raised and commitments made during such consultations into the database. The SCD also includes the grievance log, which is used for registering and following up on the grievances and complaints received by TAP AG.
- Commitments made to stakeholders are logged and carefully monitored through a commitment register which feeds into the main ESMMP. .

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- Ensuring sufficient presence of project representatives on the ground to build long-term relationships between the project staff and stakeholders and ensure first-hand knowledge of the local issues and ownership over Project commitments.
- Information obtained during stakeholder engagements is fed in to other aspects of project planning in order to make timely consideration of stakeholders' suggestions for impact mitigation, design or management changes. The Project will report back to stakeholders on the rationale behind rejecting or accepting those suggestions.



Given the dynamic nature of stakeholder engagement, the Project and their relations with one another, the Stakeholder Engagement Plan will be reviewed and updated as necessary at least on an annual basis. A Stakeholder Engagement Plan is developed for each project phase such that stakeholder engagement activities are tailored to Project planning, construction, operation or decommissioning activities.

9.3.11 Social and Environmental Investment Plan

The Social and Environmental Investment Plan (SEIP) will be developed in order to enhance living conditions in neighbouring communities and biodiversity in and around critical habitats. It sets out how investment opportunities are identified, assessed, selected, planned, implemented and supported over the entire lifespan of the pipeline system as a long term commitment.

The SEIP will be developed in accordance with TAP's Strategy for Social and Environmental Investments (TAP-HSE-ST-0006) and TAP's Corporate Social Responsibility (CSR) policy. To ensure that SEI provides sustainable benefits, both the SEI Strategy (TAP-HSE-ST-0006) and CSR Policy (TAP-HSE-PO-0002) documents have been written based on the IFC principles for SEI (2010). TAP AG's SEI strategy explicitly adapts IFC's Good Practice Principles for Strategic Community Investment into a set of clear guiding principles and includes the following:

- *Strategic:* Activities flow from the CSR policy through the strategy to the entire supply chain; a strategic mix that addresses short and long-term objectives; focuses on key areas where TAP AG can effectively leverage its role/competencies and evolves different approaches along the project cycle.

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- *Aligned:* Aligns the SEI with communities; civil society & government to create “shared value”, coordinates SEI with ESIA, LEA, stakeholder engagement and local content development and promotes cross-functional coordination and responsibilities.
- *Multi-Stakeholder Driven:* Positions TAP AG as a partner in a multi-stakeholder process and supports partners in defining and meeting their own development goals and aspirations.
- *Sustainable:* Avoids dependency and encourages self-reliance and the creation of long-term benefits, all activities require a viable exit or handover strategy and reinforces, rather than replaces local institutions and processes where feasible.
- *Measurable:* Measures returns to TAP AG, local communities and the environment, uses outcome/impact indicators to measure quantity and quality of change, tracks changes, uses participatory methods to build trust and local ownership and proactively communicated the generated value to internal and external audiences.

The SEIP will be developed in accordance with these best practice principles of community investment best practices. The objective of SEI is to contribute to the advancement of neighbouring communities, to foster sustainable natural resource management and to enhance the relationship between TAP AG and key stakeholders. As such, it is critical that these investment activities are supported by robust stakeholder engagement.

The following items constitute the Social and Environmental Investment Plan:

Local Context – Key findings from ESIA data collection, analysis and stakeholder engagement will be summarized to ensure that community investment planning is framed within the local context. This will include an assessment of local communication and decision making processes, key challenges and opportunities posed by the local context, government development goals and institutional mapping to identify potential advisors and partners.

Establishment of Community Liaison Officers and SEI Commissions – SEI will be identified, planned, implemented and supported through a participatory approach that is responsive to local demands, inclusive, and more cost-effective compared to centrally-led SEIs. TAP AG community liaison officers will need to be established before detailed SEI planning can proceed since they

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will function as the main instrument to assist local governments, communities, environmental agencies and NGOs to identify, implement and follow up SEI. The establishment of a multi-stakeholder SEI commission will provide governance and enhance broader stakeholder access to SEI planning.

Engagement and Planning – SEI focused engagement and planning will be based on key issues and needs identified during ESIA stakeholder engagement to develop a preliminary ranking of local priorities. TAP AG will not plan its SEI from headquarter or country office, but will assist local authorities, communities, environmental agencies and NGOs to elaborate investment requests, invite them to participate in the decision making, request them to join hands during the implementation as well as encourage them to participate in the supervision, monitoring and evaluation. The SEIP will outline the timetable and stakeholders to engage for multi-stakeholder engagement on SEI.

SEI objectives and selection criteria – SEI opportunities will be through a comprehensive planning process that focuses on targets that respond to the needs and goals of all stakeholders (community, Project, government) and established principles for successful investments. To assure a well-balanced and coherent decision making process, each investment proposal will be evaluated by a regional commission that comprises local authorities, local enterprises, community representatives, local environmental agencies and Non-Governmental Organisations as well as representatives of TAP AG’s country office and TAP’s HSE-CSR team on whether it satisfactorily addresses key objectives and satisfies mutual agreed selection criteria. The SEIP will set out SEI objectives and selection criteria to be developed in consultation with the SEI commissions to screen and select SEIs.

Competencies and Resources – To assure sustainable and satisfactory outcomes, TAP understands that such investments need to be developed as an ongoing long term commitment in close collaboration with key stakeholders (local governments, communities etc.). The main instrument to identify, implement and follow up on SEIs are community liaison officers. The SEIP will clearly outline TSP and TAP AG responsibilities and communications on SEI activities as well as outline ways in which TAP AG and TSP can leverage assets, resources and expertise to support SEI focus areas.

SEI Project Implementation – As SEI opportunities are selected, a specific SEI implementation plan will be developed detailing the rationale for selection, potential partners, roles and responsibilities, and implementation schedule. This will include detail on the selection of

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contractor for implementation of the SEI, on-going monitoring, as well as the strategy and timeline for decreasing company support and building local self-sufficiency.

9.3.12 Livelihoods Restoration Framework

A *Livelihoods Restoration Framework* has been developed to address potential economic displacement (loss of assets or access to assets, leading to loss of income or means of livelihood) of stakeholders from Project land and easement acquisition. It establishes the entitlements of affected persons or communities and ensures that compensation is provided in a transparent, consistent, and equitable manner in line with the EBRD requirements.



TAP AG has committed itself that all potential displacement risks will be addressed in full compliance with EBRD-PR 5 and its objective. TAP's Strategy for the Acquisition of Land and Easement (TAP-HSE-ST-0002 – 2) commits TAP AG to mitigate adverse social and economic impacts from land acquisition or restrictions on affected persons' use of or access to land. There are several key elements to this mitigation approach including:

- Provide compensation for loss of assets at replacement cost;
- Ensure that economic displacement activities are implemented with appropriate disclosure of information, consultation, and the informed participation of those affected;
- Improve or, at a minimum, restore the livelihoods and standards of living of displaced persons to pre-project levels, so as to facilitate sustainable improvements to socioeconomic status; and
- Pay particular attention to the needs of vulnerable groups.

In order to realise these objectives, the Project will establish a *Livelihoods Restoration Framework* (LRF) in line with the EBRD Performance Requirements.



The following items underpin the LRF:

- *Project description* – Detailed and comprehensive description of the project and all its components and associated facilities, including the land/easement to be acquired.

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- *Legal framework* – Description of the legal framework and legal and customary procedures of private land/easement acquisitions.
- *Measures taken to minimize displacement* – Description of measures taken to avoid and minimise physical and economic displacements.
- *Economic displacement* – Comprehensive assessment of the impacts of the economic displacement
- *Entitlement matrix* – Entitlement matrix, which identifies the type of impact from land and easement acquisition for each project activity and provides detailed guidance on how stakeholders should be compensated to assure that livelihoods and standards of living of all affected people are restored to levels they will have achieved in a non-TAP scenario and that the living conditions and livelihoods of vulnerable groups are improved.
- *Livelihood Restoration Framework Disclosure* – Outline procedures and timeline to disclose draft and final livelihood restoration plans as well as monitoring reports at local level in a manner that is accessible, understandable and culturally appropriate to ensure that affected stakeholders understand the compensation procedures and know what to expect at the various stages of the project.
- *Grievance Mechanism* – Description of mechanisms for addressing grievances, complaints and appeals taking into account the availability of judicial recourse as well as traditional conflict resolution mechanisms to solve grievances and address complaints in a timely, impartial and transparent manner.
- *LRF Monitoring* – Outline of the monitoring, which will be conducted by TAP AG as well as by independent evaluators to ensure that complete and objective information are available for the participatory performance monitoring system.

In addition to the LRF, a Stakeholder engagement plan for the Land Easement and Acquisition (LEA) phase will be implemented and will outline the principle of free, prior and informed consultation during the purchase negotiations as well as the expropriation process (if needed).

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9.3.13 Local Content Development Plan



As part of TAP AG's *Local Content Strategy*, "TAP and its sub-contractors will recruit and source locally, work with local businesses and give preference to both *if they have equal qualifications and comply with TAP's requirements*" (*TAP Policy on CSR 2011, TAP-HSE-PO-0002*). In line with the highest health, safety, social and environmental standards, construction and operation of TAP requires that all employees, contractors and suppliers comply with International best practice and performance requirements outlined in TAP AG's governing documents. Local workforce, contractors and suppliers currently do not always meet these strict standards and requirements. For this reason, TAP AG commits to contributing to local content development through a *Local Content Development Plan (LCDP)*.

The LCDP will be developed to contribute to the competitiveness of local employment and procurement opportunities and enhance opportunities to optimise costs, quality, flexibility, networks, local knowledge and other considerations in the value chain. It establishes procedures to promote the purchasing of goods and services as close as possible to the location where the good and service is utilized while complying with procurement guidelines.

The objective of the LCDP is to enhance the capacities of national partners and foster economic opportunities through strengthening of local vocational and gas-related technical training and education related to pipelines. In Greece, the focus is to enable national enterprises to compete successfully with international companies in the tendering process. TAP AG and its TSPs will actively support capacity-building initiatives, work with service providers and training institutions to improve relevant skills and capabilities and invest in local enterprises to provide the skills and expertise, standards and certifications required to work for the TAP Project.



The following items constitute the LCDP, which will be mainly implemented by TSPs:

- *Local Content Development Team* – Description of the LCD team including subcontractor selection
- *Demand and Supply Side Analysis Findings* – Overview of the findings from TAP AG's comprehensive demand and supply side analysis that will be conducted in 2014 to identify opportunities for employment and the provision of services and goods based on EPC-packages and sub-packages, staffing plans and other related information. Potential suppliers for each of these opportunities will be identified through market studies focusing on an area as close as possible to the actual location of each opportunity (i.e. pipeline,

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stations, construction camps, pipe yard, access roads etc.). Findings from this 2014 analysis are to contribute to the establishment of a Supplier Development Program.

- *Elaboration of Supplier Development Program* – Approach and schedule of activities for a supplier development program to correspond to project approval and construction / operation schedule requirements and necessities related to contractual arrangements between TAP AG and key contractors. Based on demand and supply side analysis findings, sectors and commodities will be identified and clustered in order to establish targeted and phased skills and capability enhancement programs. This section of the LCD plan will include:
 - Intervention methodology (such as classroom training, coaching, on-the-job training, consulting and mentoring options for qualification and certification) and training/sourcing of expertise developed in close coordination with TAP Engineering and potential key contractors (if known) to ensure alignment and reduce guarantee / warranty issues.
 - Schedule for a phased implementation of program activities (sector by sector) to enable local companies to achieve qualifications and potentially certification with the relevant standards and requirements well in time to participate in the tendering process.
 - Agreements on monitoring and reporting as well as identification of sectors with high immediate impact and the formulation and implementation of management and supervision structures such as steering committees etc.
 - Provisions of local content and supplier development for inclusion in technical documentation for key contractors.
- *TAP Qualification and Training for Local Enterprises* – Approach, summary of trainings and schedule of activities for TAP qualification and training for local enterprises.
- *EPC Contracts around LCD* – detail on how EPC contracts are tailored around local content development.
- *LCD compliance during EPC tender process* – Approach and activities to assure local content development compliance during the EPC tender process

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- *LCD Monitoring* – Approach and implementation of a monitoring and evaluation system which informs the stakeholders about progress made and to identify emerging challenges and a transparent system of bidding and selection processes for employment, goods and services to document compliance with TAP AG’s local content commitment.



TAP AG’s role will be to engage with governments, financial institutions and other companies on the financing & implementation of a joint local content development program, follow up the process, enhance the quality of the deliverables, assure alignment and compliance with the agree on standards in close collaboration with governments, financial institution and other companies.

9.3.14 Workers Management Plan

The *Worker Management Plan* (Workers MP) will be developed to address potential risks to worker rights, health and safety by summarizing expectations and procedures to maintain quality working conditions, activities and conduct.

The following items underpin the Workers MP:

- *Legal framework, EBRD PR2 and TAP Policies and Strategies related to worker H&S and rights* – Overview TAP Code of Conduct, HSE Policy, HSE Risk Management, Local Content Strategy, Policy on CSR, Strategy for Implementing CSR policy under the TSP model, EBRD PR2 and relevant Greek law.
- *TAP Management Systems related to worker H&S and rights* – Overview of TAP Health and Safety Management System including regular training and monitoring as well as ongoing safety checks and safety audits; overview of TAP Environmental and Social Management System including KPIs developed around worker rights, discrimination, management workforce grievance mechanism and monitoring; overview of labour related issues that may be arising based on evaluation of stakeholder engagement activities, community grievances and media coverage.
- *Contractor Management* – Provide overview of how TAP AG considers H&S performance as part of the contractor and supplier selection process, how TAP AG supports contractors and subcontractors to ensure that labour and working conditions are in line with Greek law, international standards and TAP AG policies; approach and activities to monitor and audit

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all contractors and subcontractors; consequences/escalation process if contractors are found to be breaching Greek law, international standards, TAP AG policies or contract clauses.

- *Worker Grievance Mechanism* – Approach and procedures for a worker grievance mechanism that is accessible to all workers (including contractor and subcontractor workers); include avenues for workers to submit grievances, how to submit grievances, the process to review and respond to grievances, corrective actions, appeals procedure and grievance documentation and monitoring.
- *Monitoring* – Approach to monitoring worker H&S and rights performance (in alignment with social compliance monitoring) and worker grievance trends and response performance to evaluate and continuously improve on management activities.



9.3.15 Infrastructure and Utilities Management Plan

The *Infrastructure and Utilities Plan* will be developed to detail actions to minimise disruptions to utilities and deliver benefits through Project investment in infrastructure. The objectives of the Infrastructure and Utilities Management Plan are as follows:

- minimise damage to settlements and households assets from construction process;
- ensure no significant temporary loss of, or access to, infrastructure or services;
- no reduction in services available to the local communities; and
- ensure that project benefits derived from new infrastructures (access roads, electric and water supplies, landfills, sewage systems etc.) will contribute to the physical and economic development of local communities in the Project Area, in the long term.



The following items constitute the Infrastructure and Utilities Management Plan:

- *Relevant TAP Policies and Strategies* – Overview TAP AG Policy on CSR, SEI and Strategy for Stakeholder Engagement
- *Stakeholder notification and engagement* – Approach and activities to notify and consult with stakeholders on infrastructure development and utilities; include description of planned pre-construction and post-construction surveys and stakeholder sign-off; community liaison

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role and responsibilities; grievance process with required response times specifically for infrastructure and/or utility related grievances; provide approach and procedures (including compensation activities) in the event that utilities are unexpectedly disrupted by project related activities

- *Public Utilities Assessment* –Detail the scope and findings of the public utilities assessment which will assess: access or connection points to grid, network or sewer system at regional, municipality/commune level; available electricity provider/water supplier and their total production as well as available sewage services and capacity; available electricity/water supply or sewage; total electricity / water consumption today and known trends (without the TAP), sewage capacity needs by the TAP; overall supply needs for the TAP Project (per region and municipality/commune as applicable). Measures required to update TAP AG and contractor management plans and activities based on the findings of this assessment.
- *Road Closure and Construction* – Requirements for road closure for construction/upgrade activity and measures to minimize disruption such as detail on diversions and how the public will be notified of the diversions; identification of road upgrade plans and how TAP AG will transfer the upgraded roads to local authorities,
- *Flooding Control Plan* – Detailed scope and measures within the Flooding Control Plan as developed and agreed with local authorities.
- *Irrigation Continuity Plan* – Detailed scope and measures within the Irrigation Continuity Plan as developed and agreed with local authorities.
- *Monitoring* – Approach to monitoring infrastructure improvements and any utility disruptions including community grievance trends and response performance to evaluate and continuously improve on management activities relating to infrastructure development and utility disruptions.

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9.3.16 Community Health Management Plan

The *Community Health Management Plan* (Community Health MP) will be developed to avoid or minimise the risks and adverse impacts to community health (including safety and security) that may arise from project activities to ensure safe operations that protect communities. The project can increase the potential for community exposure to risks and impacts arising from temporary or permanent changes in population from project workforces as well as project activities (planned and unplanned). For this reason, the management of community health is closely connected with worker health, worker behaviour and Project safety measures.



The objectives of the Community Health MP are to avoid or minimise risks to and impacts on the health and safety of the local community during the project and to ensure that the safeguarding of project, related personnel and property is carried out in a legitimate manner that avoids or minimises risks to the community's safety and security.

The following items underpin the Community Health MP:

- *Legal framework, EBRD PR4 and TAP Policies and Strategies related to community H&S and rights* – Overview TAP Code of Conduct, HSE Policy, HSE Risk Management, Local Content Strategy, Policy on CSR, Strategy for Implementing CSR policy under the TSP model.
- *TAP Management Systems related to community H&S and rights* – Overview of TAP Health and Safety Management System including regular training and monitoring as well as ongoing safety checks and safety audits; overview of TAP Environmental and Social Management System including Social Compliance Monitoring and consideration of human trafficking risks; overview of labour related issues that may be arising based on evaluation of stakeholder engagement activities, community grievances and media coverage.
- *Project H&S controls relating to community* – Provide overview of Project H&S controls including Project fencing (and monitoring), Project driving and parking safety measures as well as transportation route planning and grievance mechanisms available at rest stops and worker accommodation points; provide overview of Project and contractor (including trucking company) H&S management and TAP requirements including health screening, code of conduct training, disease awareness and H&S training.

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- *Capacity / needs assessment of hospital equipment and personnel* – this plan will include an assessment of hospital equipment and personnel along the route and in Tirana to determine if facilities have sufficient resources to deal with emergencies; include process to enter into agreements with suitable hospitals to provide health care in emergency situations.
- *Emergency Response Plans* – based on the findings of the local hospital capacity and needs assessment, provide approach and schedule to develop emergency response plans in consultation with Greek emergency providers and local health facilities to coordinate emergency activities to encompass the local community, worker and contractor / subcontractor.
- *Stakeholder H&S Awareness and Engagement* – provide approach, activities and description of materials for stakeholder engagement and consultation to educate local communities of the risks of trespassing onto sites, the meaning of signs, the dangers of playing on or near equipment or entering fenced areas; include presenting in every primary and secondary school in communities along the pipeline route; include procedures for documenting meetings and uploading this information into the SCD. H&S awareness presentations at schools will also include other Project aspects such as construction methods, pipelines and skills required to work in construction to improve youth understanding of the Project and H&S aspects.
- *Project Security Measures and Conduct* – activities to prevent trespass onto work fronts and equipment and manage security personnel conduct; include scope and frequency of security personnel training in line with the UN Voluntary Principles on Security and Human Rights.
- *Community and Worker Grievance Mechanisms* – Provide overview of community grievance mechanism and separate worker grievance mechanism as important tools for maintaining awareness of and evaluating potential risks and impacts to community health, safety and security
- *Monitoring* – Summarize approach to monitoring worker H&S and rights performance as well as worker grievance and community grievance trends and response, and how this information will be fed into adjustments / improvements to community health management activities; provide approach to monitoring the emergence of major pandemics (through

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World Health Organization – WHO alerts); include how level 4 WHO Pandemic Alert will trigger implementation of the relevant ERPs.

9.3.17 Biodiversity Action Plan



The TAP *Biodiversity Action Plan* (BAP) will include a number of different elements covering both the construction, operation and decommissioning phases of the Project. The BAP will be developed by / in consultation with the appointed Ecological Clerk(s) of Works and will define the following elements:

Prerequisites

- Stakeholder engagement and consultation;
- Partnerships evaluation;
- Integration of the BAP into the ESMMP;
- Consider biodiversity priorities, resource/staff availability and timing/cost issues; and
- A baseline survey of biodiversity and indicators selection.

As part of this exercise a consultation process will be undertaken with key stakeholders (including MEECC, Forest Authorities, National Park Evros Detla, National Park of Dadia-Lefkimi-Soufli Forest, Eastern Macedonia – Thrace Management Authority, National Park of Lakes Koronia – Volvi Management Authority, Axios National Park Management Authority, NGOs and local community representatives) to confirm the key elements of the BAP and also to initiate participation with the planning and implementation from stakeholders of the BAP (which may also include potential TAP AG support for NGO organisations or initiatives in the area of the pipeline’s corridor or in the regions crossed). All required elements will be examined in an iterative process and currently it is thought that to adequately cover flora, fauna and designated areas during construction and operation the BAP will include the following three elements:

1. Construction Biodiversity Action Plan;
2. Operational Biodiversity Action Plan; and
3. Decommissioning Biodiversity Action Plan.

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It should be noted that specific area plans are considered necessary for key sites included above as long-term indirect impacts have been identified during operation at these sites that will need ongoing and dedicated effort. Furthermore for the crossings with the Rivers of Evros, Filliouris, Kompsatos, Nestos, and Axios, the BAP will be geared towards aiding eventual long-term protection of the area so the emphasis of this BAP will be specific and will include more monitoring, stakeholder engagement, evaluation and reporting than in other areas. This approach will be based in the Appropriate Assessment for the above mentioned rivers, which have been prepared alongside the current ESIA – refer to Annex 8.

Implementing the plans: Once the design process is complete, the next step will be to develop a management schedule for the implementation. This process will ensure that TAP AG’s BAP is conducted in order to meet the defined objectives and priorities.

The implementation phase may identify additional opportunities to link environmental and social issues and address the socioeconomic aspects of biodiversity conservation (such as deforestation for firewood as identified during consultation). This is especially the case for secondary or indirect impacts management.

Monitoring, communication and verification of performance: This process of verification and improvement must be aligned with company Environmental Management Systems (EMS). The necessary actions to implement these activities are:

- Monitoring:** Identify organisation(s) with responsibility for managing monitoring activities and reporting on the progress being made on individual actions. TAP AG will appoint a dedicated team to implement the BAP made up of employed staff members, independent consultants, and scientific entities or of NGO’s given the necessary funding to implement the works. TAP AG will track the BAP implementation (monitoring of how the TAP BAPs are being implemented). The monitoring will be intended to determine the potential effects on biodiversity generated by the Project introduced changes in comparison with the baseline. The monitoring programme should be implemented according to the specific pipeline section requirements and the defined conservation priorities, in order to make sure that the introduced mitigation measures and restoration works are effective, and to identify the corrective actions if deficiencies are identified.



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- Evaluation:** TAP AG's BAP will review indicators and performance against objectives, targets and stakeholder expectations to measure how well the BAP has been implemented, and how successful it has been. TAP AG will maintain communications with stakeholders and partners to align performance versus expectations with particular emphasis made on key species (large carnivores – *Ursus arctus*, *Canis lupus*, *Canis aureus* - and *Spermophilus citellus*), habitats (alluvial forests) and for designated NATURA2000 areas (South Forest Complex of Evros – GR1110009, Filiouris River – GR11300006, Kompsatos River – GR11300009, Nestos River – GR11500001 and GR1150010, Axios River – GR1220002 and GR1220010). Will assess alignment with local Management Plan of Protected Areas and Species). Periodically a review of objectives and targets will be made in order to determine their achievement or not, and the eventual need to introduce the required enhancements for the action plan.

Reporting: The communication and verification of the progress and outcomes of TAP AG's BAP to all interested parties will help to build support and increase the probability of success for current and future biodiversity-related activities. The participation of the local people will be the key source for the evaluation of indirect impacts from logging, hunting, fishing or overharvesting. Therefore, the inclusion of such people within stakeholder engagement groups will be essential in the success of all the BAP elements and will also help to manage expectations, to promote the partnership approach and to avoid conflict. Reporting will be performed through the development of an alternative, independent mechanism, such as a website on biodiversity activities, which will include the development of tools to report data internally, making data available for reference and decision making to practitioners, management and to local NGOs and government groups for species and habitat records.

9.3.18 Landscape Management Plan

In accordance with the mitigation measures set out in *Section 8.6*, the following section summaries landscape management measures to be implemented to assist the effective establishment of reinstated landscape works following construction of the pipeline and newly introduced planting works around structures, such as the compressor station and the block valve stations.



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Construction Phase:

- Vegetation to be retained (adjacent to the TAP construction site) will be protected by the installation of protective fencing for the duration of the works. Guidelines for this construction mitigation measure are contained in *British Standard 5837, Trees in relation to construction, 2005*.
- Topsoil will be stored near to the location from which it was stripped and, where possible, returned to this location. Topsoil will be kept separate from subsoil and will be stored in heaps which will be limited to a maximum height in order to preserve the soil structure for future use.
- The Landscape Management Plan (LMP) will include all the procedures to follow during restoration works, including restoration monitoring procedures.

Operation Phase:

- Farmland reinstated following the pipeline works will be monitored for the presence of pernicious weeds.
- A detailed LMP for the early years of establishment (years 1-5 of operation) will be developed for the TAP landscape works covering maintenance requirements for a range of landscape treatments including grass seeding, hedgerow planting, native species shrub under storey and woodland planting. Maintenance operations will include on weed control, establishment watering, establishment grass cutting, hedgerow maintenance and cutting and protection of planting from damage by livestock.
- A detailed long term LMP will be developed for the lifetime of the TAP. The long term management plan will continue to address issues relating to weed control, grass cutting, hedgerow maintenance (including weed control and cutting). In addition a strategy for long term maintenance of woodland and shrub understorey will be developed for the TAP. This will focus on the thinning operations required to be undertaken as the woodland and shrub understorey matures.
- There will be special reference in the Pipeline Route Maintenance Plan for vegetation recovery and soil conditions.
- Finally all LMPs will be developed to be consistent with Biodiversity Action Plan.

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Landscape Design Plan

For each compressor station (GCS00 and GCS01), an individual landscape design plan will be developed by TAP AG with the aim to provide green shielding to mitigate impression from viewers from near fields and settlements. In addition the colour design of the structures will be considered in the plan. TAP AG will develop the Landscape Design Plan with the help of professional landscape architects. Vegetation to be used shall be regionally specific.

9.3.19 Aggregates Management Plan

The installation of the pipeline and the construction of the compressor station and block valve stations, will require the management of a certain amount of aggregate material. In order to manage this appropriately, an Aggregates Management Plan (AMP) will be developed.



For the purpose of this Plan, the term *aggregate* is defined as “a mass or body of rock particles, mineral grains, or any of several hard, inert materials, such as sand, gravel, slag or crushed stone, used for mixing with a cementing or bituminous material to form concrete, mortar, or plaster, or used alone as in ballast or graded fill” (American Geological Institute, 1984).

9.3.19.1 Scope and Purpose of the Plan

The AMP will:

- Identify estimated Project requirements and potential sources of aggregates;
- Identify potential impacts of aggregate sourcing; and
- Recommend appropriate measures to mitigate any unavoidable impacts.

The contractor will prepare detailed AMPs to identify the actual quantity of aggregates needed per contract, and will comply with the specific measures that will be used to mitigate any predicted impacts.

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The contractor’s AMP shall include detailed procedures for the management and mitigation of the potential impacts of aggregate extraction, transportation and management.

9.3.19.2 Aggregate Management Measures and Procedures

Although quarry working and reclamation, by its very nature, is site specific, there are a number of best practice procedures that will be implemented to ensure good management while also allowing optimum use of the aggregate resource. The contractor will detail these best practice procedures when preparing the contract-specific AMPs.



The following potential impacts will be covered in the AMPs:

Noise disturbances - impacts of noise will be reduced at the outset through appropriate mitigation measures.

Impacts to air quality - dust emissions can be reduced and properly controlled by careful planning and quarry management. The contractor will also consider the recommendations of the contract-specific Pollution Prevention Plan (refer to *Section 9.3.7*).

Archaeology - the likely presence of sites of potential archaeological interest should be identified at the earliest possible opportunity. Moreover, the Project’s chance-find procedures should be applied during the excavation works as defined in the Cultural Heritage Management Plan (refer to *Section 9.3.6*).

Impacts to biodiversity and sensitive habitats - the main impact of surface quarrying operations on biodiversity is from disturbance to habitats, vegetation removal and land clearance. High dust levels generated in quarrying operations may affect both aquatic and terrestrial ecosystems. Also, contamination of surface watercourses may occur from leaching. This can affect fish and other aquatic fauna and flora. The contractor will also consider the contract-specific Biodiversity Action Plan (refer to *Section 9.3.17*).

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Visual Impacts - Best practice in terms of landscape planning is to ensure that the visual amenity of the surrounding landscape is maintained, and that the site is not visually intrusive. The contractor will also consider the contract-specific Landscape Management Plan (refer to *Section 9.3.18*).



Water pollution - run-off has the potential to pollute surface waters and groundwater sources. Mitigation will aim to control run-off from the quarry yard and dewatering of the pit are regulated. The primary surface water concerns associated with quarrying are the preservation of riparian vegetation and habitats of nearby streams and estuaries, control of sediment-laden run-off, and prevention of erosion.

Groundwater impacts are generally associated with the soils in the vicinity of the quarry, the underlying geology, the amount of rainfall, the depth of the pit, the proximity of the pit to wells in the area. The contractor will also consider the contract-specific Water Management Plan (refer to *Section0*).

Waste management - the uncontrolled disposal of quarry waste has the potential to have a major impact on the environment. Generally, tipping areas should be well screened from public view and should not pose a threat to surface or underground water supplies and should not provide a nuisance to local residents, or other sensitive receivers, by way of blown dust or grit. The contractor shall endorse best practice and procedures as defined in the contract-specific Waste Management Plan (refer to *Section0*).

Temporary traffic control and management - quarry operations can lead to increased traffic due to the transporting of aggregate materials to and from the Project site. The contractor shall comply with the mitigation measures outlined in the contract-specific Traffic Management Plan (refer to *Section9.3.5*).

Erosion and sediment control - Quarry operations can lead to erosion if not properly mitigated. The main forms of erosion associated with quarrying are splash, sheet, rill, gully on-site, and stream and channel off-site. Another issue related to quarrying is the production of sediment. Sediment, when transported through run-off to nearby watercourses, can impact the water quality and act as a pollutant. High levels of sediment deposition can also lead to increased erosion of

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stream banks and can cause flooding. The contractor shall comply with the contract-specific ESCP for quarry operations.



9.3.19.3 Decommissioning of Site

During decommissioning, it is probable that a certain amount of aggregates will be created. TAP will use licensed quarries and deposits areas defined by the competent regional authorities in order to dispose this material. No disposal will be performed in non designated areas.

9.3.20 Other Specific Management Plans

In addition to the specific management plans discussed the following management plans would also be developed:

- Erosion and Sediments Control Plan (ESCP) - Aims to minimise erosion at construction sites, to avoid water pollution by sediment plumes from uncontrolled site runoff and to manage and monitor long-term site stability / erosion at watercourse crossings.
- Hydrostatic Test Plan (HP) - Defines the hydrostatic test water intake and discharge points and methods to avoid impacts on aquatic ecology, river bed and banks, and any user conflicts.
- Site Reinstatement Plan (SRP) - Deals with the general reinstatement of lands along the pipeline route to be undertaken following completion of construction.
- Spill Prevention and Response Plan (SPRP) - Provides for preventing spills of oil and lubricants, cleaning agents etc. and for clean-up of any accidental spills that may occur.
- Watercourse Crossing Plan (WCP) - Sets out the details of the construction methods and environmental protection measures, such as sediment dispersion reduction, for each water course crossing.
- Grievance Mechanism - Provides a documented process to deal with any suggestions or complaints of the population affected by the Project.
- Land Easement and Acquisition Strategy (LEAS) and Land Access Plan (LAP) - Deals with the management of temporary and permanent acquisition of easement rights for the pipeline and land for above ground installations and road access (in conjunction with the Livelihoods Restoration Framework).

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- Operation Health and Safety Management Plan (OHSMP) - Part of an overarching Project Health and Safety Management Plan. Deals with occupational health and safety during system operation.
- Pipeline Abandonment Plan (PAP) - At the time when it becomes relevant, this plan will specify in sub-plans the measures to deal with environmental and social impacts and risks associated with decommissioning, abandonment and/or dismantling of pipeline and associated installations.



9.4 Roles and Responsibilities

9.4.1 The Role of TAP AG with Respect to Environmental and Social Management and Monitoring

As Project proponent, TAP AG will have the ultimate responsibility for implementing the ESMMP, which will include:

- On-going management of environmental and social issues as detailed design proceeds;
- Monitoring the Contractors' performance;
- Development of mechanisms for dealing with problems;
- Acting as a point of contact for consultation and feedback with landowners, the public and interested parties; and
- General environmental and social compliance monitoring and reporting.

TAP AG will ensure that the activities of its Contractors will be deployed in accordance with the relevant standards that will be outlined. Contractors' performance in complying with the ESMMP will be monitored and audited. Compliance and non-compliance with the provisions of the ESMMP will be recorded and records will be made available for inspection by both representatives of the Contractors and Greek Authorities.

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9.4.2 The Role of the Contractors with Regard to Environmental and Social Management and Monitoring



The commissioned Contractors will be required to develop and comply with the provisions of the ESMMP and to take responsibility for its continual development throughout all phases of the Project.

Contractors will be responsible for ensuring compliance with:

- All relevant legislation;
- Environmental and social controls and mitigation measures contained in the ESMMP; and
- Any environmental, social or other codes of conduct required by TAP AG.

Contractors will also:

- be required to develop an HSE Plan
- be required to undertake regular environmental and social inspections and reporting directly to the proponent;
- need to demonstrate how ESMMP requirements will be ensured during the Project phases;
- be expected to demonstrate commitment to ESMMP at all levels in the Contractors' management structure;
- prepare and upload the MoM's on the SCD
- produce a Contractor's Environmental and Social Management Plan indicating the Contractors' procedures in terms of:
 - Contractor's organisation and person responsible for environmental issues;
 - Site Induction and Environmental Awareness of personnel working on site, including information on the work equipment, substances to be used, personal protective equipment to be used, personnel awareness of specific plans (such as waste management) and good site practices (such as housekeeping, noise control, energy saving, labour rights, Code of Conduct, etc.);
 - Environmental procedures;
 - Stakeholder Engagement Plan;
 - Audit procedures; and
 - Reporting procedures.

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9.5 Monitoring Performance

9.5.1 Introduction



As explained in *Section 4 - Project Description*, the construction of the TAP will be carried out by external contractors rather than TAP AG directly. As such it is important to understand that many of the environmental and social mitigation and management measures outlined in this ESIA will need to be delivered by the contractor. Therefore TAP AG will seek to ensure that the contractors that are commissioned to carry out the activities take account of, and are required to deliver, the mitigations outlined in this ESIA. A Commitments Register will set out who is responsible for the delivery of each of the mitigation commitments and who will check the delivery of each commitment. TAP AG will be ultimately accountable for the delivery of all commitments.

Once the construction contract has been formally awarded, TAP AG will start the process of contractor engagement. In the first instance this will involve clarifying with the contractor TAP AG's expectations with regard to delivery of environmental and social mitigation and management. The principal mechanism for communicating this to the Contractor will be the ESIA Commitments Register. After contract award and during the Project lifetime, a TAP AG Environmental and Social Advisor will monitor on-going contractor performance and compliance with requirements in the Commitments Register by means of site visits and audits.

Monitoring and reporting of environmental data will be undertaken in accordance with the TAP AG Monitoring and Measurement Procedure. TAP AG will record and monitor data covering the environmental (e.g. waste generation, water use and discharges) and social aspects. This process will enable TAP AG to understand how the Project's environmental and social performance is changing over time and to facilitate improvements to the environmental and social management system.

9.5.2 Monitoring Programmes

This section presents an outline of the monitoring programmes proposed for the pre-construction, construction and operation phases, in tabular format.

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Pre-construction **Baseline Update**

The pre-construction phase applies to any data collection in advance of construction (whether it is a few months or a few days) which adds to the pre-Project baseline. During the pre-construction phase priority has been given to filling gaps or updating baseline data for topics and parameters that will be important in subsequent phases of monitoring. *Table 9-5* provides an outline of a monitoring programme for the pre-construction phase.

Table 9-5 Outline of Monitoring Programme: Pre-Construction Phase



Receptor	Monitoring Task	Monitoring Parameter	Timing
<i>Avifauna</i>	Precise location of nesting sites in the proximity of the pipeline route	Presence of nests of species of conservation interest	Before construction
<i>Spermophilus citellus</i>	Precise location and extent of the colonies identified in the proximity of the pipeline route	Extent of active colonies of <i>Spermophilus citellus</i>	Before construction
Flora species of conservation interest	Precise location of flora species of conservation interest within the proposed working strip	Presence of flora species of conservation interest	Before construction

Source: ERM (2012), ASPROFOS (2013)



The construction phase applies to data collection that is to occur as the work is physically being undertaken. *Table 9-6* provides an outline of the monitoring programme for this phase.

Table 9-6 Outline of Monitoring Programme: Construction Phase



Receptor	Monitoring Task	Monitoring Parameter	Timing
Terrestrial Ecology	Inspection and audit to ensure satisfactory implementation of proposed mitigation measures	Terrestrial ecology inspection audits	Weekly
		Visual monitoring of pipeline trench for trapped animals	Daily
		Pre / During / Post Construction Survey Monitoring of illegal access for logging on project roads	Before, during and after construction
Noise	Noise monitoring at GCSs boundary and at receptors during the trial run of the installation.	Day and night time noise levels	Day and night monitoring during the commissioning / trial run
Surface water and groundwater	Monitoring receiving water quality at construction camps (if discharging to surface water or groundwaters) Monitor water quality at crossings	Dissolved oxygen Turbidity/suspended solids Oil and grease Coliforms	Monthly
		Turbidity/suspended solids Oil and grease	During crossing One week after crossing

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Receptor	Monitoring Task	Monitoring Parameter	Timing
	Monitor water consumption	Water used at construction camps, during hydrotesting, dust suppression, and any other activity	Continuous
	Monitor river flows	River flows for all water courses that will be crossed or used for hydrotesting	For 1 years prior to construction Weekly during hydrotesting
	Monitoring hydrotesting water (both abstracted and discharged)	Dissolved oxygen Turbidity/suspended solids Oil and grease Coliforms	Weekly during hydrotesting
	Monitoring river restoration at crossings	Photographs comparing before and after conditions at crossings	Before undertaking the crossing and after restoration works
	Identification and reporting of erosive events	Number of erosive events caused by the project Percentage of project related erosive events detected and corrected	Continuous
Soil	Periodical auditing of the application of soil handling measures	Height of topsoil mounds Volumes of topsoil handled Verification of replacement procedures and restoration results	Weekly
	Periodical visual inspection of works	Events where machinery has been identified outside of designated areas (working strip, access roads, etc.)	Daily
Landscape	Site monitoring by site supervisor to verify that landscape mitigation measures have been applied	Working strip widths Presence of fencing for protecting vegetation where flora of conservation interest and isolated emblematic trees have been identified Presence of hoardings at compressor station sites	Weekly
Cultural Heritage	Review and audit of mitigation activities to ensure satisfactory implementation of mitigation measures	Percentage of completion of required reporting, including: <ul style="list-style-type: none"> Ground-disturbing activities Chance finds Periodic inspection of known archaeological sites in the Project area 	Daily & Weekly Per Find Monthly
		Percentage of completion of induction training and toolbox talks	Monthly
		Percentage of implementation of all additional measures, such as signage, fencing, structural bracing & conservation	Monthly
		Percentage of cultural heritage-related grievances and cultural heritage issues raised through community consultation addressed	Monthly

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Receptor	Monitoring Task	Monitoring Parameter	Timing
Economy and employment	Record economic indicators for local content and socioeconomic issues	€ spent on Greek goods and services Percentage of unskilled labour from within the country Percentage of contractors trained on socioeconomic policies	Monthly
Land use and value	Recordkeeping: signed agreements for compensations, consultation meeting minutes	Percentage of land owners affected with signed compensation agreements Percentage of meetings with minutes developed	Monthly
Infrastructure and Utilities	Recordkeeping: documented agreements with authorities and public utility companies, grievance mechanism	Percentage of affected entities having a signed agreement. Number of grievances responded and addressed. Hours of utility service interruptions (sewage, electricity, irrigation).	Monthly
	Traffic monitoring	Number of vehicles per category Number of accidents and other events	When construction occurs close to identified potential hot spots
Working conditions	H&S monitoring and audits. H&S performance evaluations for subcontractors PPE monitoring	Total recordable incidents, lost time incidents, and other H&S indicators Records verifying the conditions of PPE Health checks parameters	Weekly H&S audits
	Perform workforce surveys Maintain grievance mechanism Analyse workers and community grievance trends Maintain training records	Workforce surveys results KPIs for worker rights, discrimination, worker grievances Community and workers grievance trends Training records (compliance with assigned training) Number of times where TAP Code of Conduct has been breached	Monthly
Community health and safety	Monitor workers health Monitor application of training Monitor medical facilities and first aid equipment	Monitoring and audits reports Employment screening records Health checks conducted for all workers every 6 months Training records Records on medical facilities and first aid equipment conditions	Monthly
Community cohesion	Recordkeeping: social investment figures, following progress on investment plan, consultation meeting minutes	KPIs to evaluate outcomes of investments, € spent on investment Percentage of meetings with minutes developed Percentage achieved of quarterly project update leaflets on progress of investment plan and on livelihood restoration	Monthly

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Receptor	Monitoring Task	Monitoring Parameter	Timing
Traffic	Monitoring potential impacts related to traffic Recordkeeping of traffic related parameters	Percentage of total new and updated roads constructed, compared to originally planned Number of days and kilometres of roads affected by the project (closed due to project's activities) Reports and records showing application of mitigation measures (communications, records of road damage and repair, approval of road drawings, training registers)	Monthly

Monitoring in the Operation Phase

During the *operation phase*, monitoring is aimed at establishing the effects of the long-term presence/operation of the pipeline, and will also provide a baseline for the future decommissioning phase *Table 9-7* provides an outline of the monitoring programme for the operation phase.

Table 9-7 Outline of Monitoring Programme: Operation Phase

Receptor	Monitoring Task	Monitoring Parameter	Timing
Air quality	Air emissions monitoring through a CEM System to monitor the emission sources (stacks).	Temperature Exit flow rate CO, NOx %O ₂	Continuous
	Air quality monitoring in the area surrounding the CSs sites to ensure no effect during a period of 1-2 years	CO NOx	To be determined by authorities
Noise	Noise monitoring at sensitive receptors	Day and night time noise levels	As required
	Noise monitoring at CSs boundary.	Day and night time noise levels	To be determined by authorities
Soil	Periodical verification of restoration results.	Vegetation growth and land coverage	Bi-quarterly
Cultural heritage	Review and audit of mitigation activities to ensure satisfactory implementation of mitigation measures	Percentage of completion of required reporting, including: <ul style="list-style-type: none"> Periodic inspection of known archaeological sites in the Project area Monitoring of any intrusive maintenance 	Bi-annually
			Per incident
River ecology	Monitoring in the Evros, Filiouris, Bosbozis, Kossinthos, Kompsatos, Nestos, Aggitis, Strimonas,	Turbidity Phytobenthos Macroinvertebrate populations (abundance and diversity)	Quarterly for the first 2 years of operation

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Receptor	Monitoring Task	Monitoring Parameter	Timing
	Gallikos, Axios, Aliakmonas Rivers area to ensure no effect during a period of 1-2 years	Fish populations Aquatic plants Restoration measures.	
Terrestrial Ecology	Periodical verification of biodiversity actions (i.e. translocations, habitat compensation etc)	Survival rate of any translocated vegetation Monitoring of newly created or enhanced habitat	Bi-quarterly

9.6 Change Management

Pipeline construction is a well understood activity in terms of how it will be carried out, enabling all of the potentially significant impacts to be identified and assessed. However, where uncertainty does occur it will need to be dealt with in a structured and transparent way. The system the Project proposes to implement for dealing with post-ESIA submission changes (for example changes to the pipeline design or new baseline information) will aim to manage any uncertainty. The way in which these changes or uncertainties will be dealt with in the period following the completion of the ESIA is a matter of the nature of change.

Although, there is a legal framework for permitting changes in Greece (Modification of the Approval of Environmental Terms or by L.4014/11 in case of modifications in the Technical Design of the Project after the issuance of the Approval of Environmental Terms, the Owner has to submit a Dossier of Final Design Compliance and in some cases a Technical Environmental Study), the actions to be taken by TAP AG will be based on the type of change:

- *Minor changes:* Minor changes refer to slight alterations to design, such as a different CSs Layout or micro-rerouting by a few meters.
- *Moderate changes:* Moderate changes refer to alterations to design, often due to an Authority requirement or an emerging technical and/or other constraint, giving rise to alterations which do not affect Basic Project Design.
- *Major changes:* Major changes refer to alterations to design, often due to an authority requirement or an emerging technical and/or other constraint, giving rise to significant alterations that affect Basic Project Design.

The Project will follow this process in order to address any changes and to assess whether or not the significance of environmental and social impacts and the related mitigation commitments are affected.

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