Country fact sheet ***Azerbaijan***

Introduction

This Country Fact Sheet (CFS) providesan overview of the situation of waste statistics, as of 1 August 2017. The CFS has been completed by the Consultant for the project *Implementation of the Shared Environmental Information System principles and practices in the Eastern Partnership countries (SEIS East) - Waste Statistics.*

"This report has been prepared by Wim Van Breusegem and Jürgen Gonser. Its contents are the sole responsibility of ADE and Gopa and can in no way be taken to reflect the views of the European Commission."

The CFS has been completed mainly on the basis of:

- A desk based review of existing international reports on the waste statistics situation in the country. However, the information derived from these reports has been replaced with more recent and comprehensive information obtained from the countries directly, in particular during a country visit. A list of publications that were reviewed is included as Annex 1, at the end of this CFS.

- Information resulting from the validation by the Consultant of the UNSD questionnaire that was completed by the Country. The validation resulted in a Country Data Validation Report, which is attached to the Final Report of the Project.

- Information provided by the country, during the country visit and following the review of the draft CFS by the country.The draft CFS was submitted to the country for comments following the country visit, with the request to provide additional information or to confirm information that was supplied during the country visit. The country has sent comments and additional information, which allowed the Consultant to finalise the CFS. A list of officials that were met during the country visit, is included as Annex 2, at the end of this CFS.

Theme & topics	Explanations and examples
Part I: Overview of existing waste surveys	
Administrative division	Azerbaijan is divided into 11 economic regions (including the Nakhchivan Autonomous Republic, which forms a separate economic region), which are not an administrative division. Each region contains a number of districts. The country is administratively divided into the following subdivisions: – 2nd tier of governance: 83 districts (*rayonlar*; sing.– *rayon*) (including 66 districts and 17 districts, which are sub-divisions of 5 capital cities; Baku for example has 12). – 3rd tier of governance: Azerbaijan has 77 cities (i.e. urban settlements) (including 12 federal-level cities, which are under the direct authority of the Republic), 64 smaller rayon-class cities, and one special legal status city. These are followed by 257 urban-type settlements and 4,620 villages. Baku is the largest city, with a population of approximately 2375 000. The next-largest city is Ganja at approximately 314 000, followed by Sumqayit at approximately 265 000, Lankaran at approximately240 000and Mingachevir at approximately 96 000. About half of the population lives in rural areas. Azerbaijan has a total population of 9809981 (01.01.17). According to the legislation, the president of Azerbaijan establishes territorial branches of state administration (Local Executive Authorities) in the districts and appoints a head to manage their operations. These heads in turn appoint local administrations in the villages and settlements situated within their territory. Heads of local state administration carry out executive duties in the districts and coordinate the activities of municipalities and territorial divisions of state administration. The Local Executive Authorities (LEAs) can only nominally be referred to as a local tier of government as they do not have independence and simply implement decisions of the central government.Municipalities may also be endowed with additional legislative and executive powers. However, implementation of such authority/competences, for example with respect to waste collection, will be controlled by the Local Executive Authority (LEA).
Legal basis for waste statistics	<u>Laws and regulations governing waste management:</u> ▪ Law on Industrial and Household Waste, 30 June 1998 No. 514-1Q (translated as Law on production and consumption waste in some documents). In 2007, significant amendments were made to the law, among other related to hazardous waste, transportation and definitions. These amendments were sparked by Azerbaijan becoming a party to the Basel Convention in 2001. ▪ The 2007 changes were followed by several cabinet of minister regulations covering the inventory of industrial waste, hazardous waste passports and transboundary transport, waste collection for urban and residential areas, including fees for

Theme & topics	Explanations and examples
	collection, storage and disposal of waste, and the management of medical waste Laws and regulations governing waste statistics: ▪ The Law on Official Statistics, № 789, adopted on 18 February 1994 and last amended in 2011. The SSC has established a working group to develop a new Law on Statistics. ▪ Regulation of the Cabinet of Ministers of the Republic of Azerbaijan 'Rules of Passportisation of Hazardous Waste', 31 March 2003, No. 41 (the system of passportisation is inherited from the Sovjet-Union). ▪ Regulation of the Cabinet of Ministers of the Republic of Azerbaijan 'Rules for Making an Inventory of Waste Generated in the Course of Production Process', 28 January 2008, No. 13 ▪ Regulation of the Cabinet of Ministers, on the inventory and management of household and industrial waste statistics, 21 June 2005, N° 74. ▪ Statute of the State Statistical Committee of the Republic of Azerbaijan, Confirmed by the Decree of the President of the Republic of Azerbaijan dated 24 June 2009, № 115 (amended on 13 April 2010 by Decree № 250) The waste management information system of the country is mainly based on the Regulations N°41 and N°74. The current *State Programme on development of official statistics during 2013-2017*(adopted by the Presidential Decree dated 21 December 2012, № 2621) is not relevant for waste statistics. The SSC is currently preparing the State Programme on development of official statistics during 2018-2023. One of the planned activities, relevant for waste statistics, is the alignment of the existing waste classification (which is harmonised with EWC-Stat. Rev 3) with EWC-Stat Rev 4. It is expected that by 2022 the country will move to EWC-Stat Rev.4.
Overview of waste surveys / data sources	Waste statistics are based on data collected using three official statistical reporting forms under the responsibility of the State Statistical Committee (all three surveys are listed in the Statistical Works Program for 2016): Form N°14 – Secondary Raw Materials (Waste) - ' Generation and Utilisation of Secondary Raw Materials (Waste)' *(in the following referred to as 'Survey on waste generation, utilisation and disposal')* ▪ Although the title of the form suggests that the survey focuses on secondary raw materials, the survey collects with one form data on the generation, utilisation and disposal of household waste and of all non-hazardous waste from all economic activities.Data on industrial and household waste are thus collected through a single form. ▪ *= Data source for the completion of UNSD questionnaire, tables R1, R3 and R5* Form N° 2 - TP (Waste) - 'Hazardous Waste Generation andMovement'*(in the following referred to as 'Hazardous waste survey').*

Theme & topics	Explanations and examples
	▪ Since 1991, AZ conducts regular surveys on the generation and management of hazardous industrial waste. ▪ Hazardous waste means "waste containing hazardous explosive, inflammable, oxidizing, toxic, infectious, corrosive and eco-toxical substances, presenting direct or potential hazard to public health and environment." ▪ The industries are required to keep regular records on hazardous wastes and to report on an annual basis report to the State Statistical Committee (SSC). ▪ Data reporting on hazardous waste according to the classification of the Basel Convention was introduced in 2009.The survey thus covers the waste categories controlled by the Basel Convention. ▪ As to the scope of the data collection (i.e. the industries that have to report): Data are collected from companies of the economic sectors mining and quarrying (NACE 05-09), manufacturing (NACE 10-33), Electricity, gas, steam and air conditioning supply (NACE 35) and Other economic activities excluding NACE 38.No data are collected from companies of the sectors Agriculture, forestry and fishing (NACE 01-03), Construction (NACE 41-43) and from households. ▪ Data are collected on the following variables: o Hazard characteristic (H-code) Hazardous waste quantities: o Balance at the beginning of the year o Generated in the reference year o Received from third parties (total and imports) o Used on-site o Neutralised/disposed of o Disposed of. o Disposed of by transfer to third parties (total and exports) o Placed on the site of waste generation (total, storage, landfilled) o Balance at the end of the year ▪ = *Data source for the completion of UNSD questionnaire, tables R1a and R2* <u>Form N° 1 – Medical Waste 'Generation and Movement of Medical Waste</u>*(in the following referred to as 'Medical waste survey')* ▪ Survey on the generation and management of medical waste ▪ Responsible for the execution of the survey: Ministry of Health. ▪ Data collection on medical waste according to the classification of the Basel Convention, was introduced in 2009. ▪ Data are collected on the following variables: o Waste code according to the Basel Convention o Balance at the beginning of the year o Waste neutralised on-site

Theme & topics	Explanations and examples
	○ Waste disposed of for neutralisation by third parties ○ Waste received from third parties for neutralisation ○ Waste disposed of on-site ○ Balance at the end of the year = *Data source for the completion of UNSD questionnaire* Further information: In the UNSD-questionnaire, AZ stated that in 2011-2012 the UNDP and the Government of Norway supported the implementation of the project 'Improvement of Solid Household Waste Management'. This project was carried out in 4 regions of the country. The project helped define solid household waste volumes, composition, scale of collection and recycling. AZ has assessed the coverage of solid household waste collection services mentioned in lines 14-16 of table R3 based on the results of this project. Other information from this project has not been used to complete the questionnaire.
Institutions involved	State Statistical Committee (SSC) of the Republic of Azerbaijan ▪ Responsible for the surveys on 'Waste generation, utilisation and disposal' and on 'Hazardous waste' ▪ Structure of SSC is composed of the Central Office and 83 district statistical offices. They support the central office in the processing of data reported by units in their respective districts. They also provide statistical data to the district LEAs. ▪ Previously, the Main Computing Centre (MCC), a separate legal entity subordinated to the SSC and working for the SSC on the basis of orders, was responsible for data collection, processing and analysis and for publication of statistical bulletins. However, the MCC has been abolished end-of-year 2015 and its responsibilities have been transferred to the Energy and Environment Statistics Department of the SSC. The Department has 8 members of staff, including the Head of Dpt, of which 3 are responsible for environmental statistics and 4 for energy statistics. All officials that work on environmental statistics, work on all environmental reporting forms (13 reporting forms in total). Ministry of Health ▪ Responsible for the survey on medical wastes. ▪ The survey is part of the Statistical Works Program for 2016. Ministry of Economy ▪ Responsible for household waste management. Ministry of Ecology and Natural Resources (MENR) ▪ Oversees the implementation of the national waste management system, including the relevant activities of MinEconomy.

Theme & topics	Explanations and examples
	▪ The regulatory body for hazardous wastes; issues permits for industrial facilities for disposal of hazardous wastes; ▪ Carries out compliance monitoring and control (law enforcement) in the fields of municipal and industrial waste management; ▪ The main role of the MENR in waste statistics is played by the district offices of the State Control Inspectorate for Environment and Natural Resources (SCI). The district offices of the SCI must agree to the N° 2 that is completed by businesses, before the businesses complete the reporting form online. <u>Further information:</u> ▪ According to MENR, it is not clear who is responsible for industrial waste policy development and implementation.
Classifications used	Azerbaijan has created an integrated system of classification harmonized with relevant European classifications <u>Economic activities:</u> ▪ Classifier of Economic Activities - NACE rev.2 <u>Waste types:</u> ▪ National Classification based on EWC – Stat Rev. 3 (which is a substance oriented waste statistical nomenclature) ▪ Some of the types of waste in theEWC-Stat are not occurring in AZ and have therefore been omitted from the national classification. It is planned to switch to EWC-Stat Rev. 4 by 2022. Such types of waste include for example: Wastes from the production of electronic products and equipment, waste from coal mining, tire production, nuclear industry, luminescent and other lamps, agricultural equipment and machinery. <u>Hazardous waste:</u> ▪ AZ had a classification system based on the soviet approach of distinguishing four hazard classes. However,this system of classification does not meet international standards. ▪ The Strategy for Hazardous Waste Management, together with the implementation of the Basel Convention in Azerbaijan, created a base for further approximation of hazardous waste management to the EU legislative framework in this area. The terminology was changed, as the old term “toxic waste” has been replaced by the term “hazardous waste”. Also, a new waste classification system based on the Basel Convention and the chemical properties of waste has been adopted by MENR and is gradually replacing the former waste classification based on four hazard classes. The old and the new hazardous waste classification thus still co-exist (and in addition, the SSC has introduced EWC-Stat). <u>Waste treatment:</u>

Theme & topics	Explanations and examples
	▪ AZ does not use the European R & D-codes. However, in accordance with the action plan on approximation ofAZ legislation with that of the EU, amendments will be made to existing legislation to introduce the R & D-codes.
Waste indicators	▪ AZ approved in 2011 a system of environmental indicators which is based on official statistical reporting templates and which is confirmed by: o Decree of the President dated 21 December 2012, № 2621 on the "State Program on development of official statistics during 2013-2017". o The Decree of the SSC, dated 27 May 2014, № 20/11s ▪ The system is based on Guidelines on the Application of Environmental Indicators in the countries of Eastern Europe, Caucasus, Central Asia (EECCA) prepared by UN ECE Committee on Environmental Policy, in collaboration of the European Environment Agency. According to the SSC, all environmental indicators correspond with national and international requirements. The indicator system has been agreed with Ministry of Ecology and Natural Resources. The system includes 35 key environmental indicators for 9 sectors, including waste. Indicators for waste generation, treatment and reuse, neutralization from the UNECE Guidelines were introduced into the mandatory statistical reporting. These indicators are thus built on data collected by the SSC, with the exception of the indicator on import and export of waste, for which data are also collected by MENR. The SSC maintains a database for these indicators. An overview of the waste indicators is included as an Annex I to this CFS.Statistics are collected annually for all waste categories. ▪ In the context of the "Greening Economies in the European Union's Eastern Neighbourhood" (EaP GREEN) programme, the State Statistical Committee has developed in 2016 a draft national-level green growth indicators programme. Some of the existing waste data flows (those underpinning the waste indicators) could be used in applying green growth indicators in the country. The SSC has developed the database with Green Growth Indicators in October 2017 and posted at its official web-page.
Theme & topics	**Explanations and examples**
Part II: Survey on waste generation, utilisation and disposal' (incl. data on "household waste" and "industrial waste")	
Municipal waste management	1. MW management responsibilities: ▪ The Local Executive Authorities (LEAs) of the districts are responsible for the collection, transport and disposal of MW on their territory and for the operation of the landfills and dumpsites. Municipalities may however collect and manage waste on their territory, under agreement with the LEA. However, few municipalities are doing this, as they lack the knowledge, expertise, equipment and financial resources.

Theme & topics	Explanations and examples
	▪ Waste is thus generally being collected and managed by the Departments of Public Utilities of the LEAs.These Dpts have their own staff, waste collection vehicles and equipment to ensure the collection, and will not contract with private waste management companies. ▪ According to MENR, is waste management is a profitable activity for the LEA, which is financed from the State Budget and from user fees paid by the households. ▪ The key difference between waste management in Azerbaijan and the EU, is the lack of Extended Producer Responsibility (EPR). There are also no concrete plans to introduce EPR. 2. Waste collection coverage: Approximately half of the population lives in rural areas. The rural areas are only partly covered by waste collection services. 3. In the Greater Baku (the city of Baku and adjacent areas on the Absheron peninsula), the situation is different from the rest of the country. o In the Greater Baku region, Baku City Executive Power and Tamiz Shahar (Clean City), a state-owned joint stock company, are the main entities responsible for the development and operation of MW management. The responsibilities are split: ▪ Baku City Executive Power: responsible for collection ▪ Tamiz Shahar: responsible for post-collection transport and final disposal. o Tamiz Shahar operates a site at Balakhany, with a: ▪ A sorting facility, with a manual sorting line, with an annual capacity of 220 000 tonnes, which allows to recycle 25% of the waste that is received. The following waste streams are sorted out before landfilling: different metals, paper, plastic, and glass. ▪ An incinerator with energy recovery, in which most of the MW is incinerated; with the incinerator ashes being used as landfill cover. This is the only waste incinerator in the country. ▪ A landfill. o The storage, collection and transport of MSW from the different Baku districts are often inadequate and uncoordinated. As such, it is estimated that only a small fraction (around 2 to 5%) of the waste collected from the Garadagh and Khazar districts reaches the Balakhany landfill. Waste is often dumped at one of the numerous unauthorised dumps inthese districts.(source: EBRD, Clean City Project description) 4. Waste disposal: ▪ Nearly all waste is sent to dumpsites (which the exception of Baku, where most of the MW is incinerated). ▪ Each district has a managed dumpsite, mostly in the centre of the district. In addition, there are illegal dumpsites, but information is not collected on landfills and dumpsites in AZ. Dumpsites, with the exception of the Baku landfill, are not constructed, managed and maintained to acceptable international standards. 5. Recycling

Theme & topics	Explanations and examples
	▪ There is no source separated collection of household waste in Azerbaijan, with the exception of a pilot project in 2 districts of Baku, where 2 fractions, a wet and a dry fraction, will be collected separately. ▪ Re-use and recycling of waste is done on a very limited scale only. Generally, industry does not show an interest in using secondary raw materials (e.g. such as from construction and demolition waste). 6. Waste management strategies ▪ The State Strategy on Hazardous Waste Management was adopted for the period 2004–2010. In line with this Strategy, a database on the export, import and movement of hazardous waste has been established. Draft amendments to the strategy have been prepared, to bring it in line with EU requirements, which will be submitted for approval to the government. ▪ There is no strategy on industrial waste, but most hazardous waste is generated by industry. ▪ MinEconomy has prepared a draft strategy on household waste management, which is currently being disseminated for comments to the relevant governmental stakeholders.
Purpose and use of the data	▪ The main purpose of collecting waste data, is to allow for the publication of waste statistics. ▪ A wide range of government agencies is using the waste statistics, including the following: MENR (among other for international reporting); MinEconomy (who is responsible for municipal waste policy), the State Customs Committee. ▪ The SCI will partially base its inspection programme on the environmental data that are being reported to the SSC. ▪ It is not clear from existing policy practices to what extent the availability is used for evidence based policy making. The availability, or the lack, of information from some sectors or on some types of waste does not seem to have an impact on the waste management policy, as all waste is collected together and is disposed of at landfills.
Definition and scope	
Existing definition(s)	▪ **Household Waste** (Solid Consumption Waste) means items, substances and materials generated as a result of human activities in residential areas. ▪ The law does not define or use the term "municipal waste". Household waste (for which the Law uses the term "consumption waste") includes in practice waste from households and similar wastes from sources such as farms, commerces, offices, public institutions and selected municipal services, that relate to cleaning the territory (such as street and park waste). It includes all the waste which is being collected by the trucks of the Departments for Public Utilities of the LEAs ▪ **Industrial waste**means the raw materials, materials, substances, semi-finished products, objects and other residues of products generated in the course of production or implementation of works (delivery of services), which have either partially or fully lost their initial consumer properties, as well as newly generated objects and substances of similar origin, which are not the target of production and which are not used in the technical process because of their properties.

Theme & topics	Explanations and examples

Scope of data collection: Waste types	▪ Data are reportedly (according to the SSC) collected on all types of waste from EWC-Stat Rev. 3.
	▪ However, the statistical database of the SSC shows the following waste categories:
	  ▪ Ferrous metal wastes
	  ▪ Non-ferrous metal wastes
	  ▪ Paper and cardboard
	  ▪ Secondary textile materials
	  ▪ Glass fragments
	  ▪ Non-oxide wastes
	  ▪ Wood wastes
	  ▪ Soapstock
	  ▪ Secondary polymer material
	  ▪ Domestic wastes
	
	The publication ''Environment in Azerbaijan' shows in addition the categories:
	  ▪ Used gumbrin*(which is a residue of clay, that is used in the purification of crude oil)*
	  ▪ Cotton seeds
	  ▪ Bottom ash
	
	These categories of waste do include all categories of waste from EWC-Stat Rev. 3. Furthermore, some waste categories are not found in the EWC-Stat (for example soapstock, non-oxide wastes or bottom ash).
	
	▪ Data collected on household waste covering the following EWC-Stat categories:
	  o Category 10.1: *household and similar wastes* Category 10.1. does not cover recyclables which are reported e.g. under 06 metallic wastes, 07.1 glass wastes, 07.2 paper and cardboard wastes. However, given that household waste is not sorted in the country, data cannot be collected on those categories.

Scope of data collection : Origin of waste	The survey is covering waste from all economic activities, i.e. from all NACE sectors, and household waste.
Data / information collected	▪ For household waste, data on the total quantity of waste collected per district and on the quantities treated, are collected. ▪ For industrial waste, the following information is collected: ▪ Type of industry (NACE code)

Theme & topics	Explanations and examples
	▪ Quantities of waste (in tonnes) that are: o Stored onsite from previous years o Generated in the reporting year. o Received in the reporting year. o Re-used in the factory's own production process o Recycled internally. o Used internally to produce fuel (e.g. wood dust used as fuel for heating buildings) o Used for miscellaneous purposes (additives, fertilizers) o Sold to enterprises or individuals within the country o Exported o Landfilled. o Stored onsite at the end of the reporting year. ▪ Data on industrial waste are collected in tonnes;data on municipal waste in m^3.
Time schedule of survey	▪ Reporting units must complete their reporting form online by 18 January at the latest. Subsequently, access is closed for the reporting units, but may be temporarily re-opened (for example for 2 hours) if the SCC wants a reporting unit to make a correction to its data. ▪ For an indication of by when the data are processed and published, please see the section on "Accessibility and clarity; dissemination".
Documentation on survey methodology	▪ Eachreporting form has reporting instructions, but there is no documentation of the survey methodology.
Data collection	
Data sources(s) / reporting unit	▪ Reporting units for municipal waste: The Departments for Public Utilities of the district administrations. All 83 report. ▪ Reporting units for production waste: o Waste generating companies. o As for waste treatment companies: the only plant for household waste processing, is located in Baku.µ o There is no need to identify the companies that must report: reporting is a legal obligation of which all companies are aware and which generally all companies meet. The SSC is not verifying whether all companies have reported, but expects that all companies report. The only sector which is problematic is the construction sector, for which the reporting is not sufficient to provide an understanding of the quantities generated and managed. o According to the Law on Statistics, all enterprises, organizations located in the territory of the country are obliged to report to the statistical authorities.

Theme & topics	Explanations and examples
	○ The total number of companies that has reported in 2017 for the year 2016 amounts to: 1589. Given that the total number of companies that should report amounts to 2140; this means a response rate of 74.3 %.
Data collection methods	The SSC conducts a full survey to collect statistical data onhousehold waste and industrial waste, using the statistical Form N°14 – Secondary Raw Materials (Waste) - ' Generation and Utilisation of Secondary Raw Materials (Waste)' .
Frequency	Annual
Data collection tools	▪ AZ has switched in 2014 to an electronic reporting system, under which the reporting units complete a reporting form online. However, prior to completing the form online, they must complete the form also on paper and get the agreement of the district offices of the SCI on the data. ▪ All reporting units have a password and can access their reporting form in the central database.
Data collection process	Incentives and support for reporting: ▪ Reporting to the various government agencies, such as the SCC or the tax authorities, is an obligation. Not only is reporting made obligatory by the Law on State Statistics, the reporting forms have also been registered at the Ministry of Justice. ▪ All reporting units must be and are aware of their reporting obligations, and they are thus not annually reminded. ▪ The instructions to complete them, are included in each of the reporting forms, which can be downloaded from the SSC website. The instructions are limited to a list of definitions. If they would need further guidance, this could be given by the district office of the SCI which has to agree to the data. ▪ In case of non-reporting, there are administrative fines. Process: ▪ Dpts for Public Utilities of the LEAs report the data on quantities of MW collected online by 18 January. ▪ Businesses complete first a paper form for agreement with the district office of the SCI. After the agreement has been obtained, they complete the reporting form online, also by 18 January. To be able to report online by 18 January, businesses will already start completing their paper form before the end of the year. ▪ Subsequently, access to the database is closed for reporting units, and the data are validated by the district statistical offices and central office of the SSC. ▪ The SSC central office will consolidate the data, by type of waste, type of economic activity and by district ▪ If the SSC would have questions, it will not contact the reporting units directly, but will go through its district offices. ▪ The processed data from the database are uploaded on the website. ▪ The SSC prepares the various publications.
Data processing	

Theme & topics	Explanations and examples
Data entry	The reporting units complete the reporting forms online. As such, the data are entered automatically into the central database.
Data validation	▪ Before a company completes its reporting form online, the district office of the SCI must agree to the data. ▪ As for household waste, the data of the district Departments for Public Utilities must not be agreed to by any organisation, before they report them online. ▪ The electronic reporting system has built-in checks, which increases the quality of the data reported. ▪ Once the reporting units have completed the reporting form online, the data will be validated by the SSC, first by its district offices and then by the central office. ▪ The SSC does not have a documented (written) validation plan, i.e. a set of defined validation checks/ procedures that aims at identifying possible errors in a systematic way. ▪ Generally, the following checks are performed: o Checks for completeness, o Comparisons: with previous year(s) for the same reporting unit and comparison between reporting units from the same sector o Formal check: checks the technical integrity of the data set, e.g. valid data type, field length, characters. o Logical check: checks relations between different cell in the data set o Arithmetical check:check is based on numerical calculation; may aim at logical relation or at data consistency. ▪ Validating is not perceived as a timeconsuming exercise by the SSC, as the officials are already experienced. ▪ (Potentially) incorrect or incomplete information is checked by contacting the reporting unit concerned. Reporting will always be contacted through the district offices of the SSC, and not directly by the central office.
Data compilation	▪ Conversion of household waste from volume (m^3)to weight (t) is done by the SSC which uses the following conversion factors:0.24 for m3 per ton ▪ If district Departments for Public Utilities would not have reported household waste data, the district office of the SSC will contact them. ▪ Companies report in tonnes and are thus converting themselves from volume to weight (no weighbridges at disposal sites) ▪ According to the Law on Statistics, companies that do not submit statistical reports may be subject to administrative fines.However, in practice it is unlikely that companies that do not report, are identified and are contacted. ▪ There is no risk of double-counting, as the same quantities cannot be reported by different companies (e.g. waste generators and waste management companies, as only waste generators must report).

Theme & topics	Explanations and examples
Data quality	
General aspects	The SSC has not defined and documented in writing a quality policy.
Relevance	The SSC assumes that the data and the publications meet the needs and requirements of the users. If some users would have relevant comments, such comments may be taken into account upon a revision of the reporting forms. The last revision of the reporting forms was done in 2013, upon the occasion of their registration at the Ministry of Justice. This registration strengthened the obligatory character of the reporting exercise. Before registration, reporting was already obligatory, but the fact that the forms were not registered was taken by some as a false excuse for not having to report.
Completeness	The SSC is able to produce a complete data set and there are thus no variables for which it cannot produce data.
Accuracy	Sampling errors: There are no sampling errors, as the SSC conducts a full survey. Coverage errors: ▪ In table 11.1 of the publication 'Environment in Azerbaijan' the sum of use and disposal (0.8 million t) of industrial is only about a third of the total quantity of waste generated (2.4 million t). Also included in the total quantity of waste generated, is household waste, which amounts to 0.5 tonnes. There is thus a significant gap between the total quantity of industrial waste (0.8 million t) and household waste (0,5 t) on the one hand, and "total quantity of waste generated" on the other hand. ▪ The household waste survey does not cover 100% of the generated waste: o Not all rural villages are covered by a collection system. The quantities that are being reported, are thus an underestimation. The SSC is not collecting information of waste collection system coverage and it is not estimating the amount of waste generated for areas not covered by a municipal waste collection scheme. o Some of the waste will be recovered by the informal sector, before collection. o Some of the waste will be illegally dumped, in non-managed dumpsites. ▪ The problematic area is household hazardous waste. Given that it is not collected separately and given that there does not existing Extended Producer Responsibility in AZ, under which producers/importers of products which become hazardous waste at the end of their useful life would have to report on quantities of waste managed, there are no reliable data on household hazardous waste. ▪ The industrial waste survey does not cover 100% of the industrial waste generated as not all companies are meeting their reporting obligations. Data coverage is particularly low for construction and demolition waste. ▪ It is difficult to get reliable data on hazardous waste (such as pesticides) from the agricultural sector. ▪ The most information on industrial and hazardous waste is collected in the Greater Baku. The information from other districts is less complete.

Theme & topics	Explanations and examples
	Measurement errors: ▪ The collected amounts of household waste are reported in m^3, and converted by the SSC in tonnes, using a different conversion factor for Greater Baku districts and for other districts. This volume-based estimation of the weight may have an impact on the quality of the data, because it is not sure that the conversion factors are accurate. ▪ There are no incentives for the stakeholders for under-reporting, as the quantities reported are not linked to the payment of any taxes.
	Non-response errors: ▪ AZ certainly has the following problem with non-responses: o Non-responses are a problem in all economic sectors. The number of non-responding companies is particularly high in the construction and demolition sector. o Companies report on their main types of waste, but leave waste types which are not directly resulting from their production process, often unaccounted for. Such waste types include for example E-waste. ▪ The SSC has not yet envisaged particular measures to eliminate these non-response errors. ▪ The impact of non-responses on data quality has not yet been estimated by the SSC.
	Processing errors: ▪ The SSC assumes that potential processing errors do not have a significant impact on data quality. Few processing errors can occur: o Several of the potential data entry errors would be flagged by the electronic reporting system, and would be corrected by the reporting unit. o Generally, reporting units have no problems in correctly coding their economic activity or in categorising their waste types. o Imputation is not done, and related errors are thus not possible. ▪ There are thus no specific measures taken by the SSC to minimise and detect processing errors.
Timeliness and punctuality	The SSC complies with its own schedule. The timeliness of the results is sufficient for the data users.
Comparability and coherence	▪ Comparability over time: o There have been no major changes in definitions, in data coverage or in methodology that have a significant impact on the time series of the produced data. o The validation of the data from the UNSD questionnaire learnt that data on industrial waste generation show significant fluctuations that are partly caused by varying response rates from one year to the other.

Theme & topics	Explanations and examples
	▪ Regional comparability: The produced data are comparable across the whole country. There are thus no regional particularities.
Accessibility and clarity; dissemination	The SCC publishes the following: ▪ An annual bilingual (Azeri and English) Statistical Yearbook on the environment, which contains statistical data on the population, land resources, forests, the protection and use of water resources, the protection of the atmosphere, waste, geological exploration and energy, environmental expenditures and international comparisons. ▪ Two annual Statistical Bulletins: on waste (industrial and household waste) and on hazardous waste, published by the end of March. ▪ Summary leaflets, with a quick overview of the environmental data, meant for policy makers. Due to the electronic reporting system and the way the data are stored, the SSC can also produce easily special bulletins upon request of certain users. ▪ The Statistical Yearbook, published and presented to the President and the Cabinet of Ministers by the end of September. This publication contains data by district. It includes,among other,core environmental dataand separate chapters: o on waste management; o with the 35 indicators (as a result of the SEIS I project). ▪ SSC web-site : Environmental statistics are regularly uploaded on the website of the Committee **(www.stat.gov.az).** ▪ The SSC has not documented in writingits methodology. ▪ The SSC is not preparing data quality reports that would document information on data quality.
Cost and burden	▪ The burden on reporting units is not an issue. Reporting is obligatory and necessary. ▪ The SSC has the intention to integrate the 3 reporting forms, which would lower the burden for both the reporting units and the SSC.
Confidentiality	▪ There are legal provisions in place that limit the disclosure of data. The Law on Statistics defines "confidential statistical data" as "data obtained for the production of official statistics, when they allow statistical units to be identified directly or indirectly, thereby disclosing primary data;" ▪ To ensure statistical confidentiality, the reporting information is aggregated, by type of waste, by district and by type of economic activity. ▪ Environmental inspectors in the districts monitor the generation of hazardous waste in enterprises; this does not represent a breach of the confidentiality of the data.
Data management and storage	
Data management	▪ The data are entered and processed in a database management system ▪ The SSC switched in 2013 to the electronic reporting system. The system has been developed in-house, by the IT Department, which also maintains the database.

Theme & topics	Explanations and examples
Data storage	▪ Data from different years are easily available and usable for comparison.
Part III: Key potential activities	
Theme & topics	**Activities for improving data availability and quality**
Process	The reporting system is burdensome for both the SSC and the reporting units. Reporting units must first complete a paper form for agreement by the environmental inspectorate and subsequently report online. The data are checked by 3 organisations: the environmental inspectorate, the district statistical office and the central SSC office.
Scope	▪ The parameters on which information is collected is very confusing, at least in the translated version. The translations should be checked with the SSC. If it would not be a matter of bad translation, it is doubtful that the categories are understood and distinguished properly by the reporting units. ▪ Guidance on the classification of waste.
Coverage	An estimation method for estimating the quantities of waste generated in areas which are not covered by a regular collection system should be developed and applied
Reporting tools	▪ Review and integration of the 3 existing reporting forms. The SSC has the intention to integrate the 3 reporting forms into one, to streamline reporting and to reduce the administrative burden for both the government and the reporting units. ▪ Development of guidance on the collection of data on hazardous waste from households, including on E-waste. Such guidance may also be on the identification and use of alternative sources and ways of data collection to reduce survey burden.
Reporting units	▪ Reporting thresholds for small companies could be introduced. All businesses must report, which is burdensome for both the businesses and the SSC. ▪ Guidance on communicating with organisations that should report, and on increasing the response rate, from the construction and demolition sector. ▪ Collect data from additional categories of businesses: Currently, data is collected only from waste generators, and not from collectors and treatment facilities. This may have a negative impact on data quality. Common quality problems with data from waste generators are : o Waste generating companies usually have less expertise with regard to the classification of waste than operators of waste treatment facilities who deal professionally with waste. o The waste generator does not necessarily know what finally happens with its waste. Information on the treatment of the generated waste will therefore less reliable (unless it is treated within the company).

Annex I: Waste indicators

Waste indicators					
№	**Indicator**	**Measurement unit**	**Methodology of indicators**	**Data source**	**Importance of figures from standpoint of ecological policy**
32.	Waste generation: ▪ industrial waste ▪ municipal solidwaste ▪ hazardous waste ▪ Volume of municipal solid waste per çapıta	thsd. t m^3 thsd t m^3/capita	▪ Volume of industrial waste includes waste generated primarily by mining and quarrying, by manufacturing industries and by energy production and construction. ▪ Volume of municipal solid waste covers transfer of waste from households and legal entities to processing objects ▪ Hazardous waste includes those of the above-mentioned categories which should be controlled according to the Basel Convention. ▪ Per capıta volume of municipal solid waste is calculated by dividing volume of transferred waste from households and legal entities to processing objects by population size	Official statistical report forms: № 14-recycle raw materials (waste) on "Generation and use of recycled raw materials (waste); № 2-TG (waste) on "Generation of hazardous waste and its movement"	The indicator provides a measure of the pressure on the environment of the total amount of generated waste and waste by category (hazardous, industrial and municipal solid waste).
33.	Waste reuse and recycling: ▪ industrial waste ▪ share of waste reused and recycling in total volume of generated industrial waste	thsd. t %	Waste reuse and recycling is defined as any reprocessing of waste material in a production process that diverts it from the waste stream, except reuse as fuel (energy recovery).	Official statistical report forms: № 14-recycle rawmaterials (waste) on "Generation and use of recycledrawmaterials (waste); № 2-TG (waste) on "Generation of hazardouswaste and	The indicator provides a measure of level of the waste use and efficiency of activities against pollution of the

Waste indicators					
№	**Indicator**	**Measurement unit**	**Methodology of indicators**	**Data source**	**Importance of figures from standpoint of ecological policy**
			Defined as ratio of volume of waste reused and recycling to total volume of generated waste.	its movement"	environment.
34.	Final waste disposal: The share of final industrial waste disposal in total volume of generated industrial waste	thsd. t %	The volume of final industrial waste disposal is waste landfilling and/or incineration of waste. Defined as ratio of volume of final industrial waste disposal to total volume of generated industrial waste	Official statistical report forms: № 14-recycle rawmaterials (waste) on "Generation and use of recycledrawmaterials (waste); № 2-TG (waste) on "Generation of hazardouswaste and its movement"	The indicator provides a measure of the pressure on the environment and the response to the efficiency of the waste management system.
35.	Transboundary movements of hazardous wastes: import, export	t	The amount of exported and imported hazardous waste is regulated through prior notification and consent with regard to each type of waste subject to transboundary movement.	Customs Declaration	The transboundary movement of hazardous waste represents a driving force indicator.

Annex 2: List of publications

The following publications have been reviewed for the preparation of the country mission and the completion of the Country Factsheet:

1. EU, EEA (2014) European Neighborhood and Partnership Instrument – Shared Environmental Information System: How existing municipal solid waste data in ENPI East countries can be used for the development of waste indicators, Final Report. European Environment Agency, Denmark
2. UN, UNECE (2015) Advancing the production and sharing of an extended set of 14 environmental indicators in the countries of the Eastern European Neighbourhood. European Environment Agency, Denmark
3. EU, EEA (2015) ENPI-SEIS East Region Synthesis Report - Building a Shared Environmental Information System with the Eastern Neighbourhood - Outcome of cooperation, 2010–2014. Luxembourg: Publications Office of the European Union, 2015
4. UN, UNECE (2012) Conference of European Statisticians: Review of Waste Classification Procedures and Identification of Alternative Approaches

5. UN, UNECE (2012) Desk Study: Assessment of the capacity of countries of EECCA to produce statistics on sustainable development and environmental sustainability – Topic 1 – waste statistics (under the UN Development Account project.)
6. UN, UNECE (2015) Progress in the production and sharing of core environmental indicators in countries of South-Eastern and Eastern Europe, Caucasus and Central Asia. Geneva: United Nations Economic Commission for Europe
7. UN, UNECE (2011), 2ndEnvironmental Performance Review of Azerbaijan.
8. EU, EEA (2011) Azerbaijan Country Report - European Neighborhood and Partnership Instrument, Shared Environmental Information System. November/December 2011, Baku, Azerbaijan
9. EUROSTAT, EFTA, UNECE (2011) Adapted Global Assessment of the National Statistical System of Azerbaijan.
10. Lazimova, R., (2016): Waste Statistics in the Republic of Azerbaijan. Presentation held at the 1. Regional SEIS East workshop, 6./7. June 2016.
11. Lazimova, R., (2013): Waste Statistics in Azerbaijan. Presentation held at the UNECE waste statistics workshop in Geneva, 4. November 2013.
12. UNSD-Q2016: UNSD/UNEP Questionnaire 2016 on Environment Statistics, Section Waste, Clarification Requests 2016
13. UNECE (2003) Waste classification & inventory systems in south Caucasus countries – Draft background paper.
14. "Environmental indicators system of the Republic of Azerbaijan", as confirmed by Decree of the President dated 21 December 2012, № 2621.
15. Third National Communication to the UNFCCC, Ministry of Ecology and Natural Resources Republic of Azerbaijan, Baku, 2015.
16. MENR (2015) Upgrading the National Environmental Monitoring System (NEMS) of Azerbaijan on the base of EU best practices (Twinning project fiche)
17. Main normative legal acts of the Republic of Azerbaijan in the field of Official Statistics (Reference book for employees of statistical bodies), IV edition, State Statistical Committee of the Republic of Azerbaijan, 2014- Baku).
18. The World Factbook https://www.cia.gov/library/publications/the-world-factbook

Annex 3: List of officials met during the country mission (18-19 July 2017)

1. Ms. Rena Lazimova, Head of Energy and Environment Statistics Department, State Statistical Committee
2. Mr Faig Mutallimov, Adviser of International Cooperation Division, Ministry of Ecology and Natural Resources
3. Mr. Adil Zeynalov, Dpt. of Environmental Protection, Head of Subdivision, Ministry of Ecology and Natural Resources