

**SOCAR Carbamide Plant
Summary of Environmental and Social
Impact Assessment**

February 2017

Introduction

The construction of the SOCAR Carbamide Plant (Ammonia and Urea Complex) is being carried out pursuant to Paragraph No. 5.2.19 of the "State Program on Reliable Food Supply for the Population of Azerbaijan Republic between 2008 and 2015" and approved by the Order No. 3004, dated 25 August 2008 of the President of Azerbaijan Republic. In this regard, "Carbamide Plant" has been added to the structure of the State Oil Company of Azerbaijan Republic according to the Decree No. 495, dated 1 September 2011 of the President of Azerbaijan Republic. At the same time, the land use rights of 39.27 ha area have been transferred to the Carbamide Plant for the construction works according to the relevant orders of the President of SOCAR.

The tender commission established for the construction of the Carbamide Plant announced an international open tender for the construction of nitrogen fertilizer-urea production plant on 5 August 2011 and the South Korean company Samsung Engineering Co. Ltd. (SECL) won the tender. On 13 March 2013, SOCAR and SECL signed a contract on Engineering, Procurement and Construction of the Carbamide Plant. Following this, SOCAR and SECL signed trilateral license agreements with Stamicarbon BV of the Kingdom of the Netherlands for urea production and Haldor Topsoe A/S of Denmark for ammonia production.

Project Description

The SOCAR Carbamide Plant (Ammonia and Urea Complex) is a project to utilize abundant natural gas as feedstock to build a 1,200 MTPD ammonia plant and 2,000 MTPD urea plant with supporting utility and storage tanks within one complex in Sumqayit, within the territory of "Azerikimya Production Union". All produced ammonia shall be converted into urea product without selling ammonia as by-product. Due to its physical properties such as dilution rate in water and high nitrogen content, urea is considered the most useful fertilizer in agriculture. Approximately 140 million tons of urea is produced annually over the world, 90 % of which is basically used in agriculture as a fertilizer. Besides, urea is widely used as a feed for animals, as well as, in preparation of plastics, rubber, adhesives and other different chemicals and in medicine.

The Carbamide Plant will be constructed and operated with the aim to have positive impact for Azerbaijan, contributing to agriculture and to eliminate the dependence of the import of fertilizers and try to make Azerbaijan as a urea exporting country in the region. As well as satisfying the internal demand, certain part the urea produced is intended to be exported to Turkey via the currently under construction Kars-Tbilisi-Baku railway, and to the world market through Black Sea.

The activities for the Carbamide Plant started in February 2014 with the engineering phase and construction preparation by the end of July 2015. It is expected that the operation phase will start in first quarter of 2018. The construction phase of the Project will have approximately 3,000 workers and the operation phase will have approximately 500.

The Carbamide plant will consist of ammonia, liquid urea and granular urea units. During its fully functioning period, the plant will produce 1,200 tons of ammonia and 2,000 tons of marketable urea daily. As a raw material, natural gas will be used.

As part of the Project, there are three main associated facilities:

1. Natural Gas Pipeline (NGP) of 5 km long;
2. Technical Water Line (TWL) of 11 km long; and
3. Energy Transmission Line (ETL).

The route of the ETL has not been selected but it has been confirmed that the source will be from Sulphanol Substation (about 2 km away from the Carbamide Plant in the industrial zone). There will be a high-level environmental assessment conducted for the ETL route as well; however, the date is not yet confirmed. The engineering of the ETL Project will be completed by the end of 1Q 2017. The associated facilities will be constructed by SOCAR's relevant divisions. All these projects are planned to be executed in 1Q to 3Q 2017. Status of permits and approvals for pre-construction and construction phases of the Project are summarized below:

Description	Related Authority	Status
Land Allocation	Sumqayit Executive Power	Obtained/Approved
Engineering survey report	State Agency for Supervision of Safety at Construction in Ministry of emergency situation (MES)	Obtained/Approved
Opinion of State Committee for Urban Planning and Architecture	State Committee for Urban Planning and Architecture in MES	Obtained/Approved
Opinion of Ministry of Ecology And Natural Resources (MENR)	State Expertise Office in Ministry of Ecology and Natural resources	Obtained/Approved
Opinion of Ministry of Health (MoH)	Hygiene and Epidemiological Center in MoH	Obtained/Approved
Opinion of State Fire Control Service in MES	State Fire Control Service of MES	Obtained/Approved
Opinion of utilities (Electricity, Gas, Raw water, Potable water)	Azerenerji, AzerQaz, Azerbaijan Amelioration and Water Industry, Azersu	Obtained/Approved
Construction passport	Sumqayit Executive Power	Obtained/Approved
Construction permit	Sumqayit Executive Power	Obtained/Approved
Positive Opinion of MENR including EIA	Ministry of Ecology and Natural Resources (MENR)	Obtained/Approved
Journal of State Control of Construction	State Agency for Supervision of Safety at Construction in MES	In process

Environmental and Social Setting of the Project Area

The Project is located at Sumqayit Industrial Zone which is in use since 1970s. All the Project Area belongs to SOCAR; thus, no private lands were acquired for the Project. The total Project Area is 39.27 ha (surrounded by fences).

According to the Seismic Hazard Distribution Map of Azerbaijan, prepared by World Health Organization (WHO), almost all of Azerbaijan's territory, including Sumqayit, where the Project is located, is a high risk earthquake zone (high risk zone being the second highest risk category out of five categories defined by this map) (please see: <http://data.euro.who.int/e-atlas/europe/images/map/azerbaijan/aze-seismic.pdf>). The Azerbaijan Ministry of Emergency Situations also states that Sumqayit is a seismically active zone with landslides and floods being other natural hazards the region is prone to (please see: <http://www.fhn.gov.az/index.php?eng/orgAndRD/172>).

The area of Sumqayit city belongs to the poor part of Azerbaijan in terms of biodiversity. The area underwent certain deterioration as a result of industrialization and natural processes of the last 60 years. There is no vegetation at the Project Area.

The nearest settlements to the Project Area are Haji Zeynalabdin at a distance of 600 m to the northwest, another settlement mainly occupied by “internally displaced people” who moved to the area from Nagorno Karabagh region in the 1990s, and Sumqayit City at a distance of 4 km to the southeast.

Environmental and Social Impact Assessment

An Environmental and Social Impact Assessment (ESIA) process was carried out for the SOCAR Carbamide Plant and an ESIA Report was prepared. As part of the ESIA study baseline assessment of the Project Area have been conducted as detailed in the ESIA Report.

Potential E&S risks of the Project have been assessed as part of the ESIA process to develop the appropriate strategies and address the identified risks and their potential impacts. These measures have been reflected through E&S Management Plan (ESMP) of the Project.

The Project ESMP includes mitigation measures for the following E&S issues that will potentially create E&S impacts during the construction and operation phase of the Project:

- Air emissions (including GHG emissions)
- Noise emissions
- Water and wastewater
- Waste generation
- Hazardous materials management
- Soil and groundwater environment
- Biological environment
- Occupational health and safety
- Community health and safety
- Stakeholder engagement
- Cultural heritage

As part of international financing of the SOCAR Carbamide Plant Project, the overall E&S performance of the Project has been assessed in line with Equator Principles and IFC Performance Standards (PS) through an Environmental and Social Due Diligence (ESDD) Study.

On the basis of the ESDD study, and in order to complete the ESIA process at international standards, a set of additional baseline assessments have been prepared and some are still underway on noise, air quality, soil and groundwater quality assessments.

A greenhouse gas (GHG) assessment was conducted for Scope 1 and Scope 2 emissions for the operational phase of the SOCAR Carbamide Plant.

Scope 1 describes ‘direct’ greenhouse gas emissions from sources that are owned by or under the direct control of the company. The quantification of Scope 1 emissions is considered mandatory by the GHG Protocol. Scope 2 describes ‘indirect’ greenhouse gas emissions associated with the Project that are a consequence of the activities of the company, but occur at sources owned or controlled by another company. Emissions associated with the generation of purchased electricity that is consumed by the reporting company are reported in scope 2. The quantification of Scope 2 emissions is also considered mandatory by the GHG Protocol.

Accordingly, Scope 1 and Scope 2 emissions in total were found to exceed 380,000 tonnes CO₂-e per annum.

The key environmental and social (E&S) issues where cumulative impacts could potentially occur, i.e. E&S issues where project(s) in combination with the SOCAR Carbamide Plant Project has the potential to result in cumulative impacts, are considered as follows:

- Air emissions (including GHG emissions)
- Noise and vibration
- Aquatic flora/fauna
- Landscape and visual impacts
- Economy (services sector and employment)
- Quality of life

Project E&S Management System and E&S Management Plan

An IFC PS1 compliant E&S Management System incorporates the following elements: (i) policy; (ii) identification of risks and impacts; (iii) management programs; (iv) organizational capacity and competency; (v) emergency preparedness and response; (vi) stakeholder engagement; and (vii) monitoring and review.

SOCAR has in place at the corporate level environmental policy (http://socar.az/socar/assets/documents/en/environmental_policy/ekolojisiyaset.pdf), social responsibility policy (<http://socar.az/socar/en/social-responsibility/culture-and-recreation/culture-centers>) and management system.

Samsung has in place a Project specific HSE Policy. Samsung ensures that its HSE Policy is endorsed to the sub-contractors and checks the HSE engineers and managers of the sub-contractors.

SOCAR Carbamide Plant Project has Project HSE Plan for the construction phase (dated October 2014) including details of the HSE management system, organization and resources, risk evaluation and management, implementation and monitoring, inspection and audit. The HSE Plan has been designed to ensure Project compliance with Azerbaijani Regulations and applicable international standards and Subcontractors should adhere to international safety standards such as OSHA, NEBOSH, ILO etc. when fulfilling the contract agreements.

Besides, the following plans/procedures have been in place:

- HSE Requirement to Subcontractor, October 2014;
- Risk Assessment Procedure, October 2014;
- Emergency Response Plan, October 2014;
- Waste Management Plan, October 2014
- Incident Reporting and Investigation Procedure, October 2014;
- Personal Protective Equipment Procedure, December 2014;
- Color Coding System, December 2014;
- Lifting Procedure, December 2014;
- Plant and Equipment Inspection Procedure, January 2015;
- Temporary Electricity Procedure, January 2015;
- Confined Spaces Procedure, January 2015

SOCAR Carbamide Plant will take full responsibility of HSE management in line with IFC Performance Standards through a new management structure which will involve SOCAR Carbamide Plant HSE Manager and SOCAR Carbamide Plant HSE Team.

The purpose of E&S Management Plan (ESMP) is to ensure that all potential adverse environmental and social impacts are managed appropriately during both construction and operation phases of the Project. The ESMP is prepared in line with national legislative requirements and international standards.

Mitigation measures for the potential E&S impacts are identified as part of the ESIA process so as to ensure the residual impacts are not significant. The success of the implementation of the Project ESMP is secured through regular E&S monitoring activities that will be carried out by SOCAR Carbamide Plant.

The IFC compliant E&S management plans that will be applicable throughout the construction and operation phase of the Project are as follows:

- Resource Efficiency and Pollution Prevention Management Plan
- Wastewater Management Plan
- Hazardous materials handling and storage MP
- Hazardous materials transportation plan
- Chemical and oil spill plan
- Air Quality Management Plan
- Noise Management Plan
- Emergency preparedness and response plan
- Waste Management Plan
- Biodiversity Management Plan or Biodiversity Action Plan
- Community Health and Safety Management Plan
- Occupational Health and Safety Management Plan
- Traffic Management Plan
- Contractor Management Framework Plan