Funded by
the European Union

TWINNING

Health Impact Assessment Guidelines in Georgia:

Practical Application of Health in Environmental Assessment

EHESP

Université de Rennes

EXPERTISE FRANCE
GROUPE AFD

LEPL NATIONAL CENTRE FOR DISEASE CONTROL AND PUBLIC HEALTH

thl

Health Impact Assessment Guidelines in Georgia

Practical Application of Health in Environmental Assessment

Support in implementation of Health Impact Assessment (HIA) Practice in Georgia - 02/2022 – 04/2024 - Twinning project GE 20 ENI HE EN 02 21

Modified Final Version 18 April 2024

Funded by the European Union

Contributors:

Anne ROUE LE GALL (EHESP) and Benoît VAN GASTEL (EHESP) wrote the first draft of the guidelines. Michèle LEGEAS (EHESP) and Guilhem DARDIER (EHESP) made substantial contributions to the writing and editing of the entire guidelines. Benoît VAN GASTEL designed and drafted the tools of the guidelines (except the tools E1AT1 and E2CT2) with major contributions by Michèle LEGEAS, Guilhem DARDIER, Anne ROUE LE GALL and Antoine POGORZELSKI (Expertise France). The tools were enriched with contributions from the Environmental Health Department of the NCDC (Tbilisi, Georgia) and feedback from the trainees in the module "Integration of health in environmental assessment of strategic documents/activities/projects" that was organized from 30 May to 9 June 2023 at the EHESP School of Public Health (Rennes, France): Nino CHKHABERIDZE (NCDC), Mariam DOLIDZE (SUDA), Salomé DVALI (NEA), Ana JANASHIA (NCDC), Dali KEKELIDZE (NCDC), Nino KOSIASHVILI (NEA), Lela KVACHANTIRADZE (NCDC), Khatuna PHIRANISHVILI (NCDC), Robizon TSIKLAURI (NCDC), Ketevan ZARIDZE (NCDC).

The version 1 of the guidelines was revised by Antoine POGORZELSKI (Expertise France, France), Nana NINASHVILI (NCDC, Georgia), Keti ZARIDZE (NCDC, Georgia), Nia GIUASHVILI (NCDC) and the Environmental Health Department of NCDC (Tbilisi, Georgia), Khatuna PHIRANISHVILI (NCDC, Georgia), Lali EBANOIDZE (NCDC, Georgia), Marko LÄHTEENMÄKI (THL, Finland), Mika GISSLER (THL, Finland and Philippe DAMIE (Expertise France, France).

Additional feedback were made by the same trainees, Ani KHACHIDZE (NCDC) and Elene CHICHUA (NCDC) during the training sessions and the mission at the NCDC in Tbilisi from 23 October to 3 November 2023, as well as during re-training sessions on real cases in November and December 2023.

The document and its tools has been reviewed by Ben Cave, one of the world's leading experts in Health Impact Assessment (HIA) and former (2020/2021) president of the International Association for Impact Assessment (IAIA), who contributed to a number of guidance documents for HIA in the EU and in Member States. We would like to thank him warmly for his careful review. His advice and comments have been incorporated into the final version of this document.

Finally, a mission from EHESP and experts from France and Finland to Tbilisi in February 2024 for a 2-day training to planning authorities and consultants involved in Environmental Assessment was carried out in order to disseminate and collect feedback from practitioners. Based on these feedbacks, the EHESP team were able to fine-tune the tools and organise a final session "training of trainers" for the NCDC in April 2024 in order for the NCDC to continue the dissemination of the guidelines.

We would like to express our gratitude to Ekaterine Lobzhanidze for general support on the project, and to all those who have contributed to the elaboration of those guidelines: specialists, trainees as well as municipalities and planning authorities, consultants and all other stakeholders from France, Georgia and Finland whose inputs have helped the team in this final product. The whole guidelines were translated into Georgian language by David Tsulaia and we thank him deeply for this work.

Disclaimer:

This publication has been produced with the assistance of the European Union (Twinning project GE 20 ENI HE EN 02 21). Its contents are the sole responsibility of Expertise France and the EHESP School of Public Health and do not necessarily reflect the views of the European Union.

This document includes recommendations and guidelines for public health practices provided by EHESP School of Public Health (France). This document is based on current scientific knowledge, expert consensus and with the Twinning project partners' and beneficiaries consultation.

However, the EHESP School of Public Health does not endorse or guarantee any specific results or outcomes from the use of this document. Individuals, institutions, and policymakers are encouraged to adapt these guidelines to their specific contexts and consider local conditions and resources. The implementation of these guidelines are at the discretion and responsibility of the users. The EHESP School of Public Health disclaims any liability for decisions made or actions taken based on the recommendations in this document.

The views expressed herein can in no way be taken to reflect the official opinion of the EHESP School of Public Health and its Partner organizations or the European Union.

Organization responsible for the report: EHESP School of Public Health.

Modified date of the final version: 18 April 2024

École des hautes études en santé publique (EHESP) – EHESP School of Public Health
15 avenue du Professeur Léon-Bernard – 35043 Rennes cedex – FRANCE
https://www.ehesp.fr/en/the-school/

Suggested citation:
Anne ROUE LE GALL, Benoît VAN GASTEL, Guilhem DARDIER and Michèle LEGEAS. HIA Guidelines in Georgia: Practical Application of Health in Environmental Assessment. 2024. EHESP School of Public Health. 284 pages.

Contacts:
Anne ROUE LE GALL: anne.roue-legall@ehesp.fr;
Guilhem DARDIER: guilhem.dardier@ehesp.fr;
Benoît VAN GASTEL: benoitvangastel@protonmail.com.

Table of contents

Foreword

Ensuring the health and well-being of population is one of the main priorities of the Government of Georgia. In our efforts to build a prosperous and equitable future for our residents, prioritizing public health and protecting the environment remains paramount. By integrating health into decision-making processes across the different sectors, we are fulfilling our commitment to fostering environments that support healthy living and development.

As part of the EU-Georgia Association Agreement, the Environmental Assessment Code was passed by the Parliament of Georgia in 2017, in order to ensure the protection of the environment of Georgia and health of its population. The objectives of the Code are to "promote the protection of the environment, human life and/or health, cultural heritage and material assets, in the implementation of strategic documents or activities which may have significant effects on the environment, human life and/or health".

Since its enforcement, the integration of health in environmental assessment has been strengthened with the adoption of the Resolution #420 of the Government of Georgia on Human Health Impact Assessment in 2019. It enshrines the role of the health authorities for supporting the integration of health in the assessment process.

In order to improve the practical use of health issues in the environmental assessment process, the EU-funded twinning project elaborated the Health Impact Assessment Guidelines in Georgia.

The guidelines were prepared in a participatory and iterative process spanning 18 months, in line with best international practices and EU standards. The guidelines are based on experiences from France as a project partner country and real cases in Georgia, as well as complementary to existing SEA and EIA guidelines and recommendations in Georgia.

The present guidelines are a direct answer to the request of practitioners – the healthcare authorities, planning authorities and consultants in order to encourage healthy planning to protect the environment and the health of the population with specific and detailed tools and methodologies.

The present guidelines apply to strategic documents (plans and programmes - such as the elaboration of a master plan of a municipality) but can also be applied to specific development projects such as urban development projects, an industrial farming activity, hydropower plants, implementation of large infrastructural projects etc. The guidelines and its tools are therefore a crucial instrument for sustainable and healthier development in Georgia.

The World Health Organization recognizes HIA as a tool for Health-in-All-Policies. HIA contributes to reaching different Sustainable Development Goals, among others the ones on health, water and sanitation, inequalities, living environments, climate action, and participation. Implementation of practical and applicable tools within these guidelines helps build the capacities of planners and promoters to identify and act on the SDGs at their level.

The European Commission calls for responsible planning. It calls for policy coherence involving planning, evidence-based policies, inclusiveness, effectiveness, respect for subsidiarity and proportionality, and measurement and monitoring. Health within SEA/EIA is a forward-looking instrument: it provides information to a decision-maker and to the impacted population before any effects have occurred. This allows for environment and health to be mainstreamed into the design of a plan/programme/project.

EA and HIA brings stakeholders together. It requires joint work between planning authorities and developers, Environment and Health Authorities, environment and health specialists, decision-makers, communities that may be affected, academia and others.

The common goal is to protect the environment and health of the population in Georgia and ensure the highest quality of life. We hope the insights of these guidelines will provide cross-sectoral learning and coordination and contribute to the health in all policies approach, to foster sustainable and healthy development in Georgia.

Tamar Gabunia

1st Deputy Minister of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs of Georgia

Isabelle Richard

Director of the French School of Public Health (EHESP)

Definition of Terms

Baseline – qualitative and quantitative statistical information collected at the beginning of a (scientific) study that is used to assess the change brought about by a particular intervention.

Built Environment – human-made surroundings where people live, work and recreate (see more details on page 16).

Environmental Agency – Legal Entity of Public Law (LELP) National Environmental Agency.

Follow-up – further observation over the health conditions of the current and future population of the project area during the project implementation stage.

Health Agency – LEPL, L. Sakvarelidze National Center for Disease Control and Public Health.

Health Determinants – factors that affect the health of individuals and society. These include: social and economic, physical and personal characteristics and behaviour, income and social status, education, physical environment, social networks, genetics, access to health services, and gender.

Natural Environment – interdependent natural elements, as well as the natural landscapes formed by them. It comprises the atmosphere, land, water, oceans and biodiversity (see more details on page 16).

Planning Authority – an administrative body or any other competent organisation which, pursuant to a relevant normative act, is responsible for preparing a strategic document (taken from EAC).

Stakeholders – parties who are interested in the process evaluation or public discussion of project implementation, including the public, who may be interested in the decision related to the implementation of the strategic document or activity or who will or may be affected by this decision.

Sensitive buildings – buildings and places such as hospitals, maternity facilities, educational institutions, etc. where vulnerable people can easily be exposed to health risk factors.

Ministry of Health – Ministry of Internally Displaced Persons from the Occupied Territories, Labor, Health and Social Affairs of Georgia.

Acronyms

AFD: Agence Française de Développement (French Development Agency)

Cons.: Consultants

E: E of étape in French that means step in English

EA: Environmental Assessment

EAC: Environmental Assessment Code

E-Auth: Environmental Authority (NEA)

EHESP: École des Hautes Etudes en Santé Publique (EHESP School of Public Health)

EIA: Environmental Impact Assessment

FAO: Food and Agriculture Organisation

H-Auth: Health Authority (NCDC)

HI: Horizontal Issue

HIA: Health Impact Assessment

HIA-GB: HIA-Governance Body

HiAP: Health in All Policies

NCDC: National Centre of Disease Control

NEA: National Environmental Agency and Public Health of Georgia

OIE: World Organisation for Animal Health

PA: Planning Authorities

SEA: Strategic Environmental Assessment

SUDA: Spatial and Urban Development Agency

THL: Finnish Institute for Health and Welfare

ToRs: Terms of References

UN: United Nations

UNDP: United Nations Development Programme

UrbASEPT: Urbanisme, Aménagements, Santé, Environnements, Politiques & Territoires (Urban Planning, Development, Health, Environment, Policy & Territories)

WHO: World Health Organisation

Boxes

Figures

Tables

Introduction to the HIA Guidelines in Georgia

Why and what for?

This document is a practical guide to taking health into account in strategic documents and projects subject to environmental assessment.

It fulfils a need to support capacity building in Health Impact Assessment (HIA) for a large panel of stakeholders following the regulatory changes approving the rules for human HIA within the environmental assessment (EA) field. The guidelines give a broad understanding of HIA within Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA) in Georgia, provide different tools for stakeholders and fit well for any SEA in the sectors mentioned in Annexes I and II of the Environmental Assessment Code. The two major legislative texts that have guided our work to provide capacity building on HIA practice are: (1) the Environmental Assessment Code (EAC), in line with EIA Directive (1985) & SEA Directive (2001), that was prepared to fulfil the political commitments to become a party to the Espoo convention (Kiew, 2003) and its Protocol on SEA and (2) the Resolution No. 420 of 2019 of Georgian Government on Rules for Human Health Impact Assessment within Environmental Assessment Field (Georgian Government, 2019).

It updates the first draft of the UNDP Guidelines for the Practical Implementation of HIA in Georgia (internal document, 2020) with practical tools and frameworks and addresses identified needs to establish more formal collaboration about environmental/health impact assessment between NCDC (Health Authority, H-Auth) & NEA (Environmental Authority, E-Auth) and improve the channel of communication between all the stakeholders involved (Planning Authorities (PA), Consultants (Cons.), H-Auth, E-Auth & Population).

These guidelines are to be considered as complementary to the existing guidelines for EIA and SEA in Georgia developed with the support of the European Union, following the adoption of the Environmental Assessment Code in 2017:

- Guidelines on practical application of Strategic Environmental Assessment in Georgia (2017 - last update 2023) - United Nations Economic Commission for Europe (UNECE);
- Guidelines on practical application of Environmental Impact Assessment in Georgia (2017 - last update 2023) - UNECE.

The content of these HIA guidelines is designed to be in line with:

- The “Strategic Environmental Assessment Guidelines for the Spatial Planning Sector of Georgia (Version 2)” developed by the National Environmental Agency of Georgia in 2023;

- Information document "Assessing health impacts in strategic environmental assessment" (United Nations Economic Commission for Europe - UNECE, 2023).

Who is it aimed at?

While it is aimed at all stakeholders involved in the EA process (Planning Authorities, Consultants, Health & Environmental Authorities), it is specifically targeted at the NCDC, which acts as the Legal Entity of Public Law under the supervision of the Ministry of Health (in line with article 3 of the Resolution 420). More precisely, the NCDC, later designated as the "Health Authority", is in charge of:

- Supporting the integration of health in strategic documents, development project & activities;
- Reviewing, assessing the quality of the EA report with a health lens in collaboration with E-Auth and;
- Making recommendations, under the supervision of the Ministry of Health.

How was it developed?

Its content and structure are the result of work carried out as part of the European Twinning Project ran from February 2022 to April 2024. It draws on French and Finnish expertise in health impact assessment (HIA) and integrating health into environmental assessments (H in EA), as well as the documents mentioned above. Other reference documents were also used in this work, such as "*A reference paper on addressing Human Health in Environmental Impact Assessment*" (Cave et al., 2020), the recommendations made in December 2019 by Irina Davis (UNDP, 2019), a UNDP consultant, "*Strengthening HIA in SEA in Georgia*" and the Guidelines on practical application of strategic environmental assessment in Georgia (internal document, 2020).

These guidelines are a result of the European Twinning project "Support in implementation of Health Impact Assessment Practice in Georgia", which integrates the outcomes of the 4 components of the European Twinning project: Component 1 "*Legal and regulatory framework: international standards, revision with AA and approximation with EU legislation*"; Component 2 "*Institutional capacity to conduct HIA of the Environmental Health Risks under the NCDC strengthened*"; Component 3 "*Capacity of relevant stakeholders to ensure reliable and quality data management of HIA*" and Component 4 "*Public involvement, reporting and communication system to HIA process*".

The development of the guidelines was iterative, involving numerous exchanges between the team of experts and future users. In February 2023, the European Twinning project organised two workshops on two real cases in Georgia. The participation of Georgian authorities and

consultants, as well as Finnish and French experts, made it possible to gather information on actual practices on HIA in Georgia. Next, several short face-to-face work sessions were held in Georgia and remotely with targeted users at the NCDC, enabling the approach to be tested and the proposed tools to be adjusted. Finally, a nine-day training module, bringing together representatives of the different stakeholder groups involved (7 NCDC, 2 NEA and 1 spatial planning agency) was organised in Rennes at EHESP from May 29th to June 9th, 2023. This training session, tailor-made to apply the draft of the guidelines, alternated theoretical inputs, field visits, feedback from French practice and putting the guidelines into practice on a pedagogical case study based on a real case in Georgia, the strategic environmental assessment of the Tskaltubo development plan. It enabled final adjustments to be made to the content of the guidelines and provided an opportunity for participants to exchange experiences and become familiar with the approach, tools and levers for strengthening interactions between stakeholders.

Organisation of the guidelines: A two-part document and a detailed annexes of the different HIA tools

The effective implementation of HIA or the integration of health into EA requires, in addition to the provision of appropriate tools and frameworks, a common culture on HIA methodology and associated concepts, as well as the active participation of all stakeholders involved in strategic documents and projects subject to environmental assessment. For this reason, the present document has been structured in two main parts.

The first part, intended for a wide range of stakeholders (Planning Authorities, Health Authorities, Environmental Authorities, consultants and any other civil society representatives) **corresponds to the theoretical part of the guidelines.** It aims to share a common knowledge base of the HIA approach, key concepts and principles related to HIA applied to strategic documents and development projects at the scale of living environments (systemic approach to health, health inequalities, health in all policies, etc.) and the integration of health in environmental assessment, including SEA (Strategic Environmental Assessment) and EIA (Environmental Impact Assessment).

The second part, which is targeted more specifically at NCDC officers, corresponds to the practical part of the guidelines for implementing HIA (Health Impact Assessment) in EAs (Environmental Assessments). It aims to clarify the role of the NCDC and interactions with the NEA and other stakeholders, and provides recommendations, tools and templates that can be used at each stage of the process, structured into 5 steps (E1-Screening, E2-Scoping, E3-Preparing the report & Public hearing, E4-Assessment of the report & Issuing recommendations and E5-Monitoring/follow up of the implementation of the project/strategic documents). Additional recommendations and tools are also proposed for the implementation of Governance, Public Participation and Expertise & Data (3 Horizontal Issues). The guidelines can be applied to strategic

environmental assessment (SEA) and, more generally, to any environmental assessment likely to affect public health (e.g. EIA, sector application or any other project application).

The guidelines conclude with an appendix containing specific tools to be used at different steps of the HIA process. Some of these tools are intended for use by the NCDC, while others are recommended to assist Planning Authorities and Consultants in preparing documents submitted for examination by Health & Environmental Authorities. Three types of tools are proposed: (1) The "Core tools" that deal with the essential processes of each step, (2) The "Additional tools" that could help respond to a specific issue, and the "Horizontal Issue tools" that drive the implementation of the three step-by-step horizontal issues. The main users of these tools are specified for each of them.

Part I:

Sharing a common language on HIA and related concepts

This first part aims to share a common base of knowledge on key concepts and principles related to HIA applied to strategic documents and development projects on a living environments scale.

Living environments: major determinants of health, well-being and burden of disease

The quality of the environment has a profound effect on health and the burden of diseases. At the beginning of the 20th century, improvements in sanitation, treatment of drinking water, food inspection and vector control enabled considerable progress to be made in terms of health and the quality of the environment and a reduction in major infectious diseases (Novick et al., 2008). While efforts must continue in some countries, today the challenges in environmental health have shifted towards the prevention of chronic diseases such as cardiovascular, cancer, asthma, chronic obstructive pulmonary disease and neuropsychiatric disorders, … (WHO, 2016).

The role of environmental risk factors such as atmospheric pollution, noise pollution, heatwaves etc… and global climate change is now clear, and action on our living environments is one of the major ways in which we can both prevent these chronic diseases and build healthy communities (Koehler et al., 2018).

Our living environments (including the built and natural environment – see box 1), which are largely conditioned by planning policies and practices (from the local to the global level), strongly influence human health and well-being both negatively or positively in many ways including physical activity levels, access to nutritious food, to the educational system and to health care, the houses we live in, where we work, contact with nature and the spaces we have for social interactions. It also affects the air we breathe and the water we drink, and shelters us from the weather. The figure below shows an illustration of the living environment (Figure 1).

Built and natural environments, what are we talking about? (Text taken from the website of the Australian Institute of Health and Welfare, 2023)

Definition of the built environment

The built environment refers to the human-made surroundings where people live, work and recreate. It includes buildings and parks as well as supporting infrastructure such as transport, water and energy networks (Coleman, 2017).

The built environment interacts with the natural environment through its use of land, water and energy resources, and the waste and emissions produced. Conversely, extreme weather events such as floods, cyclones, bushfires and heatwaves are considered the largest risk to the built environment and people who live in it. See Natural environment and health.

Definition of the natural environment

The natural environment comprises the atmosphere, land, water, oceans, and the diversity of living things (UN 2019). It provides essential resources for health and wellbeing including food, fresh water, wood and fibre, fuel and medicines. It also helps regulate weather, vegetation, soils, and the quality of water and air, and provides a range of aesthetic, cultural, recreational and spiritual services to people (Whitmee et al., 2015).

As a result of human activity, the health of most or all the planetary systems that provide these services is currently in decline, including some already considered irreversibly damaged (UN, 2019).

Box 1: Built and natural environments, what are we talking about? (Text taken from the website of the Australian Institute of Health and Welfare, 2023).

Figure 1: Representation of a living environment illustrating its different components and multiple activities (transports, housing, public spaces for social interactions, blue and green spaces to relax or for sports and leisure activities, hospital, school, shops, access to nutritional food,…) (Credit: EHESP, 2019).

The links between living environments, health and well-being are now well documented in the scientific literature (Giles-Corti et al. 2016; WHO &UN Habitat, 2016; Koehler et al., 2018; Adlakha and John, 2022; Australian Institute of Health and Welfare, 2023) and the tools and recommendations made available for integrating health into territorial and urban planning are becoming more widespread (WHO sourcebook, 2020; Chang et al., 2022; WHO Directory, 2023). This guide completes the pool of tools and methods available to support the construction of healthy community environments.

Definition of the main concepts: Human health, determinants of health and health inequalities

"Your health is largely determined by:

Who you are *(Person: your age and genetic heredity)*;

What you do *(behaviour: your individual lifestyle and behaviours (Do you smoke, stay active, or have a job, education and social network?))*; and

Where you live *(place: whether the local environment supports healthy living)*. "

Box 2: How is your health largely determined? (Text extract from Chang et al., 2022, page 19)

Human health

In these guidelines, we adopt the WHO definition of human health, where health is considered as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity"(International Health Conference, 1946).

Determinants of health

This definition, recognized by many public health practitioners in the field of environmental health and health promotion, takes into account a wide range of health determinants that Lalonde, in 1974, structured into four major families (see Table 1). One key consequence of the comprehensive conception of health has been to make human biology, the environment and lifestyle, as important for health as the organisation of healthcare. It also emphasises the importance of reducing disease and infirmity, and covers physical health, mental health and social well-being.

Table 1: Main characteristics of the 4 main categories of determinants to consider health in its broadest sense according to Lalonde (1974).

A global concept of health based on 4 categories of determinants (*Lalonde, 1974*)		
Determinants Category	**Examples of determinants**	**Main characteristics**
Human biology	**Individual**, genetic and biological **factors**, such as age, sex and hereditary characteristics.	Factors that cannot generally be modified.
Environments	**Environmental factors linked to the state of the physical environment** in which people live: air, water and soil quality, etc.	Factors that **cannot be modified individually**, but which constitute levers for action to promote health through **appropriate public policies**.
	Environmental factors linked to the living environment: housing, regional planning, transport, public facilities and services, etc.	
	Environmental factors linked to social environment: family, friends, employment, poverty, social support, etc.	
Lifestyle	**Behavioural factors** based on individual decisions: risk behaviour, addictions, diet, work, culture, education, physical activity, safety behaviour, etc.	Factors that depend on **individual decisions**, but which are often **influenced by the socio-cultural environment and living conditions**
Organisation of healthcare	**Factors linked to the healthcare system**: accessibility and quality of both preventive and curative healthcare provision Primary health care, specialist services, etc.	Factors influenced by health policies and the socio-cultural environment.

Other models of health determinants were subsequently proposed, including that of Dahlgren & Whitehead in 1991. This model marked a turning point in the consideration of health inequalities, considering that they could not be explained solely by genetic differences and individual lifestyles (diet, physical activity, adaptability, etc.), but that many other factors came into the equation to explain them. According to Dahlgren and Whitehead (1991), these factors include social and community networks (education, social status, leisure activities, the family, friends, social support networks, etc.), material and structural factors (housing, living and working conditions, etc.) and socio-economic, cultural and environmental conditions.

In 2006, Barton and Grant proposed a model of the determinants of health and well-being in human settlements. The analytical framework proposed by Barton and Grant (2006) consists of a graphical

representation of health determinants through the prism of spatial planning (Figure 2). This graphic representation is based on Whitehead & Dahlgren's (1991) health determinants model and urban ecosystem theory. It provides an overview of all the health determinants relevant to spatial planning and a common framework for all the stakeholders in a given area to identify the levers for improving the health and well-being of the population. It is important to precise that laws and regulations aspects should complete this model.

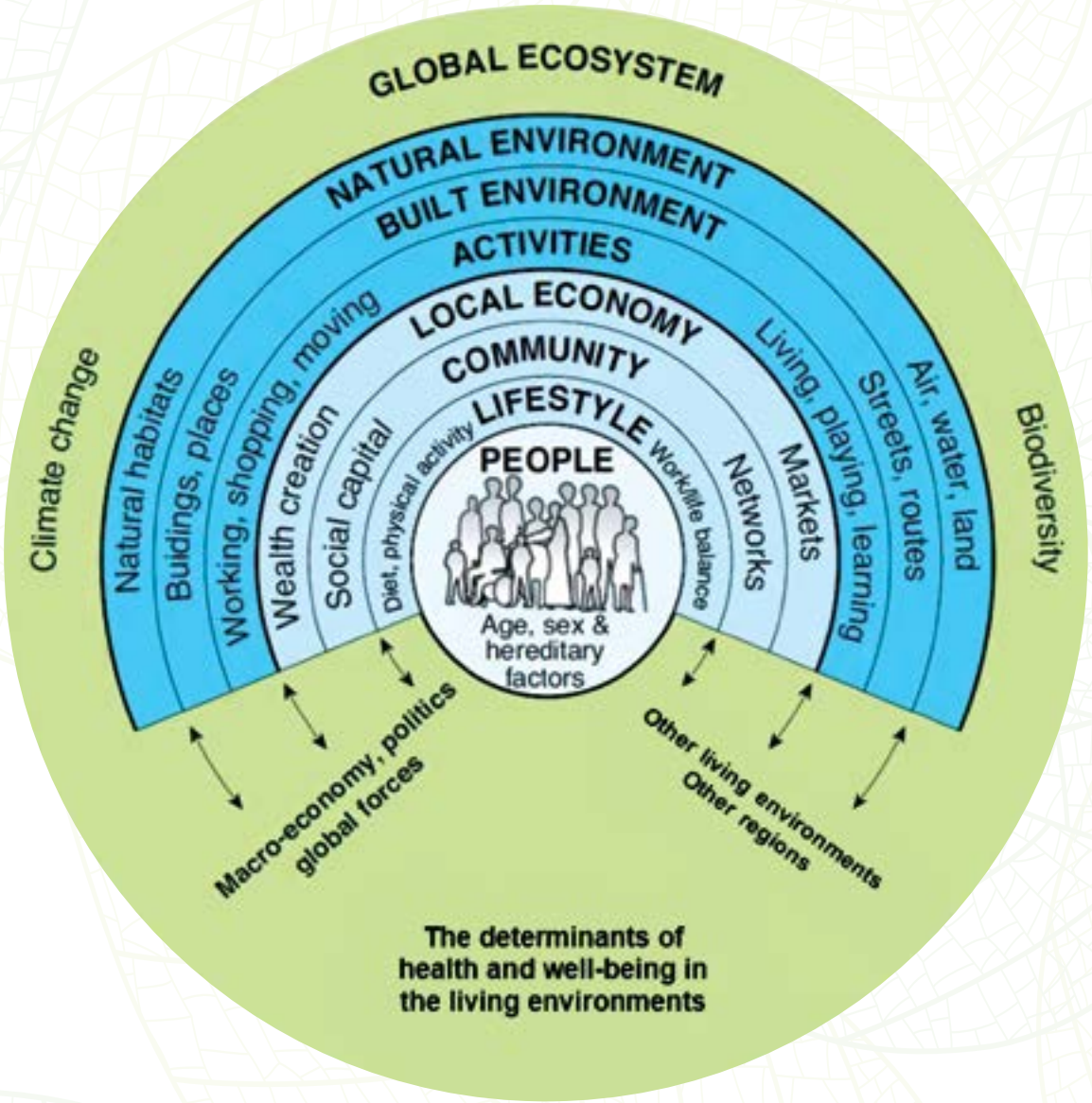


Figure 2: The health map for the local human settlements (figure extracted and adapted from Barton and Grant, 2006).

Based on Barton and Grant's model (2006), an "Analytical reference tool for urban development projects and urban planning documents to promote healthy urban planning" (available on the EHESP's "Urbanisme favorable à la santé": https://www.ehesp.fr/recherche/domaines-et-champs-de-recherche/urbanisme-favorable-a-la-sante-ufs/) was developed as part of the work carried out in France to support the inclusion of health considerations in environmental assessments of urban planning documents and development projects (Roué Le Gall et al., 2014[1]; Roué Le Gall et al., 2017).

[1] The French National Healthy Urban Planning Guidelines (in French)

Health inequalities

The concept of inequalities in health refers to the fact that not everyone's state of health is the same, because it depends on a multiplicity of factors (genetic, physiological, environmental, social, political, etc.) to which individuals are subject throughout their lives and in relation to which, for many reasons, they are not on an equal situation. The **causes of** these inequalities are to be found in the various categories of 'health determinants' that affect our state of health. Some of these inequalities stem from factors of human biology (individual, genetic and biological factors such as age, sex and hereditary characteristics) that are difficult to influence. These inequalities are therefore considered **inevitable**. Other inequalities stem from disparities in the social determinants of health, defined by the WHO as "the circumstances in which people are born, grow, live, work and age, and the systems in place to cope with ill health" (WHO, 2008). These inequalities are considered to be **avoidable,** as they are related to the environment in its broadest sense.

Social inequalities in health, the existence of which is now well established (Kunst, 2007, HCSP, 2009), refer to inequalities that are not the result of biological differences but of individual behaviours (smoking habits, alcoholism, sedentary lifestyle, etc.) and of socially constructed determinants that may be linked to political choices. The spectre of social determinants of health is wide-ranging and covers different areas that influence health more or less directly. These include economic stability (employment status, income, housing stability, etc.), education, the family and professional context (family structure, social cohesion, exclusion, working conditions, etc.) and the environment in which people live (quality of housing, access to amenities, including healthcare services, etc.) (Raphael and al., 2021). This means that **social inequalities in health concern the entire population, not just the most vulnerable** (HCSP, 2009, p20).

Environmental nuisances are recognized as likely to exacerbate these inequalities (Evans and Kantrowitz, 2002; Padilla, 2013; Kihal, 2013; Deguen et al 2022), through two main mechanisms. Firstly, deprived populations or those living in a deprived area are more likely to be exposed to a higher number of environmental nuisances or a higher level of environmental exposure. This is called the "differential exposure". Secondly, for a similar environmental exposure, disadvantaged populations are more likely to suffer adverse health effects. This is called the "vulnerability differential". This lesser capacity to cope with environmental aggressions can be explained by several factors: a more limited access to healthcare professionals, more deprived living conditions and a more deteriorated health status with co-morbidities, among others (Deguen and Kihal-Talantikite, 2022). Therefore, it should be emphasised that environmental inequalities in health are not limited to exposure to environmental risks (air, water and soil pollution, noise pollution, odours, etc.), but also include inequalities in access to territorial amenities (public transports, green spaces, sports and cultural facilities, healthcare services, etc.). These inequalities are considered avoidable but, in the absence of simple diagnostic tools, they are often difficult to grasp, even though development or planning choices are likely to increase or reduce them.

Key takeaways

Based on the above clarifications, we will retain the following key messages for the development of the practical part of the present guidelines:

A comprehensive approach to health...

Health cannot be reduced to biological determinants or access to healthcare: it must be considered in all its dimensions, whether social, economic or environmental.

Health is everyone's business

Health is not just a matter for specialists in the health field: those involved in urban planning and design, and territorial development projects or activities are particularly concerned (Figure 3), since changes to land-use planning, the provision of efficient transport services, the supply of housing that meets everyone's needs and desires, etc. are all likely to have a direct or indirect impact on people's health. All the political decisions taken in the field of planning have an impact on public health. This is why public health and social issues must be considered as a criterion in their own right in territorial planning and development projects.

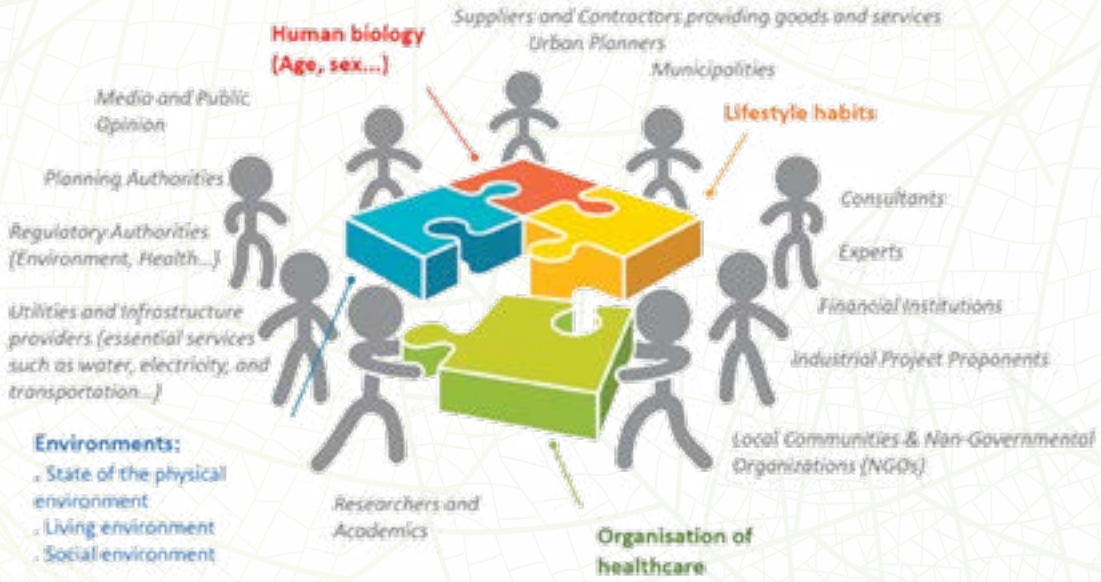


Figure 3: Health is everyone's business (extracted and adapted from the French National Healthy Urban Planning Guidelines, 2014, page 25 (Roué Le Gall et al., 2014))

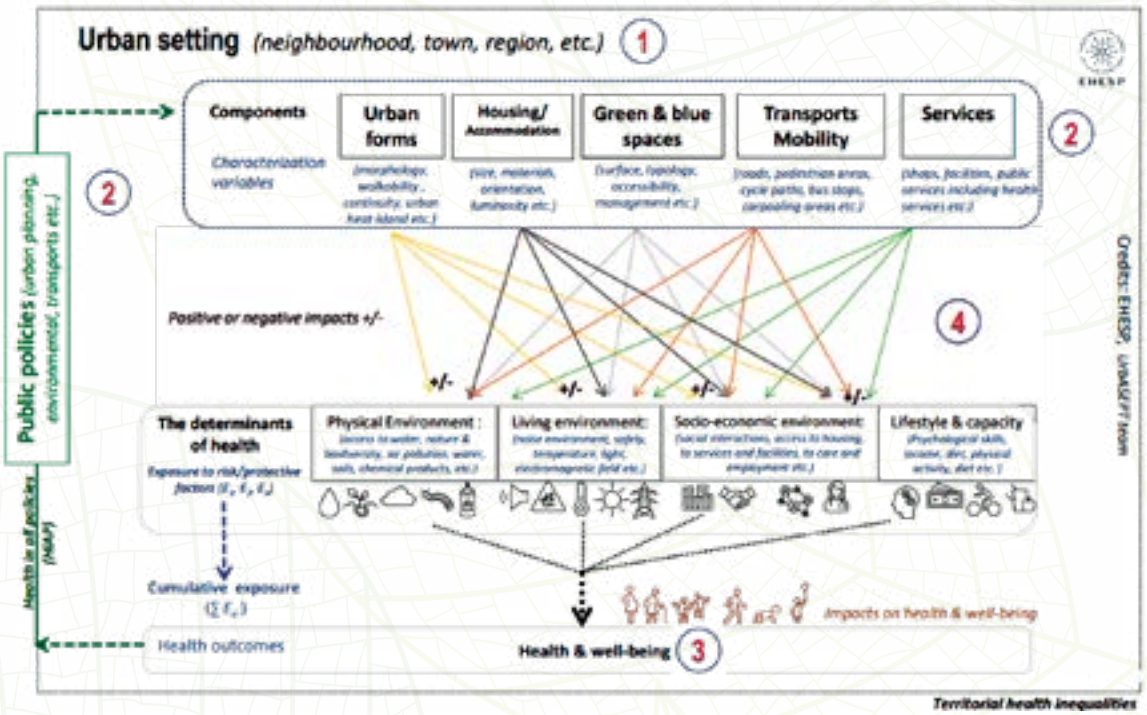


Figure 4: A conceptual model to grasp the complexity of the relations between the various components of an urban setting, cumulative exposure to different health determinants and health according to a system thinking approach (Adapted from Roué Le Gall et al., 2022).

This way of representing the majority of links between the urban system components and health is also called causal model, a tool currently used in HIA methodology (described in part II of the guidelines, link to the part II).

This example illustrates the cumulative exposure of populations to different health determinants, themselves influenced by different components that depend on different sectoral public policies at different decision-making levels (local, regional, national and international). It is also a way of illustrating the process that generates territorial health inequalities: Risk and protection factors may vary from one territory to another, and as a result, the cumulative exposure of populations differs from one territory to another.

To move towards healthy living environments, choices must be made that minimize people's exposure to risk factors, promote exposure to protective factors and offer co-benefits in terms of health and environmental protection. This approach is consistent with the "Planetary Health" (Whitmee et al., 2015) or "One Health" (Joint Tripartite - FAO, OIE, WHO - and UNEP Statement, 2021) vision, which aims to take into account human, animal and ecosystem health simultaneously and to foster multidisciplinary collaborations.

For these reasons, achieving healthy living environments does not boil down to a single action, but rather to a plurality of action strategies and stakeholders to be coordinated for more integrated and collaborative practices. The theoretical framework presented in figure 5 proposes an organization of actions according to three major strategies to be implemented simultaneously: (1) Addressing projects & policies using a systemic & integrated approach to health & environment; (2) Sharing a common culture & supporting cross-sectorality between stakeholders and (3) Developing, adapting or relying on approaches & tools to better integrate health & environmental issues.

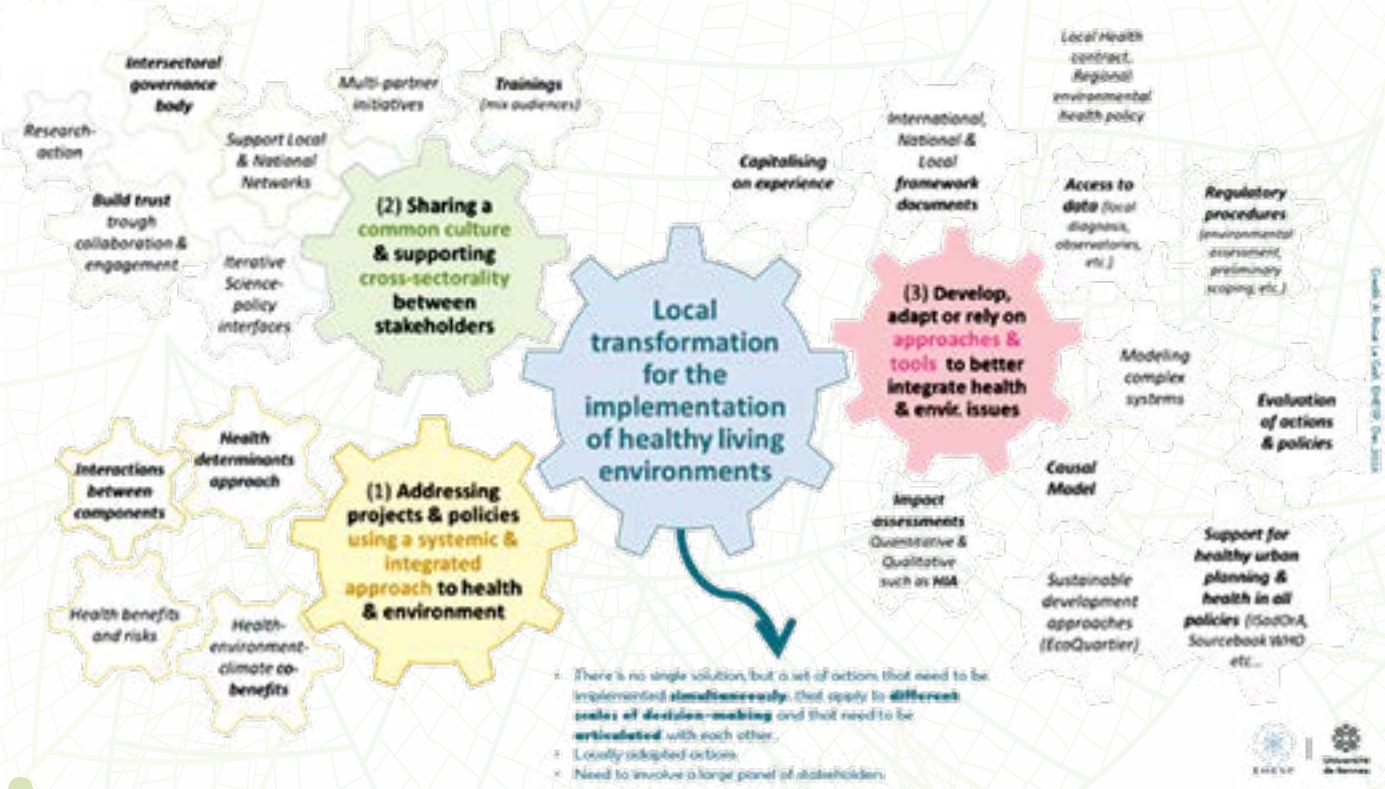


Figure 5: Theoretical framework of action strategies to achieve transformation toward healthy living environments (extracted & adapted from Roué Le Gall et al., 2022 p 13)

As illustrated in the theoretical framework (Figure 5), HIA is considered as an approach that contributes to the development of healthy living environments.

HIA, a recognised approach to help address health and well-being whendrawing up strategic documents, urban and territorial development projects and other activities at local level.

HIA in a nutshell

Described as a prospective, cross-sectoral and participatory assessment process, HIA is a practical approach based on a comprehensive approach to health determinants. Its aim is to predict potential health consequences of a policy, program or project (in the short, medium and long term), mainly on vulnerable or disadvantaged groups and to recommend appropriate measures to minimise negative effects and maximise positive ones, before the project, program or policy is carried out.

Box 4: HIA in a nutshell.

The Adelaide Statement on (Health in All Policy) HiAP (WHO, 2010) considers HIA to be one of the privileged means to implement HiAP, a public policy approach that systematically considers the health implications of decisions across sectors, seeks synergies, and avoids harmful health impacts to improve population health and health equity.

Overview of HIA

Origin & definition

Health Impact Assessment (HIA) is a distinct form of impact assessment focused specifically on human health, which emerged in the 1990s (Birley and Peralta, 1995; Scott-Samuel, 1996). Its deployment is based on an approach initiated by the Gothenburg Consensus in 1999 (WHO, 1999), which defines it as " *a combination of procedures, methods and tools by which a policy, programme or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population*" (WHO, 1999). This definition has been supplemented by the International Association for Impact Assessment, which specifies that HIA "*generates evidence for appropriate actions to avoid or mitigate health risks and promote health opportunities*" (Winkler et al., 2021), and not only to assess them (Diallo et al., 2023).

The exact origin of the HIA is difficult to define (Simos et al., 2013). It can be seen as originating from three distinct but related areas of public health activity: environmental health, the wider determinants of health and health equity (Harris-Roxas et al., 2012). It is particularly influenced by health promotion insofar (WHO, 1986) as it applies a comprehensive model of health, which emphasises the importance of the social determinants of health and adheres to ethical principles, such as equity and social justice, democracy and citizen participation, principles that distinguish HIA from other forms of impact assessment (Cave et al. 2021).

It can also refer to three fields (Simos et al., 2013, page 153):

- The promotion of the "healthy public policies" approach, highlighting the issue of socio-economic inequalities in health;
- The practice of risk analysis and environmental epidemiology, relying mainly on the quantitative dimension in the analysis;
- The tradition of environmental assessment, focusing mainly on the determinants of the natural environment.

Worldwide deployment

HIA has gradually spread and diversified around the world thanks to practitioners in the UK, USA, Canada, Australia and some European countries who pioneered this methodology, which is still evolving today (Winkler et al., 2020). A review of international historical developments in HIA, published by Harris-Roxas et al. in 2012, shows that the HIA approach has matured, diversified and expanded to a growing number of countries around the world, with applications in both the public and private sectors (Krieger et al., 2010). It is now being adopted in many countries as a new approach, with or without regulatory frameworks, with the aim of better integrating health into all policies (Thondoo and Gupta, 2021). In Georgia, the Environmental Code mentions that HIA is mandatory in case of SEA project and optional in other cases.

HIA Process

HIA follows a structured process that uses a range of data sources and analytical methods and draws on contributions from a wide range of stakeholders

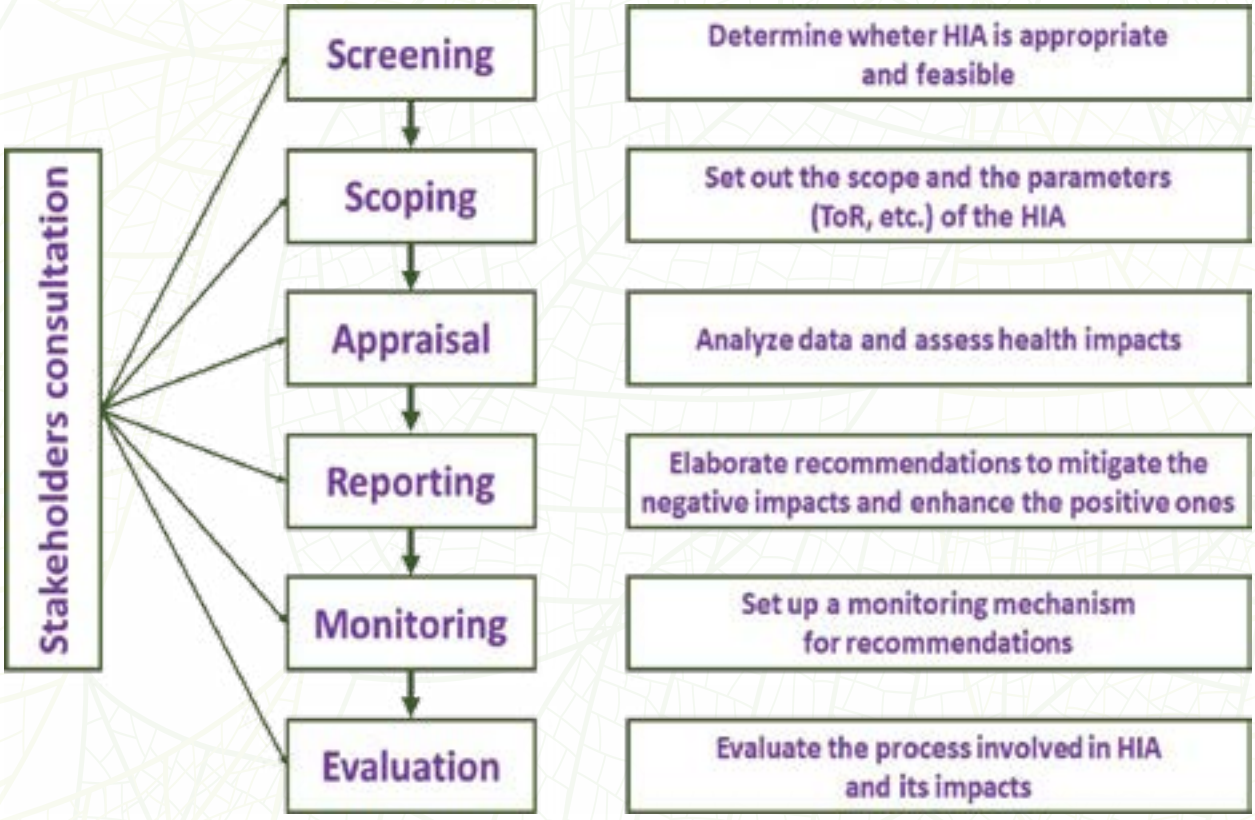


Figure 6: HIA methodology (adapted from Simos et al., 2023 & Jabot and Roué Le Gall, 2016)

HIA, a tool to be adapted for integrating health into strategic documents and projects subject to environmental assessment

HIA enables a structured and systematic approach to consider how a plan or programme or project will affect health. It enables the policy-maker to understand the potential effects and to take account of the complex and dynamic nature of health, well-being and living environments

and the multiple interactions. It also allows implementing three key principles that are in line with the recommendations for advancing the application of science towards more integrated and collaborative approaches to environmental and public health protection (Chapman et al., 2016; Burke et al., 2017; Keshavarz, 2019):

(1) A comprehensive and dynamic approach to health, in which health is seen as the result of cumulative exposure to environmental, socio-economic and individual health determinants, likely to influence health positively or negatively;

(2) An integrated approach to public health and environmental issues, which aims to promote the health and environmental co-benefits of planning policies and development, projects choices;

(3) A system thinking approach, which allows us to consider any living environment or development project as a complex, dynamic system, taking into account all the interactions between its components, health determinants and health.

The practical guidelines for implementing HIA in EAs (Environmental Assessments) are presented in Part II of the guidelines.

This adapts the HIA approach to the five-step EA process (*E1-Screening, E2-Scoping, E3-Preparing the report & Public hearing, E4-Assessment of the report & Issuing recommendations and E5-Monitoring/follow up*). It also shows the three horizontal issues (Governance, Public Participation and Expertise & Data) to be activated at each of five steps (Figure 7).

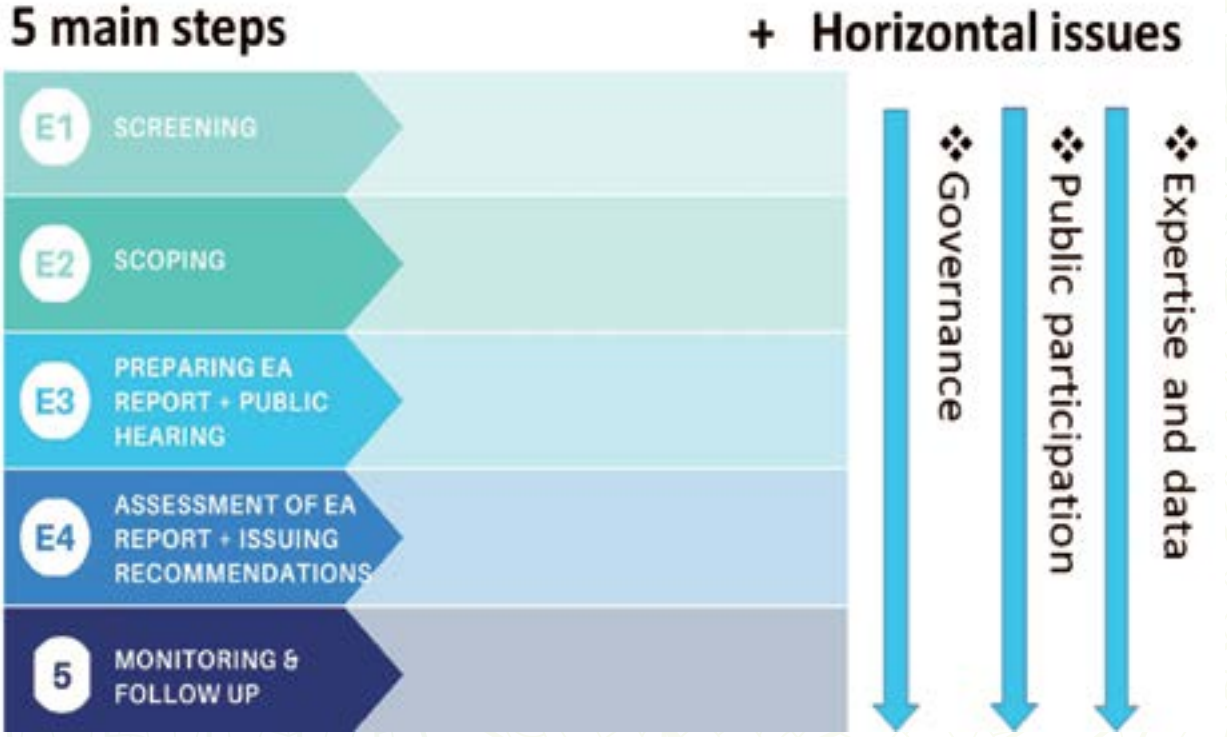


Figure 7: HIA process adapted to fit the five-step Environmental Assessment (EA) procedure proposed by the guidelines.

STEP-BY-STEP DESCRIPTION OF HEALTH IN EA FRAMEWORK IN A NUTSHELL

The table below (Table 2) summarises the 5 main steps (main tasks and roles of the various players) and the 3 cross-cutting issues. They are presented in detail in Part II of this document.

Table 2: Step-by-step description of Health in EA Framework in a nutshell.

EA step	Main objectives to ensure the integration of Health in EA report	Input (in line with the resolution 2019)	Stakeholders main tasks (E-Auth, H-Auth, PA, Cons)	Recommended tools (details in part II)	Output
E1-Screening **EA optional** (annexe II of EAC) or **mandatory** (annexe I of EAC SEA (chapter III of EAC, Art. 18-29)	Determine in broad terms whether the project/strategic document is likely to have an impact on the health of current and future populations, by looking at the potential effects of the project/ strategic document on different determinants of health. The population analysis should include vulnerable groups and those most likely to be affected by the project/strategic document.	Screening application + Draft project/ Strategic document	- PA or Cons prepare a screening application in which health elements are clearly highlighted with the support of 4 tools recommended by the H-Auth and send it to the H-Auth & E-Auth	- Screening application form (E1AT1) - Identification of the main health domains of expertise (E1HI_DE1) - Health & Environment Data for first Baseline (E1-2HI_DE2) - Screening and Scoping health inequalities assessment grid (E1-2AT2)	Screening Decision to Go or not into SEA (including HIA), taken by E-Auth and H-Auth
			- H-Auth assesses the screening application using the dedicated core tool 1 and decide to go or not in HIA according to the legislation and their own judgement regarding health expertise if yes: (1) H-Auth informs PA & Cons about the next steps and reminds them of the tools available to integrate the health issue; and (2) Launch of the HIA-Governance body If no: H-Auth reminds PA & Cons the importance to integrate health issues in the project/strategic document	- **Analysis of Screening and SEA Scoping Application (E1-2CT1) Core tool 1** - Step-by-step Governance (E1-5HI_G)	

EA step	Main objectives to ensure the integration of Health in EA report	Input (in line with the resolution 2019)	Stakeholders main tasks (E-Auth, H-Auth, PA, Cons)	Recommended tools (details in part II)	Output
E2-Scoping **EA mandatory** (annexe I of EAC)	Identify: - the determinants of health that could be most affected, positively or negatively, by the project or strategic document - the possible methods for impact appraisal - the expertise required. Bring stakeholders together in a steering group (HIA governance body). The scoping step is critical as it sets the scene for the following steps.	Scoping application + Working version of Projects/ Strategic document = scoping report	- PA / E-Auth / H-Auth organise a prior scoping meeting with the help of the tools in order to: o Identify the main components of the project/strategic document and how they are linked to health determinants o Set the main health and environmental priorities - H-Auth organises the activity of the HIA-Governance body	- Step-by-step Governance (E1-5HI_G)	Scoping opinion by E-Auth and H-Auth PA produces ToRs for the Consultants/ experts in charge of the SEA report, including health concerns and expertise required
			- PA and Cons prepare a scoping application that clearly highlights the components of the project/ strategic document, the health determinants that could be most affected, positively or negatively, by the project/strategic document, and the methods envisaged for impact appraisal. . PA and Cons can use the different tools recommended by the H-Auth to produce the scoping application, particularly the Causal Model (Core tool 2) and the Health Determinant Sorting grid (Core tool 3).	- **Template for health in Scoping Report (E2CT2) Core Tool 2** - **Causal Model (E2CT3) Core tool 3** - **Health Determinant Sorting grid (E2CT4) Core tool 4** - Screening and Scoping health inequalities assessment grid (E1-2AT2) - Health & Environment Data for first Baseline (E1-2HI_DE2) - Basic requirements to mobilise expertise (E2-3HI_DE3) - Methodologies for appraisal (E2AT3)	

EA step	Main objectives to ensure the integration of Health in EA report	Input (in line with the resolution 2019)	Stakeholders main tasks (E-Auth, H-Auth, PA, Cons)	Recommended tools (details in part II)	Output
			- H-Auth assesses the scoping application using the dedicated core tool 1; if necessary, it requires additional demands to complete the submission. Then, it provides the scoping opinion.	- **Analysis of Screening and SEA Scoping Application (E1-2CT1) Core tool 1**	
E3-Preparing EA report	Produce an EA report that considers health and presents the results of the health impact assessment..	Scoping opinion + ToRs for SEA report including health concerns and required expertise	- In line with the scoping opinion and the ToRs, PA and Cons prepare an EA report highlighting the findings of the assessment, using the Impact assessment matrix (Core tool 4) and the Health in EA report template (Core tool 5). . - If needed, expertise is mobilised using the tool Basic requirements to mobilise expertise	- **Impact assessment matrix (E3CT5) Core tool 5** - **Health in EA report template (E3CT6) Code tool 6** - Basic requirements to mobilise expertise (E2-3HI_DE3)	Draft EA report compliant with EAC
			- H-Auth checks the coherence of the application and ToRs to prepare the report	No tool	
E3-Public hearing	Inform the community and gather their concerns, including health concerns,	Draft project and strategic document +	- PA, E-Auth and/or H-Auth publishes the draft EA report - The PA/Cons is responsible for organising the public hearing and coordinating the consultation and facilitates the public hearing	- Step-by-step Public Participation and active communication (E1-5HI_PP) - Step-by-step Governance (E1-5HI_G)	

EA step	Main objectives to ensure the integration of Health in EA report	Input (in line with the resolution 2019)	Stakeholders main tasks (E-Auth, H-Auth, PA, Cons)	Recommended tools (details in part II)	Output
	in order, for the PA/Cons, to modify the project/ strategic document if necessary.	Draft EA report compliant with EAC (Annex III Eap report)	The H-Auth ensures that health is included in the presentation during the public hearing and how health is considered in the PA presentation of the project/strategic document and its EA, addressing the following questions: - Presentation of baseline health data - Highlighting the key health determinants affected - Presentation of the final outcome of the causal model - Presentation of potential health impacts (e.g. results of impact modelling) - Presentation of scenarios and proposals for avoiding, reducing and compensating for health impacts with alternatives and monitoring plan The H-Auth participates in the public hearing, bringing in internal expertise according to the main health issues.		Minutes of the public hearing prepared by the PA Draft project/ strategic document Final EA report

EA step	Main objectives to ensure the integration of Health in EA report	Input (in line with the resolution 2019)	Stakeholders main tasks (E-Auth, H-Auth, PA, Cons)	Recommended tools (details in part II)	Output
			- PA updates the project/strategic document with the results of the public hearing	No tool	
E4-Assessment of the report & Issuing recom-mendations	Provide a quality control of the final EA Report and project/strategic document. H-Auth focuses on the integration of health concerns in the final EA report and provides a health statement with recommendations on the draft project/strategic document.	EA report compliant with EAC (Annex III Eap report)	- PA proposes a final project/ strategic document	No tool	Health statement (quality control and issuing of recommen-dations)
			- E-Auth and/or H-Auth appoints the expert commission prepared in the previous step	- Step-by-step Public Participation and active communication (E1-5HI_PP) - Step-by-step Governance (E1-5HI_G)	
			- H-Auth assesses the health part of the EA report with the core tool 6	- **EA Report assessment grid (E4CT7) Core tool 7**	
			- H-Auth takes into account the minutes of the public hearing and their experience of the public hearing to produce their health statement using the core tool 7 - E-Auth and H-Auth collaborate or exchange on the recommendations and send final health statement - E-Auth and H-Auth will publish the statement on the website	- **Template for NCDC Health Statement (E4CT8) Core tool 8**	

EA step	Main objectives to ensure the integration of Health in EA report	Input (in line with the resolution 2019)	Stakeholders main tasks (E-Auth, H-Auth, PA, Cons)	Recommended tools (details in part II)	Output
E5- Monitoring/ follow up of the implementation of the project/ strategic document	E-Auth and H-Auth is part of the governance of the project/ strategic document implementation, managed by the PA	Approved project/ strategic document with a Monitoring plan	- PA launches the implementation of the project/strategic document - PA, E-Auth and H-Auth launch the Regular steering committee meetings to follow-up and monitor the implementation of the project/strategic document	- Step-by-step Public Participation and active communication (E1-5HI_PP) - Step-by-step Governance (E1-5HI_G)	Regular steering committee meetings to follow-up and monitor
			- E-Auth and H-Auth collaborate to follow-up and monitor the implementation of the project/ strategic document using the core tool 9	- **Monitoring & follow up of implementation (E5CT9) Core Tool 9**	

The list of tools per step

E1 - Screening

Additional Tool

Screening Application Form (E1AT1)

E1-2 - Screening and Scoping

Core Tool

Analysis of Screening and/or Scoping Application (E1-2CT1)

Additional Tool

Screening and Scoping health inequalities assessment grid (E1-2AT2)

Horizontal Issue - Data & Expertise

Identification of the main health domains of expertise (E1HI_DE1)

Health & Environment Data for first baseline (E1-2HI_DE2)

E1-5 - Screening, Scoping, Preparing report and Public hearing, Assessing Report and Issuing Recommendations, Monitoring

Horizontal Issue - Governance

Step-by-step Governance (E1-5HI_G)

Horizontal Issue - Public Participation

Step-by-step Public Participation and active communication (E1-5HI_PP)

E2 - Scoping

Core Tools

Template for health in Scoping Report (E2CT2)

Causal Model (E2CT3)

Health Determinant Sorting grid (E2CT4)

Additional Tool

Methodologies to prepare impact appraisal (E2AT3)

E2-3 - Scoping, Preparing report and Public hearing,

Horizontal Issue - Data & Expertise

Basic requirements to mobilise expertise (E2-3HI_DE3)

E3 - Preparing report and Public hearing,,

Core Tools

Impact assessment matrix (E3CT5)

Template for Health in EA report (E3CT6)

E4 - Assessing Report and Issuing Recommendations

Core Tools

EA Report assessment grid (E4CT7)

Template for NCDC Health Statement (E4CT8)

E5 - Monitoring

Core Tool

Monitoring & follow up of implementation (E5CT9)

The list of tools per user (NCDC, PA/Consultant, All users)

National Center for Disease Control and Public Health

E1-2 - Screening and Scoping

Core Tool

- Analysis of Screening and/or Scoping Application (E1-2CT1)

E1-5 - Screening, Scoping, Preparing Report and Public Hearing, Assessment of Report and Issuing Recommendations, Monitoring

Horizontal Issue - Governance

- Step-by-step Governance (E1-5HI_G)

Horizontal Issue - Public Participation

- Step-by-step Public Participation and active communication (E1-5HI_PP)

E4 - Assessing Report and Issuing Recommendations

Core Tools

- EA Report assessment grid (E4CT7)
- Template for NCDC Health Statement (E4CT8)

E5 - Monitoring

Core Tool

- Monitoring & follow up of implementation (E5CT9)

Planning Authority / Consultant

E1 - Screening

Additional Tool

- Screening Application Form (E1AT1)

E1-2 - Screening and Scoping

Additional Tool

- Screening and Scoping health inequalities assessment grid (E1-2AT2)

Horizontal Issue - Data & Expertise

- Health & Environment Data for first baseline (E1-2HI_DE2)
- Identification of the main health domains of expertise (E1HI_DE1)

E2 - Scoping

Core Tools

- Template for health in Scoping Report (E2CT2)
- Causal Model (E2CT3)
- Health Determinant Sorting grid (E2CT4)

Additional Tool

- Methodologies to prepare impact appraisal (E2AT3)

E3 - Preparing Report and Public Hearing

Core Tools

- Template for Health in EA report (E3CT6)
- Impact assessment matrix (E3CT5)

All users

E2-3 - Scoping, Preparing Report and Public Hearing

Horizontal Issue - Data & Expertise

- Basic requirements to mobilize expertise (E2-3HI_DE3)

Part II:

Practical implementation of health impact assessment

General presentation of the practical implementation of the guidelines

Introduction

This section presents practical ways to implement the health impact assessment (HIA) process in line with part I. The general goal is to ensure that health is taken into account in environmental assessment in a proportionate and robust manner. This part II aims to provide:

- Standard tools and templates;
- Coordination and exchange of practices and;
- General and step-by-step explanations and information.

The practical implementation of the guidelines (part II) should improve communication and coordination between the two main authorities - the Environmental Authority (NEA) and the Health Authority (NCDC) - and the Planning Authorities and Consultants involved in the environmental and health impact assessment process. It also aims to support effective communication with the public.

The Health Authority (NCDC) should be the main user of the practical implementation of the guidelines, both in its role of examining files and in its role of supporting good practice and quality control by other stakeholders, in particular the Planning Authorities and consultants. The practical implementation of the guidelines therefore proposes two types of operational objectives:

1. Support the examination of applications and recommendations by the Health Authority;
2. Contribute to a wide dissemination of good practices (to Planning Authorities, their consultants, and all other stakeholders involved in the creation of living environments) recommended by the Health Authority and inform the various stakeholders involved of the benefits of taking health into account and of their use.

Remember that the practical implementation of health impact assessment (HIA) in these guidelines could be used for strategic environmental assessment (SEA) and, more generally, for any environmental assessment likely to affect public health (e.g. EIA, sectoral application or any other project application).

The Practical implementation of the guidelines are structured according to the step-by-step process already presented in part I.

Overview of the practical implementation of the guidelines

The guidelines divide the implementation of health impact assessment into five steps.

- Step E1 Screening,
- Step E2 Scoping,
- Step E3 Preparing the report & Public hearing,
- Step E4 Assessment of the report & Issuing recommendations,
- Step E5 Monitoring/follow up of the implementation of the project/strategic document.

The sequence of steps is accompanied by the mobilisation of three horizontal issues (HI):

- Governance,
- Active communication and public participation,
- Expertise and data.

Table 3 below completes the Table 2 "Step-by-step description of Health in EA Framework in a nutshell" presented in Part 1 (page 26). Using a tailor-made flowchart for each step (column 3), it introduces how to implement the recommended tools for each of the five steps of the HIA procedure. The final column highlights good practice and the added value of this approach.

Table 3: The main input, tools (combined in a flowchart), output and added value of each step of the HIA process.

EA steps	Input (in line with EAC and Resolution 420)	Tools (see below for more details)	Output (in line with EAC and Resolution 420)	Good practices / added value
E1-Screening EA optional (EIA)	Screening application Draft Project/strategic document		Screening opinion on whether or not to proceed, taken by the environmental and Health Authorities	If HIA is engaged: H-Auth informs PA/Cons. about the next steps and reminds them of the tools available to integrate the health issues; and (2) Launch of the HIA-Governance body If not: H-Auth reminds PA/Cons. the importance to integrate health issues in the project/ strategic document
E2-Scoping EA mandatory (SEA)	Request to define the scope of application Working version of the project/strategy document		Scoping opinions from the environmental and Health Authorities Terms of reference for consultants	The creation of the governance body, the development and adoption of the HIA concept based on the determinants of health and social inequalities.
E3-Preparing the report	Framing opinion Terms of reference for the environmental assessment report, including health concerns and expertise required		Draft EA report in compliance with the regulation (EAC)	Discussions between the authorities, consultants and the public to prepare the report, taking into account the regulations, public health issues and questions expressed by the public affected by the project and this area.
E3-Public hearing	Draft strategic document Draft environmental assessment report in compliance with the regulations		Minutes of the public hearing Draft project/strategic document Final environmental assessment report	
E4-Assessment of the report & Issuing recommendations	Final Environmental assessment report in compliance with the regulations		Health statement (quality control and recommendations)	H-Auth takes into account the minutes of the public hearing and their experience of the public hearing to produce their health statement.
E5-Monitoring/follow up of the implementation of the project/strategic document	Approved project/ strategic document with monitoring plan		Regular meetings of the steering committee to ensure follow-up and monitoring. Note: this is not mandatory as per Resolution 420 but it is considered to be good practice.	Remobilization of the HIA governance body, led by the NCDC, to ensure the effective consideration of HIA results in the implementation of the project.

The tools of the practical implementation of the guidelines

Part II of the guidelines provides tools to facilitate the examination of the documents submitted. The tools are different types of documents: text, grid, table, matrix, spreadsheet file, form, information, recommendations and template with links to other documents on different websites and in the annexes of the guidelines.

The tools are designed taking into account health concerns and the roles of stakeholders in the HIA process. The main potential users of tools are Health Authorities, Environmental Authorities, Planning Authorities and Consultants, depending on their legal competencies and responsibilities.

The tools are optional: They should be considered as a proposal, a basis to be adapted by the stakeholders according to the specificity of the case under examination, the evolution of the stakeholders' practice and the evolution of the context, including regulations and new impact assessment guidelines.

The tools are a support: They should be seen as an operational means of implementing the various processes by the various stakeholders, supporting them and improving communication between them and their coordination within the framework of the HIA proposed in the guidelines.

The practical implementation of the guidelines provides three types of tools (see in annexes the list of tools per step and per user)

(1) the "**Core tools**" (CT) that deal with the essential processes of each step,
(2) the "**Additional tools**" (AT) that could help respond to a specific issue, and
(3) the "**Horizontal Issue tools**" (HI) that drive the implementation of the three step-by-step horizontal issues (Governance, Public participation and active communication and Data & expertise)

Environmental health tools

The main area of technical expertise of the tools is the Environmental health domain, with flexibility to include contributions from other areas of expertise where appropriate, including, but not limited to: health promotion, non-communicable diseases, infectious diseases, healthy urban design, and inequalities in environmental health.

Tools for horizontal issues (HI)

Governance

The aim of the "Governance" tool is to present, step-by-step, the governance tasks involving the HIA Governance Body (HIA-GB) and the various stakeholders. For each step, the tool presents the "philosophy of the HIA-GB", the "main activities of the HIA-GB" and the "role and relationship with stakeholders (Health Authority, Environmental Authority, Planning Authorities and Consultants, etc.)". The tool provides a link to operational resources for implementing governance activities: E1-5HI_G_Step-by-step Governance

Active communication and public participation

The "Active communication and public participation" tool serves as a reminder of why public participation is important and how it can be achieved throughout the process. The "Active communication and public participation" tool presents step-by-step the tasks to be carried out to improve dissemination and communication, encourage public participation and promote consultation with civil society. A step-by-step table sets out the role of the NCDC in encouraging public participation, consultation of civil society, etc. in the process.

To be sure there is active and large participation in public hearings, it is important to make advocacy on health determinants near the general population and their representatives and to develop awareness on the impact of environmental risks on the health of the population. In that spirit, creating and disseminating

information and communication on risk factors linking to the environment in an intersectoral approach will help to mobilise the general population.

The tool provides a link to other operational resources for implementing public participation and engagement activities: E1-5HI_PP_Step-by-step Public Participation and active communication

Expertise and data

A set of 3 tools on "Expertise and data'' field is proposed throughout the process to support the examination of the application with the collection and presentation of data on the environment and on the population of the territory. A specific tool helps to identify the areas of expertise potentially required to examine the application (E1HI_DE1). Another is dedicated to supporting health and environmental data for the first baseline (E1-2HI_DE2). The third aims to ensure the quality of the expertise mobilised (E2-3HI_DE3)".

Information and instructions for accessing and using the tools

The tools can be accessed via links in the flowchart, which describes the process at each step. A flowchart depicts the entry, exit and path of the process, as well as the decision node and the mobilisation of the various tools (Figure 8). On the flowchart, the process tool can be accessed by clicking on XXX next to the tool name.

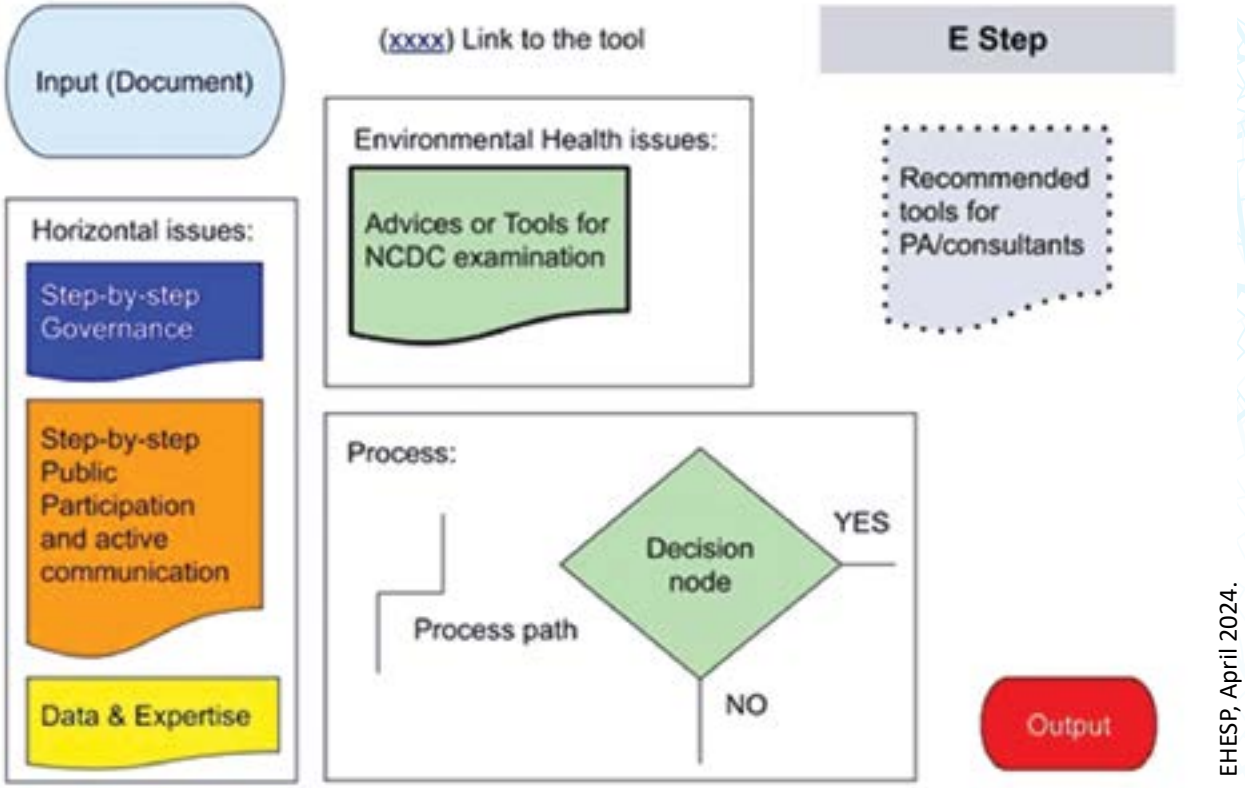


Figure 8: Description of the flowcharts framework and content.

The flowcharts are available online and in the appendix of the guidelines starting from the general page (Figure 9).

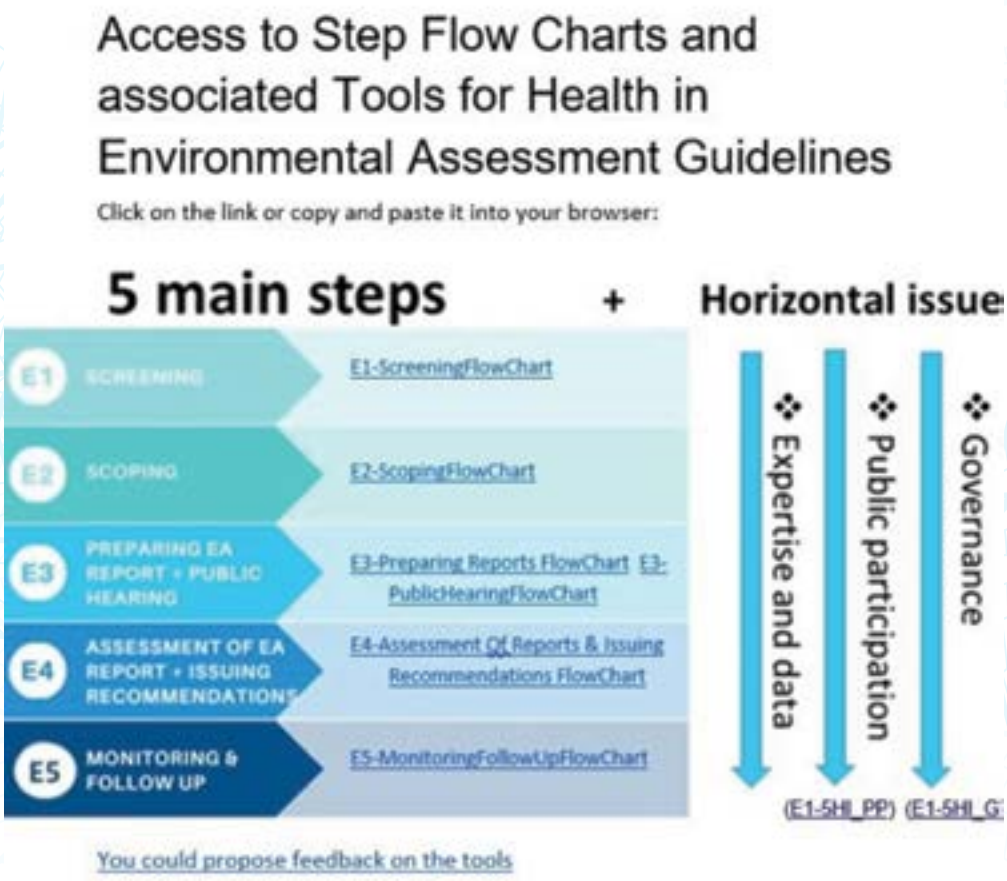


Figure 9: Main page to access the flowcharts.

By clicking on the link on the page (for example: E1: ScreeningFlowChart), you can access the flowchart for the step.

By clicking on the link in brackets in the bottom right-hand corner of the page, you can access the E1-5HI_G_Step-by-step Governance tool and the E1-5HI_PP_Step-by-step Public Participation and active communication tool.

The "Expertise and data" tools are accessible within each flowchart.
On the flowchart, the process tool can be accessed by clicking on XXX next to the tool name.
You can browse the tool online, but to work with it you need to download it.
You can give your opinion on the tools by clicking on:

aV1_2_Feedback of the tool.docx - Google Docs

Step E1: Screening

Key messages and challenges

- Screening is the step of the examination designed to determine whether a project is likely to have significant[1] effects on health at population level and, at the end of the step, to determine if HIA is necessary;

[1] "At this step, significance relies on informed, expert judgement about what is important, desirable or acceptable with regards to changes triggered by the project in question" (Cave et al., 2020, p.17).

- At the selection step, the level of uncertainty may be high, but the Authority's decision is made possible by the positive and negative determinants of health approach, with a grid for examining the project and gathering information to briefly justify the decision;
- Despite the initial examination step, the preliminary project and the application to the Ministry (the input for the step) provided by the Planning Authorities and/or the consultancy firm must meet quality requirements and the Authority may request additional information, assessments, data and expert opinions;
- The screening decision is made public and governance supports the examination by the Health Authority and the preparation of any subsequent steps.

Process

At the time of examination by the Health Authority's (NCDC) of the draft proposal and the screening application document submitted to the Ministry (the input of the step), the process aims to determine whether a health impact assessment is required, due to one or more likely significant health effects (Figure 10).

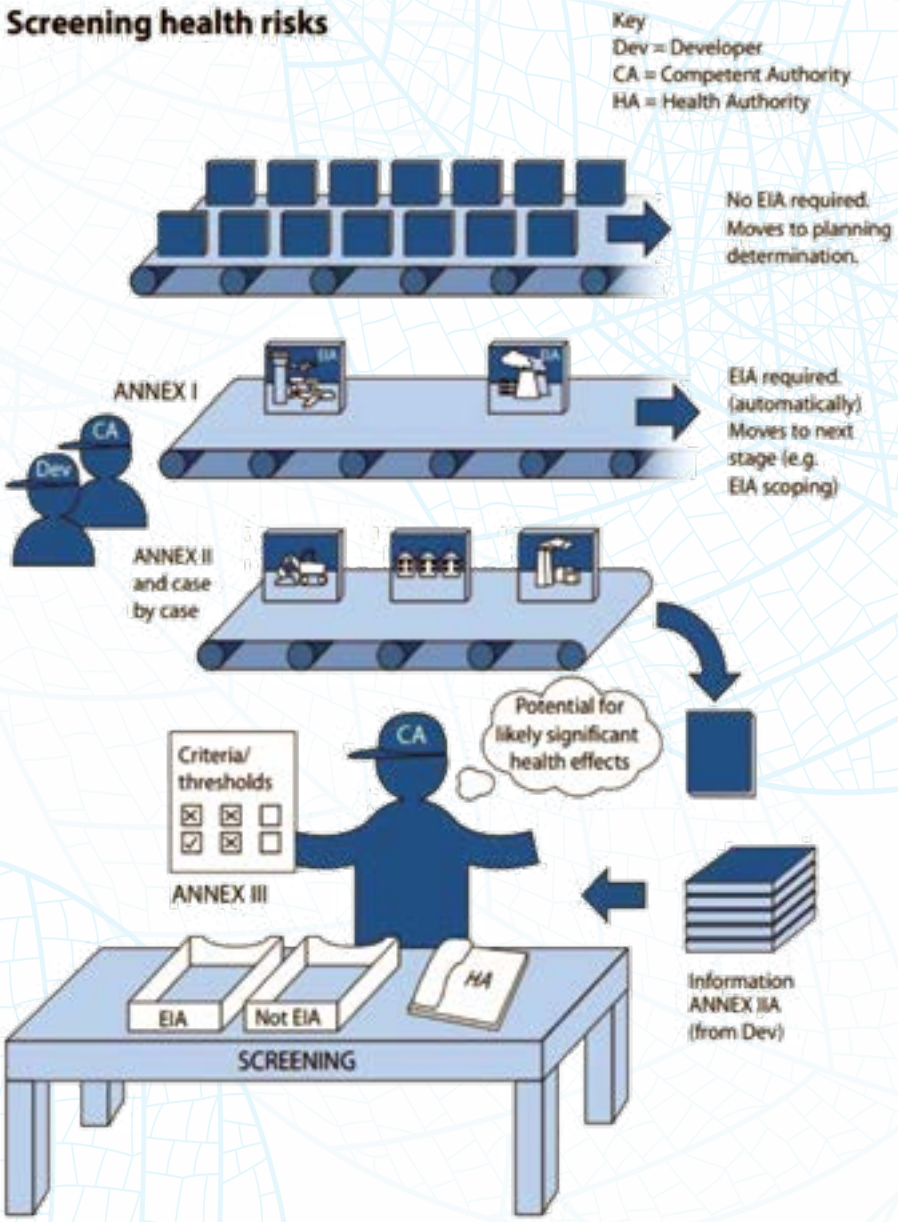


Figure 10: Screening (E1), key activities and good practice (Cave, 2020, page 26).

Governance:

Governance is still limited at this step (Tool: Step-by-step Governance (E1-5HI_G)). Governance is implemented to provide the opinion of the Health Authority by organising the examination of the application according to the project themes within the Health Authority institution and in coordination with the Environmental Authority. Governance supports the request (if necessary) for additional information from the PA/Cons. and compliance with the deadlines for receiving additional information from the PA/Cons.

Technical examination:

An application form ("Screening Application Form (E1AT1)") will be proposed by the Health Authority. The examination of the submission is based on an analysis of the draft proposal and the screening application document submitted to the Ministry using a grid ("Analysis of Screening and/or Scoping Application (E1-2CT1) (E1 core tool)"). The grid is used to identify the potential positive and negative impacts of the project on each health determinant. The grid is also used to gather information from the application in order to complete this initial analysis. The deliverable is the grid completed by the Health Authority, which briefly justifies the Health Authority's decision (screening opinion).

Depending on the quality of the draft proposal and the screening application document submitted to the Ministry, the Health Authority may request additional information from the PA/Cons. The Health Authority may also request additional information with supplementary tools concerning the "Health & Environment Data for first baseline (E1-2HI_DE2)" and the "Screening and Scoping health inequalities assessment grid (E1-2AT2)". An additional tool concerns the "Identification of the main health domains of expertise (E1HI_DE1)" to facilitate the next steps. Requesting additional information from the PA/Cons. to complete the preliminary design and the application to the Ministry can be time-consuming and lead to delays in the Authority's decision-making.

Active communication and public participation:

The screening opinion (output of the step) is published on the web and social media and sent to a mailing list, in a structured manner, with a brief description of the project and the screening procedure. NCDC's and NEA's screening opinions should be linked with each other in a way that civil society organisations and the general public can have a general picture of different aspects of the project.

Advice and resources

Access to tools

The flowchart (Figure 11) describes the step process and the links and tool code provide access to the tools. The flowchart is available online (E1_ScreeningFlowChart) and in the appendix of the guidelines.

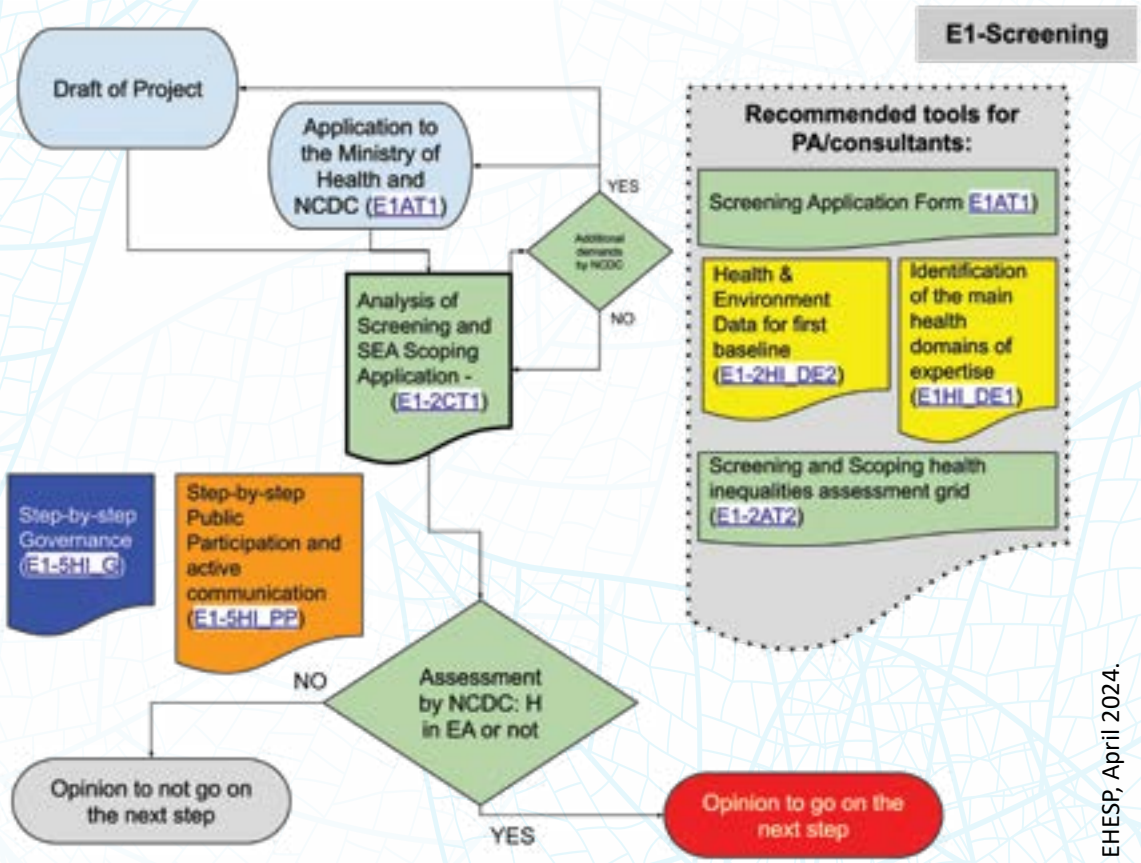


Figure 11: Flowchart of step E1.

Description of tools

The step process is supported by 1 core tool, 3 additional tools for technical examination (Table 4), and all step tools for governance and active communication and public participation.

Table 4: Description of tools, users and codes of tools for step E1.

E1 Screening tools	Tools for the NCDC examination	Recommended tools for PA/Cons.	Description	Tool code
Screening Application Form (E1AT1) (Additional Tool, not validated, work in process) **E1AT1_Screening Application Form.docx - Google Docs**		x	The tool is a model application form under the Environmental Assessment Code, applicable to strategic documents under the legislation of Georgia.	E1AT1
Analysis of Screening and/or Scoping Application (E1-2CT1) (Core tool) **E1-2CT1_Analysis of Screening and/or Scoping Application**	x		The tool is a text file that collects information on the project, identifies its potential impacts across 8 health determinants and draws conclusions.	E1-2CT1

Identification of the main health domains of expertise (E1HI_DE1) (Horizontal Issue Data & Expertise) **E1HI_DE1_ Identification of the main health domains of expertise**	x	x	The tool presents a list of areas of expertise in order to identify the main areas of healthcare expertise that could be mobilised in the next steps of the application.	E1HI_DE1
Health & Environment Data for first baseline (E1-2HI_DE2) (Horizontal Issue Data & Expertise) **E1-2HI_DE2_Health & Environment Data for first baseline_**		x	The tool presents a list of indicators inspired by the WHO's healthy cities, which can be used by PA/Cons. as a baseline for environmental health.	E1-2HI_ DE2
Screening and Scoping health inequalities assessment grid (E1-2AT2) (additional tool) **E1-2AT2_Screening and Scoping health inequalities assessment grid**		x	A turnkey spreadsheet tool that can be used by PA/Cons. to identify the potential impact of an urban development project on social inequalities in health.	E1-2AT2

Step E2: Scoping

Key messages and challenges

- Scoping is a key step in determining the content and scope of the application that the PA/Cons. will submit to the Authority for the next step;
- Co-draft of the project's causal model feeds into both the preparation of the selection of health determinants to be assessed as part of the next step and the communication to the public;
- At the start of the scoping process, setting up the governance body is crucial for all the subsequent steps of coordination and communication between all the stakeholders involved in implementing the HIA;
- Active communication with the public is prepared and initiated, taking into account the specific challenges of the project and the area concerned.

Process

The scoping step is both a highly interactive step with a governance body launched by involving the stakeholders, and a key activity, which enables the potential positive or negative effects of the project on health to be identified and assessed during the appraisal provided by consultants. The scoping provides the basis for the design of the HIA (assessment elements, means and costs, etc.) and underpins the HIA specifications provided at the next step (Figure 12).

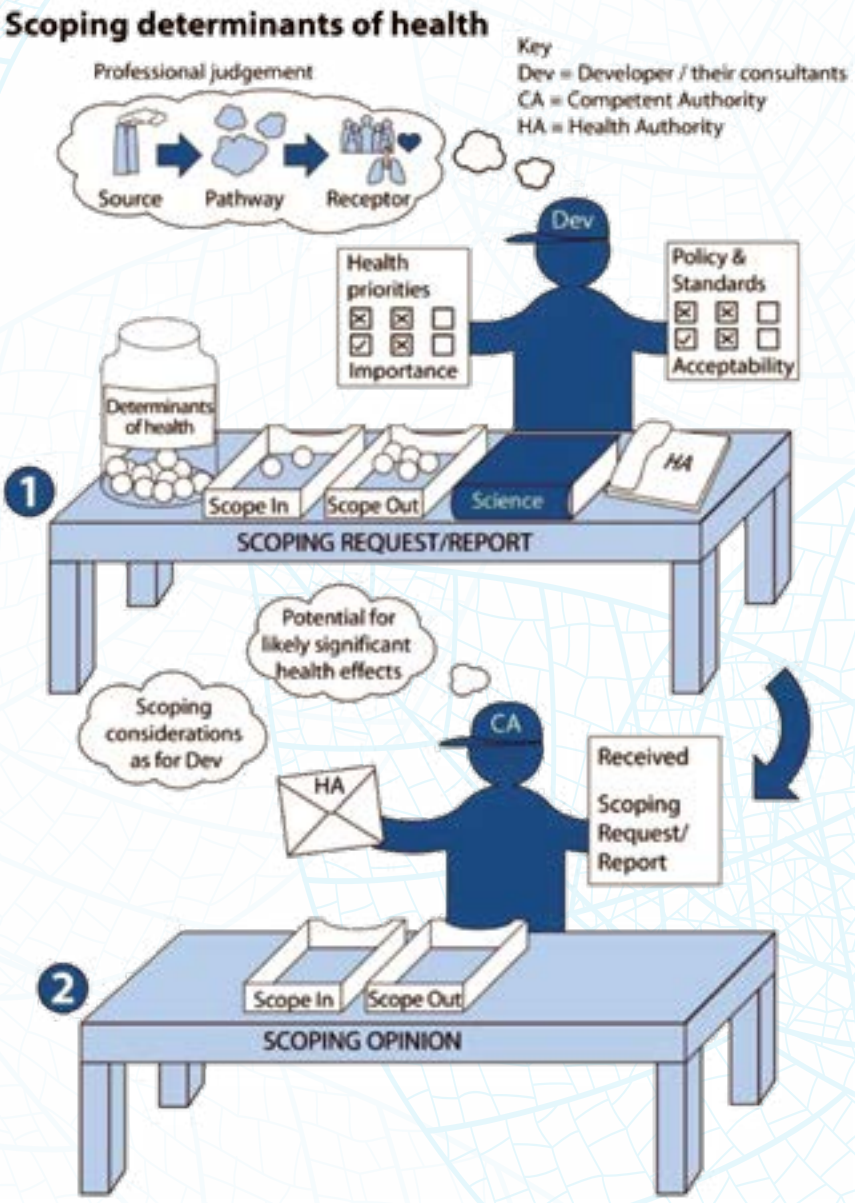


Figure 12: Scoping (E2), key activities and good practice (Cave, 2020, page 32).

Governance:

The interactive process between stakeholders is supported by the governance described in the "Step-by-step Governance (E1-5HI_G)" tool. At the start of the scoping step, the project HIA coordinator is appointed within the NCDC. The appointed HIA coordinator first identifies and convenes the HIA Governance Body (HIA GB) team, involving stakeholders from within and outside NCDC, to initiate the HIA process. The governance body is part of the co-drafting of the causal model led by the PA/Cons. and identifies the key determinants of health to be studied during the impact assessment (step 3). The HIA coordinator, with the support of the HIA working group, identifies the expertise required for the next steps.

Technical examination:

A core tool in the scoping step is the "Template for health in Scoping Report (E2CT2)(core tool 2)". This tool describes the main items to address to ensure that health will be properly considered by the Pa/Cons. in the Scoping Report.

Next core tool in the scoping step is the "Causal Model (E2CT3) (core tool 3)". This tool is implemented by the PA/Cons. involving the project's governance body, including, as far as possible, the Health and Environmental Authorities. The aim of the causal model is to provide a shared vision of the key components of the project by the stakeholders and to illustrate the potential pathways of impact on health through the health determinant in question. The final graphic representation of the causal model can be a figure in the EA report and used in communication activities about the project and the HIA.

The last core tool in the scoping step is the "Health Determinant Sorting grid (E2CT4) (core tool 4)". This tool is used by the consultants because of its technical nature. Taking into account different selection criteria, including the conclusions of the causal model, the sorting grid enables the selection of health determinants on which the impact assessment will focus in the next step. It enables the user to begin to identify the likely significant effects on human health that will result from the activities of the project/ policy/programme, and any change in the determinant of health.

As Georgian regulations provide for the possibility of directly entering the process at the scoping step in the case of a strategic document, the "Analysis of Screening and/or Scoping Application (E1-2CT1) (E1 & E2 core tool)" is also proposed at this step. This tool is used to identify the potential positive and negative impacts of the project on each health determinant. The grid is also used to gather information from the application in order to complete this initial analysis. The deliverable is the grid completed by the Health Authority, which provides summary information from the application.

Additional tools:

In addition to the two additional tools proposed and described in step E1 ("Health & Environment Data for first baseline (E1-2HI_DE2)" and "Screening and Scoping health inequalities assessment grid (E1-2AT2)" also proposed in step E2), two other additional tools are proposed: (1) to mobilise expertise ("Basic requirements to mobilise expertise (E2-3HI_DE3)" tool), (2) to give a general presentation of the "Methodologies to prepare impact appraisal (E2AT3)".

Active communication and public participation:

When the HIA is launched, active communication and public participation (Tool: "Step-by-step Public Participation and active communication (E1-5HI_PP)") are prepared (identification and contact of potential stakeholder groups) and the related documents must be made public and widely disseminated through traditional media and digital channels. It is recommended to put the emphasis on the clarity of information and to announce in advance how and when feedback can be provided. It is also recommended to produce a shorter version of the draft strategic document and fact sheets on main findings for communication purposes. NCDC's and NEA's scoping opinions should be linked with each other in a way that civil society organisations and the general public can have a general picture of different aspects of the project.

Guidance and resources

Access to tools

The flowchart (Figure 13) describes the step process and the links and tool code provide access to the tools. The flowcharts are available online (E2_ScopingFlowChart) and in the appendix of the guidelines.

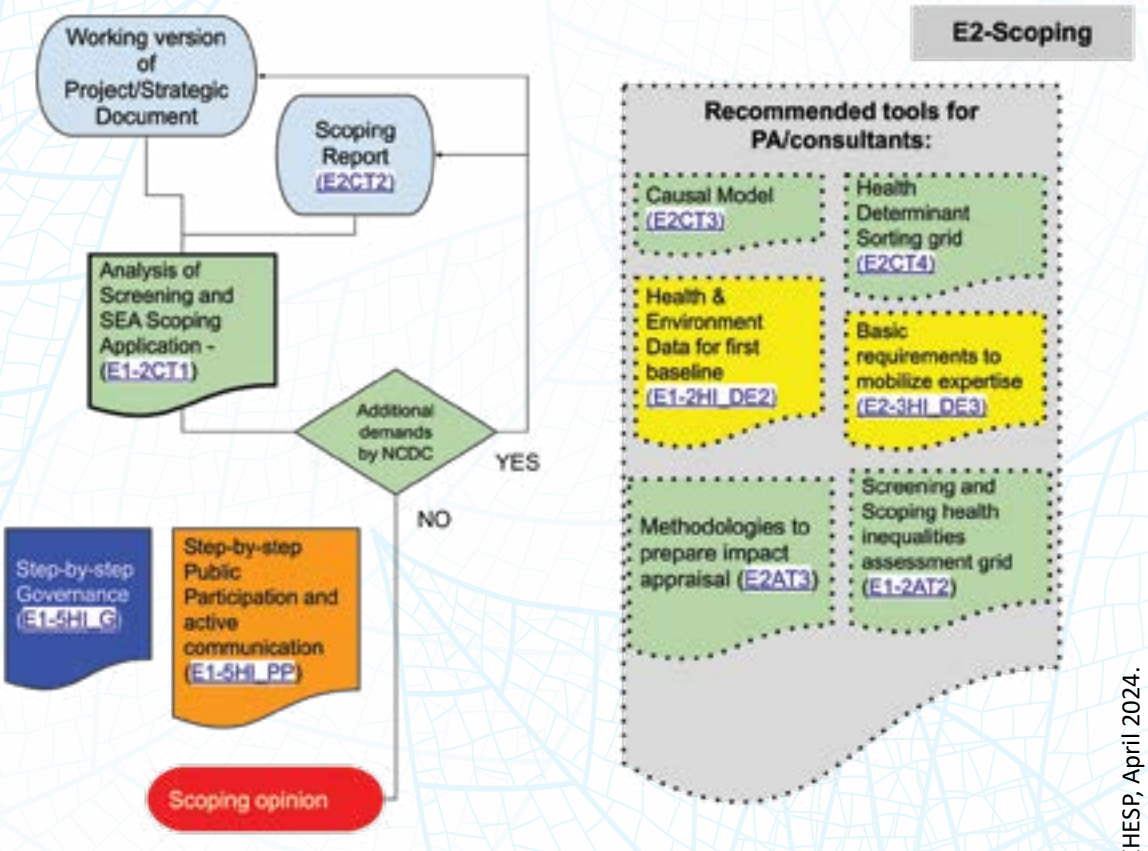


Figure 13: Flowchart of step E2

Description of tools

The step process is supported by 3 core tools, 5 additional tools for technical examination (Table 5) and all the step tools for governance and active communication and public participation.

Table 5: Description of tools, users and codes of tools for step E2.

E2 framing tools	Tools for the NCDC examination	Recommended tools for AP/ Cons.	Description	Tool code
Health in Scoping Report (E2CT2) (core tool 2) **E2CT2_Health in Scoping Report template**		**x**	This tool describes the main items to address to ensure that health will be properly considered by the expert/ consultant in the Scoping Report	(E2CT2)
Causal Model (E2CT3) (core tool 3) **E2CT3_Causal Model**		**x**	The causal model is a visual way of diagramming the links between the project and health: Project components → Direct effects → Effects on health determinants → Impact on health.	E2CT3

Health Determinant Sorting grid (E2CT4) (core tool 4) **E2CT4_Health Determinant Sorting grid**		x	This is a turnkey tool in spreadsheet form that supports the choice of the health determinants selected for appraisal in the next step according to 3 ranges of items: Inclusion criteria; Exclusion criteria; Preparation for impact assessment.	E2CT4
Analysis of Screening and/or Scoping Application (E1-2CT1) (E1-2 core tool) **E1-2CT1_Analysis of Screening and/or Scoping Application**	x		The tool is a text file that collects information on the project, identifies its potential impacts across 8 health determinants and draws conclusions.	E1-2CT1
Health & Environment Data for first baseline (E1-2HI_DE2) (Horizontal Issue Data & Expertise) **E1-2HI_DE2_Health & Environment Data for first baseline**		x	The tool presents a list of indicators inspired by the WHO's healthy cities, which can be used by PA/Cons. as a baseline for environmental health.	E1-2HI_DE2
Basic requirements to mobilise expertise (E2-3HI_DE3) (Horizontal Issue Data & Expertise) **E2-3HI_DE3_Basic requirements to mobilize expertise**	x	x	As the need for expertise may arise at this step, the "Identifying and mobilising expertise" tool sets out best practice in the use of experts and consultants and proposes a declaration on honour to guarantee their commitment and responsibility.	E2-3HI_DE3
Screening and Scoping health inequalities assessment grid (E1-2AT2) (additional tool) **E1-2AT2_Screening and Scoping health inequalities assessment grid**		x	A turnkey spreadsheet tool that can be used by PA/Cons. to identify the potential impact of an urban development project on social inequalities in health.	E1-2AT2

Methodologies to prepare impact appraisal (E2AT3) (additional tool) **E2AT3_ Methodologies to prepare impact appraisal**		**x**	The supplementary tool provides some information on assessment methodologies, identifying the risks and the methodologies/profiles of the specialists who will be involved in the assessment.	E2AT3

Step E3: Preparing report and Public hearing

Key messages and challenges

- The PA/Cons is preparing the report based on its own expertise and the two core tools in order to take better account of health;
- The Health Authority recommends and provides access to the two core tools for PA/Cons. and examines the proposal in the draft report;
- The governance body coordinates the process, and prepares and hosts the public hearing;
- The public hearing is prepared using the active communication and public participation tool.

Process

The outcome of the "Preparing report" step is a draft EA report provided by the PA/Cons. that complies with the regulation and takes health into account. The practical implementation of the guidelines help PA/Cons. to take better account of health in the EA project through recommendations on content: firstly, a "Impact assessment matrix (E3CT5)" and, secondly, a mode of representation with an "Health in EA report template (E3CT6)". If an expertise outside the NCDC is mobilised by the PA/Cons, the same tool is suggested ("Basic requirements to mobilise expertise (E2-3HI_DE3)").

On the basis of the recommended tools, the results of the previous steps and its own expertise, the Health Authority's role in this step is firstly to recommend good practice using the two core tools and secondly to examine and make a first check of the quality of the draft EA report provide by the PA/Cons, before the official quality assessment produced in the next step.

At the end, the stakeholders, including the Health and Environment Authorities, take part in the public hearing organised by the PA/Cons.

Governance:

According to the governance tool ("Step-by-step Governance (E1-5HI_G)"), HIA-GB, led by the NCDC HIA coordinator, organises a meeting prior to finalisation of the draft EA report to discuss the outline of the EA report. The NCDC HIA coordinator provides the necessary tools for the preparation of the EA report by the PA/Cons..

The appointed NCDC HIA coordinator discusses the preparation of the public hearing and clarifies the role of each partner before the public hearing.

Technical examination:

At this step, the Health Authority will provide its support - by mobilising governance or through personal email exchanges - and will examine the application from a technical point of view in order to validate the health considerations contained in the draft EA report.

The Health Authority supports the PA/Cons. by promoting the use of the core tool called "Health in EA report template (E3CT6)", "Impact assessment matrix (E3CT5)", and, if necessary, "Basic requirements to mobilise expertise (E2-3HI_DE3)" with a quality guarantee.

The "Impact assessment matrix (E3CT5)" tool proposes a way of representing, in the report, the variables specific to the categories of health determinants and several elements for examining the impacts on health (explanatory mechanisms, indicators, sources of information, population groups concerned and timetable).

The "Health in EA report template (E3CT6)" tool proposes strengthening health considerations in the environmental assessment report by adding elements to the report template used in the environmental impact assessment dedicated to SEA (UNECE, 2023).

In addition to providing access to and promoting the tools recommended below, the Health Authority will carry out a technical examination to check that the application is consistent with the ToRs used to prepare the EA report.

Additional tools:

An additional tool is proposed to mobilise expertise ("Basic requirements to mobilise expertise (E2-3HI_DE3)" tool) in the same way as the previous step.

Expertise and data

Support sheets on 9 major health determinants **extracted and adapted from the French National guidelines (EHESP-MoH) "Agir pour un urbanisme favorable à la santé 2014"** *(Action for healthy urban planning 2014)* are available in the "Impact assessment matrix (E3CT5)" tool and in the annexes of the guidelines page 211-281":

1. "Outdoor air quality"
2. "Water management and quality"
3. "Soil quality and use"
4. "Quality of the Sound Environment"
5. "Waste management"
6. "Non-ionising radiation management"
7. "Adaptation to climate change and energy management"
8. "Active lifestyle, transport and access to facilities/services"
9. "Housing and Living Environment"

These support sheets aim to explain, for each of the determinants, the main issues and links with health, refer to the latest scientific knowledge and legislation in force in Georgia and the EU and provide a set of elements and indicators on which to base the evaluation. They can be used in particular to collect data for baseline, temporary and permanent impact assessment.

Active communication and public participation:

At this step, active communication and public participation are more about preparing and anticipating the public hearing and clarifying the role of each partner (Step-by-step Public Participation and active communication (E1-5HI_PP)).

Guidance and resources

Access to tools

The flowchart (Figure 14) describes the process for step E3 Report preparation and the links and tool codes provide access to the tools. The flowchart is available online (E3_Preparing) and in the annex of the guidelines.

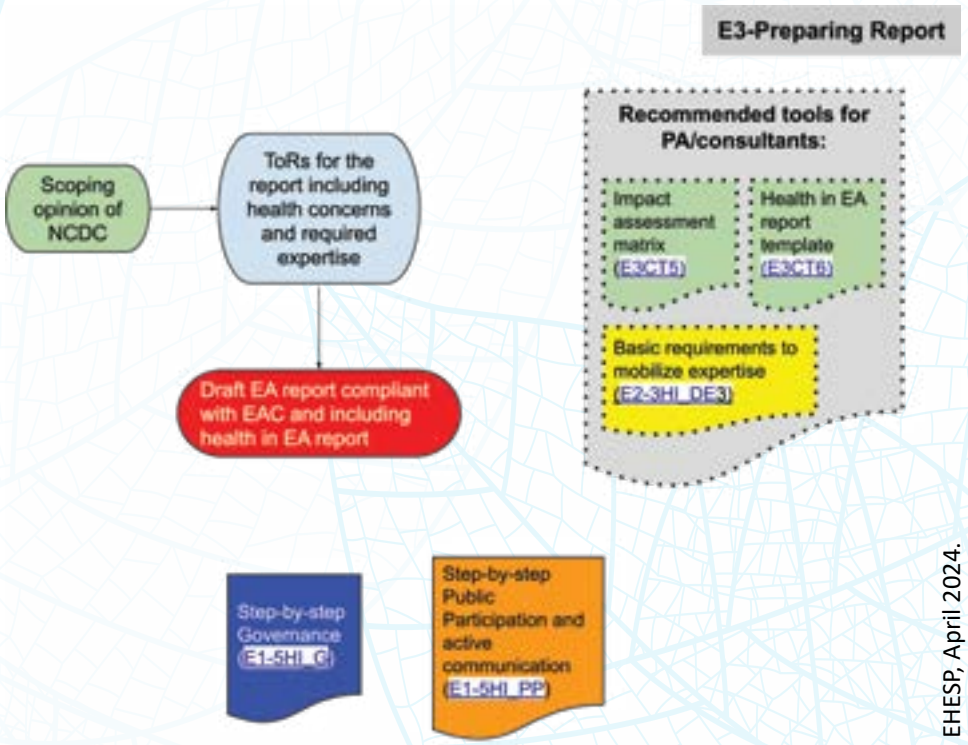


Figure 14: Flowchart of step E3.

Description of tools

The E3 EA Report Preparation process is supported by 2 core tools recommended by the NCDC for use by PA/Cons. one additional tool relating to expertise (Table 6) and all the tools in Governance and Active Communication and Public Participation.

Table 6: Description of tools, users and codes of tools for step E3.

Step E3: Preparing the report and the public hearing	Tools for the NCDC examination	Recommended tools for AP/ Cons.	Description	Tool code
Impact assessment matrix (E3CT5) (core tool 5) E3CT5_Impact assessment matrix_		x	Editable document with 3 spreadsheets to represent the variables specific to the categories of health determinants and several elements relating to impacts: explanatory mechanisms, indicators, sources of information, population groups concerned and timetable.	E3CT5

Health in EA report template (E3CT6) (core tool 6) E3CT6_Health in EA report template		**x**	This tool describes the main points (6 boxes) that should be added, if necessary, to ensure that health is properly taken into account in the SEA report prepared by the expert/consultant.	E3CT6
Basic requirements to mobilize expertise (E2-3HI_DE3) (Horizontal Issue Data & Expertise) E2-3HI_DE3_Basic requirements to mobilize expertise	x	x	As the need for expertise may arise at this step, the "Identifying and mobilising expertise" tool sets out best practice in the use of experts and consultants and proposes a declaration on honour to guarantee their commitment and responsibility.	E2-3HI_DE3

Public hearing (E3 continuous step)

Key messages and challenges

- The involvement and coordination of all the authorities are crucial to the preparation, conduct and follow-up of the public hearing;
- The public hearing must be organised in a way that allows the participation of the different stakeholders (or groups of stakeholders) identified within the draft EA report likely to be affected by the project;
- One or more technical experts should be hired to lead the public hearing, based on their area of expertise on the project's key health issues.

Process

The PA/Cons. is responsible for organising the public hearing and coordinating the consultation according to the route described in the regulations and guidelines (i.e. the UNECE Guidelines on the Practical Application of Strategic Environmental Assessment in Georgia, UNECE, 2023). The draft environmental assessment report and the draft project or strategic document are subject to consultation at the public hearing, with the participation of the Health Authority.

Governance:

The PA/Cons. in charge of public hearing associates the NCDC HIA coordinator (Step-by-step Governance (E1-5HI_G)).

Technical examination:

The NCDC HIA coordinator could mobilise one or more NCDC technical experts to participate in the public hearing based on their area of expertise on the main health issues addressed in the environmental assessment report and the preliminary project document. According to the flowchart "E3_PublicHearingFlowChart - Google Drawings", the preparation of the public hearing should at least address these different

issues: “Highlighting key health determinants affected”, the “Presentation of the final causal model”, the “Presentation of the potential health impacts”, and the “Presentation of the scenarios (avoid, reduce and compensate)”.

Active communication and public participation:

The Health Authority should ensure that all relevant stakeholders are able to familiarise themselves with both documents, including the presentation of the likely health effects and the stakeholders (or stakeholder groups) likely to be affected. The territorial aspect of the likely health effects and the stakeholders (or stakeholder groups) likely to be affected should also be taken into account when determining the location of the public hearing. The public hearing should be held at or near the site likely to be significantly affected, and at a time that allows for the participation of stakeholders (or stakeholder groups) likely to be affected, including vulnerable populations, who could be geographically and socially isolated and left remote from the public health system and the public consultation bodies (Step-by-step Public Participation and active communication (E1-5HI_PP)).

Guidance and resources

Access to tools

The flowchart (Figure 15 E3_PublicHearingFlowChart - Google Drawings) outlines the step process and general guidance to support effective active communication and public participation on health issues during the public hearing.

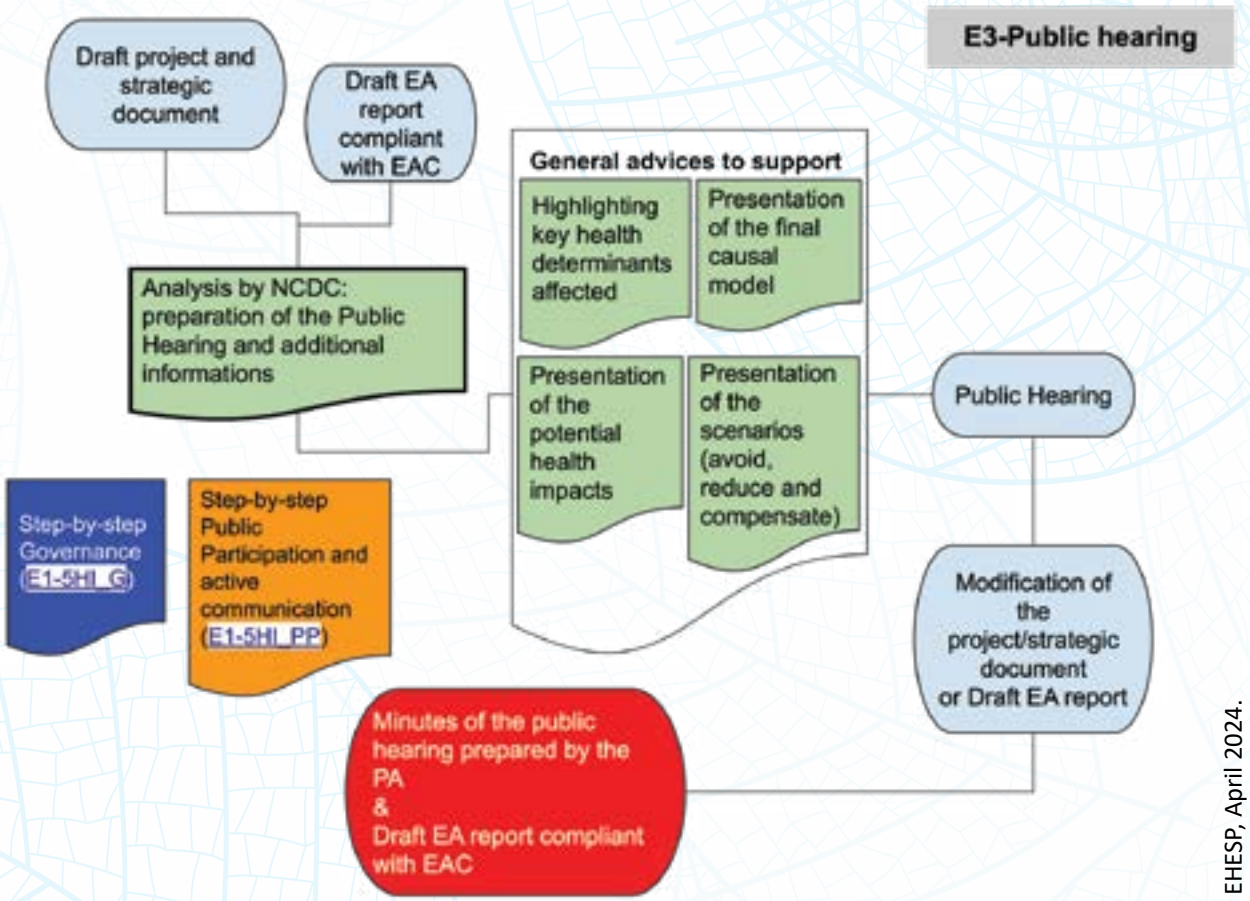


Figure 15: Flowchart of step E3-Public Hearing.

Description of tools

The "E3 Public Hearing" process is supported by the tools of governance, active communication and public participation (Table 7).

Table 7: Description of tools, users and codes of tools for step E3 (Public Hearing).

Stakeholders main tasks (Environmental Authority, Health Authority, PA, Cons)	Tools	Output
Health Authority ensures that health would be integrated in the presentation and discussion, for instance: • Presentation of the health baseline data • Health impacts • Alternatives • Monitoring plan	How to integrate health in the PA/Cons. presentation of the project/strategic documents and its EA: • Highlighting key health determinants affected • Presentation of the final logic model • Presentation of the potential health impacts (results of modelling impacts for example) • Presentation of the scenarios and suggestions to avoid, reduce and compensate health impacts (mitigation measures)	Health integrated in the presentation of the PA/ Cons. • Health concerns integrated in the minutes of the public hearing • PA updates the draft project/ strategic document and final EA report with the results of the public hearing

Step E4: a-Assessment of report and b-Issuing recommendations

Key messages and challenges

- The Health Authority's technical examination of the report, with an exchange of additional information with the PA/Cons and/or the Environmental Authority if necessary, results in a health statement with recommendations;
- The governance body ensures coordination between the PA/Cons. and the Health Authority in order to guarantee the preparation of recommendations through the assessment of the report by the Health Authority;
- In the area of active communication and public participation, the Health Authority ensures that the results of the public hearing on health issues are taken into account. The Authority provides information to the public on its recommendations concerning the report.

Process

During the "E4-a-Assessment of report" step, the EA report is prepared by the PA/Cons. It must present the results of the impact appraisal and the public hearing. During the production of the EA report, the Health Authority may (re)inform the PA/Cons. of the tools that will be used by the administration to examine the EA report. If necessary, the Health Authority can remind them of the results of the previous steps. The EA report is submitted by the PA/Cons. to the Environmental and Health Authorities so that

they can be formally consulted on the final EA report and make recommendations. After quality control of the EA report, the result of step "E4-b-Issuing recommendations" is the health statement from the Health Authority (Figure 16).

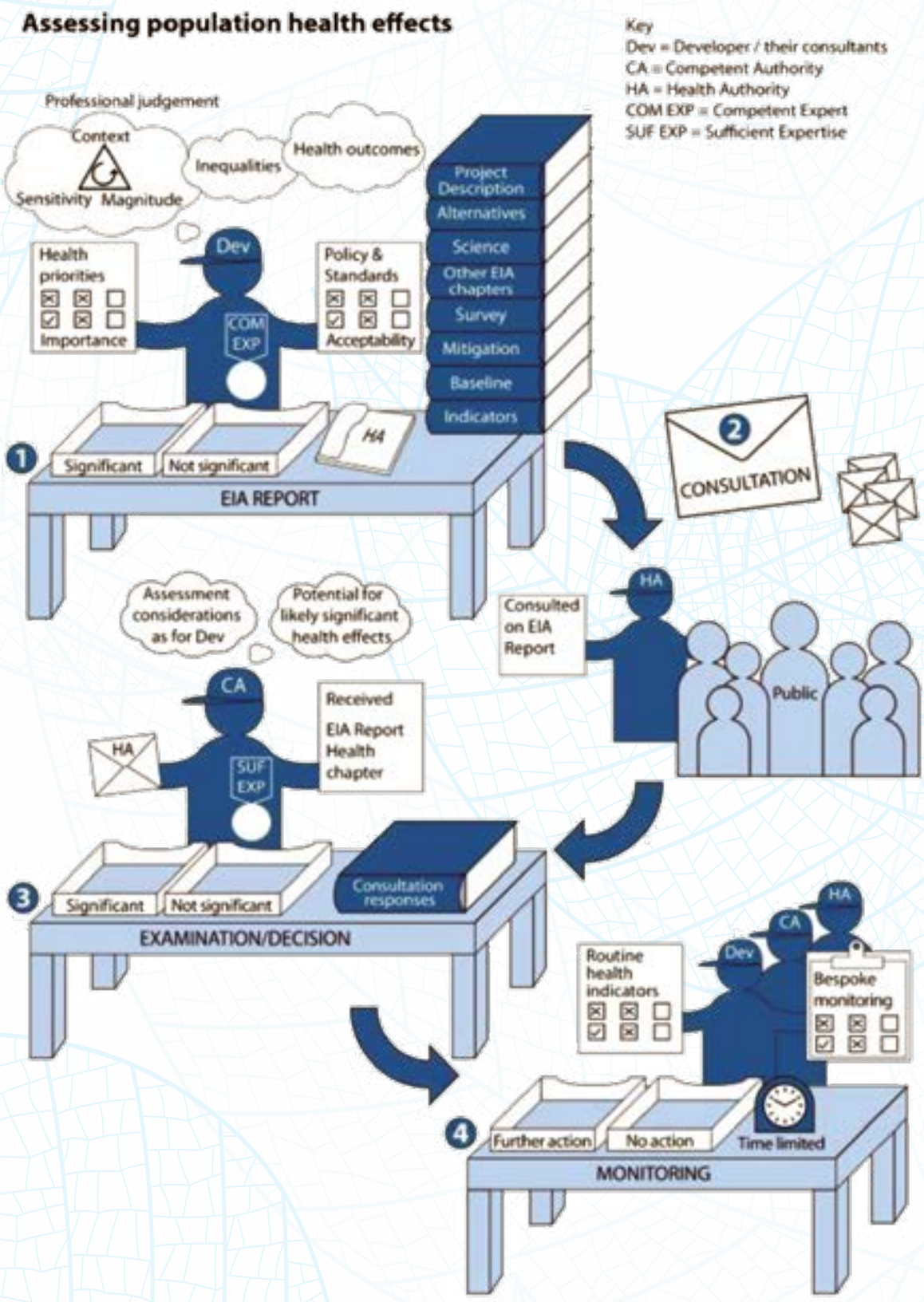


Figure 16: Report, Consultation, Examination, Monitoring and Competence, key activities and good practice (Cave, 2020, page 39).

Governance:

According to the "Step-by-step Governance (E1-5HI_G)" tool, the NCDC HIA coordinator must be involved in coordinating the process, in particular between the authorities and the PA/Cons. during the "E4-a-Assessment of report" step.

At the end of the "E4-b-Issuing recommendations" step, the NCDC HIA coordinator supports and organises the HIA-GB in order to explain and ensure the adoption of the health recommendations produced by the Health Authority.

Technical examination:

During the "E4-a-Assessment of report" step, the Health Authority uses an internal tool to promote consistent and proportionate feedback on the health assessment of the EA report. Feedback can be provided informally (for example, when reviewing a draft EA report) and formally by the Environmental Authority as part of the formal SEA/EIA procedure. In this case, the "EA Report assessment grid (E4CT7)" tool helps the Health Authority to determine whether it has any additional requirements for the PA/cons. and to produce its final health statement (quality control of the EA report - including, if necessary, cumulative effects, assessment of alternatives, mitigation measures, monitoring plan - and issuing recommendations).

In determining whether the information is complete and sufficient, the reviewer should consider whether there are any omissions in the information and whether these omissions are vital to the consultation or decision-making processes. If these omissions are not vital, there is probably no need to identify or request additional requirements.

The "E4-b-Issuing recommendations" process is supported by a proposal of elements for the Health Authority's final recommendations with the tool "Template for NCDC Health Statement (E4CT8)". The Health Authority can recommend additional mitigation measures or adjustments in the project/strategic document regarding its impacts on health and the existing local issues but it can also recommend new monitoring measures or adjustments in the monitoring plan included in the EA report. Regarding the monitoring plan, it is important to keep in mind that its aim is not to cover all possible environmental and health parameters, but to focus monitoring on health issues likely to be significantly affected. For these issues, a relevant study should be proposed, including, if necessary, demographic statistics, health statistics, a mixed and/or qualitative study, a survey...

Additional tools:

There are no additional tools at this step.

Active communication and public participation:

The Health Authority takes account of the minutes of the public hearing and its experience of the public hearing in drawing up its assessment of the report and its opinion on health. The Health Authority provides information to the public (Step-by-step Public Participation and active communication (E1-5HI_PP)).

Guidance and resources

Access to tools

The flowchart (Figure 17) describes the "E4-a-Assessment of the report & b-Issuing recommendations" process and the links and tool codes provide access to the tools. The flowcharts are available online (E4_AssessmentOfReport&IssuingRecommendationsFlowChart) and in the appendix of the guidelines.

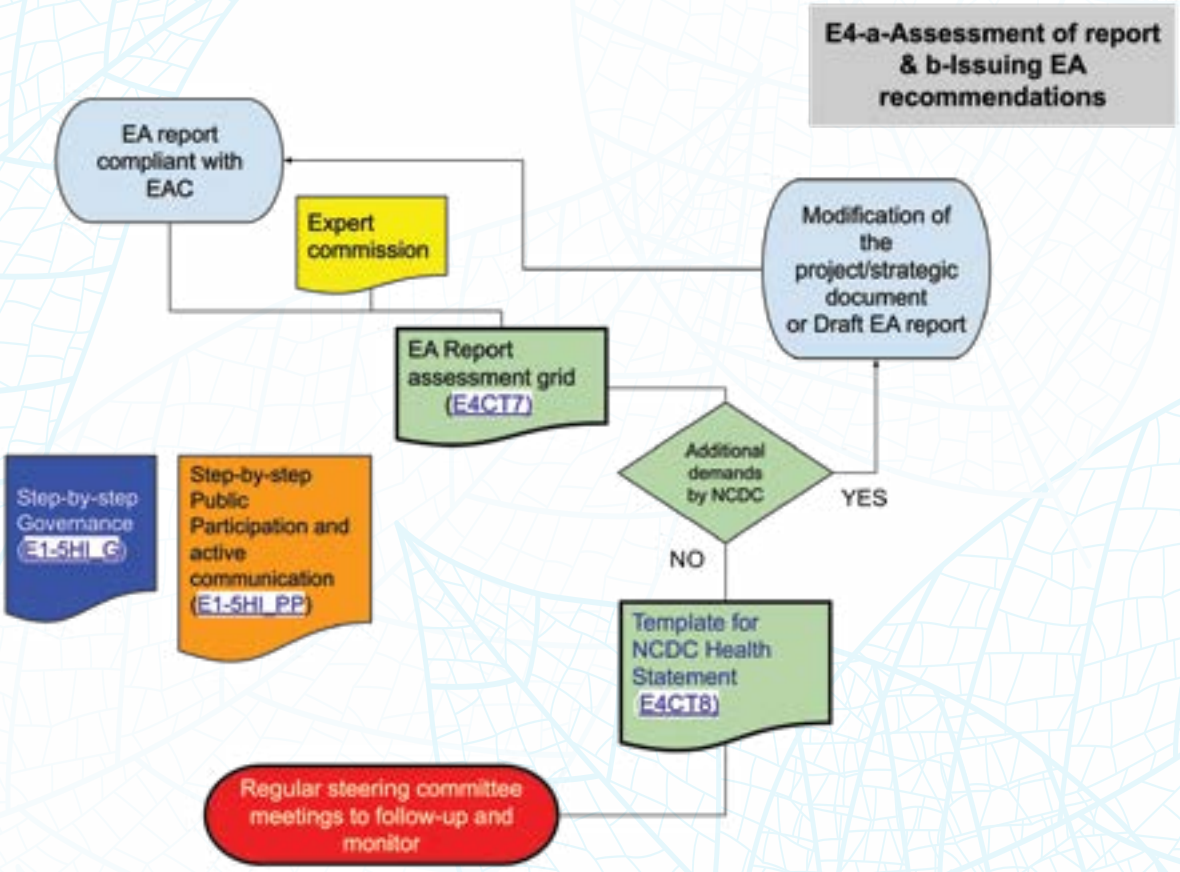


Figure 17: Flowchart of step E4.

Description of tools

The "E4 - Assessment of the report & Issuing recommendations" step is based on two core tools used by the NCDC (Table 8) and on all the milestone tools for governance, active communication and public participation.

Table 8: Description of tools, users and codes of tools for step E4.

E4-a-Evaluation of the report and E4-b-Issuing EA recommendations	Tools for the NCDC examination	Recommended tools for AP/ Cons.	Description	Tool code
EA Report assessment grid (E4CT7) (Core tool 7) **E4CT7_EA Report assessment grid - Google Docs**	X		The tool is an editable document consisting of 4 spreadsheets: 1-Administrative information; 2-EA Report Checklist; 3-Quality assessment grid; 4- Global health statement.	E4CT7
Template for NCDC Health Statement (E4CT8) (Core tool 8) **E4CT8_Template for NCDC Health Statement.docx - Google Docs**	X		The tool is a proposal for the final recommendations of the health opinion with general points, specific points and points from the assessment report. The tool can be used as a model for the headings of the health statement.	E4CT8

Step E5: Monitoring/follow up of the implementation of the project/strategic document and mitigation measures

Key messages and challenges

- It is when the Planning Authorities approves the project/strategic document and begins to implement it that the monitoring and the follow up of the its deployment starts;
- Consider possible changes on project/strategic document and possible further environmental impact assessments (EIAs) of activities and projects that may be included in the strategic document;
- Monitoring/follow up must be adapted to the situation at the start of project implementation. This applies to both the construction and operating phases;
- The HIA governance body should be reactivated (and/or renewed) in order to coordinate with project implementation and control/monitoring issues;
- Active communication and public participation must be reactivated (and/or renewed) depending on the situation at the start of project implementation and the control/monitoring undertaken.

Process

The Health Authority should be ready to begin step E5 "Monitoring & follow up of implementation (E5CT9)" (E5 core tool) when the Planning Authorities approve the strategic document and begins its implementation, sometimes several months after the end of step E4. Technical monitoring/follow up must be adapted to the situation at the start of project implementation and to the appropriate corrective measures to be taken.

Governance:

The governance body should be reactivated and/or renewed depending on the situation at the start of the project. The Health Authority should participate in the project steering committee and keep the public informed. The HIA-GB can organise a monitoring meeting to discuss how to integrate the monitoring plan proposed in the final environmental assessment report and follow up the deployment of the project (Step-by-step Governance (E1-5HI_G)).

Technical concerns to be covered:

The main objective is to use the core tool "Monitoring & follow up of implementation (E5CT9)" to check the following elements:

- Regarding the implementation of the monitoring plan:
  - How the recommendations on the monitoring plan issued by the Environmental and Health authorities at the end of the previous step were taken into account;
  - If and how the monitoring plan is implemented.
- Regarding the follow up of the deployment of the project/strategic document:
  - How the recommendations from former steps are taken into account in the implementation of the project;
  - If there are major modifications between the previous project (submitted to SEA/EA) and the real implementation (change in the project itself or on its context);
  - If significant and unexpected negative effects occur, it is recommended to update the monitoring plan.

Additional tools

There are no additional tools at this step.

Active communication and public participation:

The Health Authority disseminates information about the report and participation using the same channels as in the previous steps. The aim is to ensure continuity for the public who contributed to the evaluation. Participate proactively in the conversation and assess whether there are any problems or whether it is necessary to continue disseminating information (Step-by-step Public Participation and active communication (E1-5HI_PP)).

Guidance and resources

Access to tools

The flowchart (Figure 18) describes the process for step E5 "Monitoring/follow up of the implementation of the project/strategic document" and the links and tool code provide access to the tools. The flowcharts are available online (E5_MonitoringFollowUpFlowChart - Google Drawings) and in the appendix of the guidelines.

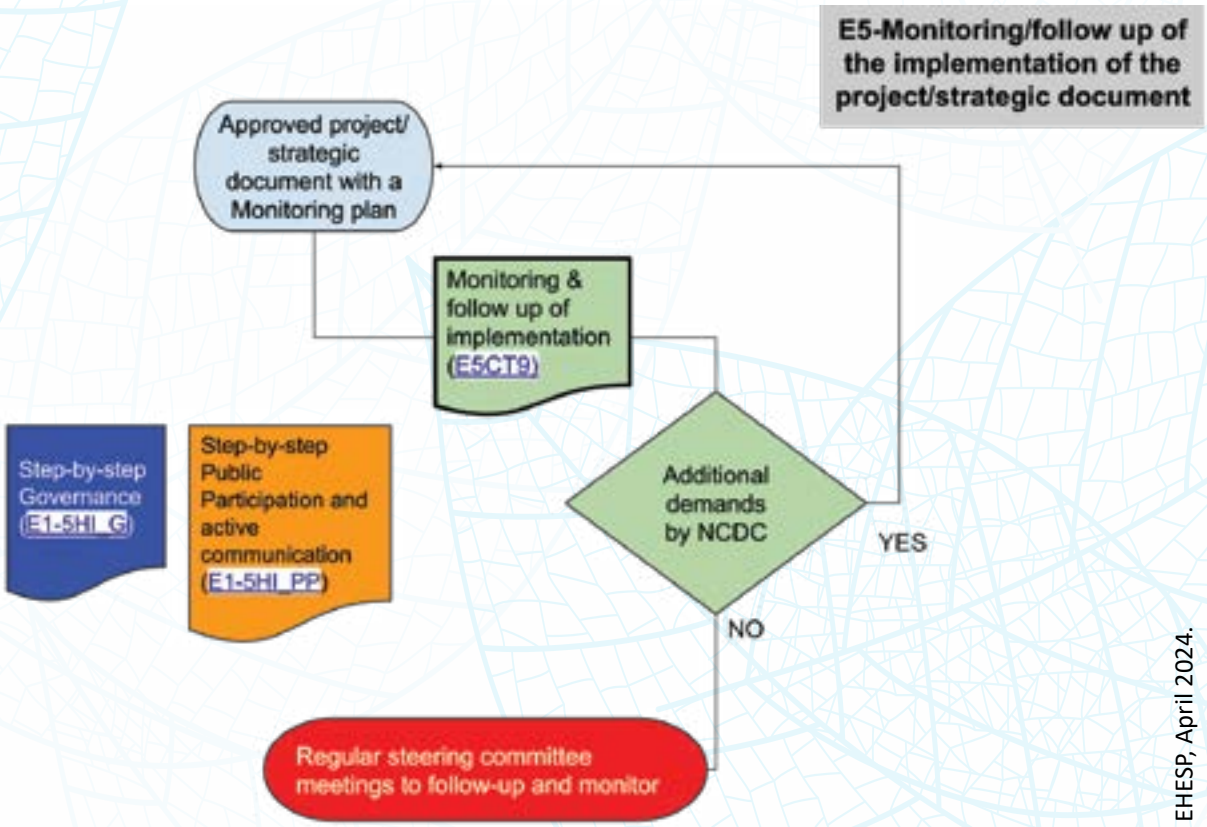


Figure 18: Flowchart of step E5.

Description of tools

The process of step E5 "Monitoring/follow up of the implementation of the project/strategic documents" is supported by 1 core tool and all the step tools for governance and active communication and public participation (Table 9).

Table 9: Description of tools, users and codes of tools for step E5.

E5-Monitoring/ follow up of the implementation of the project/strategic document	Tools for the NCDC examination	Recommended tools for AP/ Cons.	Description	Tool code
Monitoring & follow up of implementation (E5CT9) (E5 core tool 9) **E5CT9_Monitoring & follow up of implementation**	X		Text providing general information, operational recommendations and detailed recommendations for monitoring and follow up the implementation of the project and related recommendations.	E5CT9

Room for improvement

As already mentioned, the guidelines and its tools should be seen as a proposal. It constitutes a basis to be adapted by users according to the specificity of each case under consideration, the evolution of stakeholders' practice and the evolution of the context, including regulations and new impact assessment guidelines. We have already identified areas for improvements: Communication between the two main authorities, Active communication and public participation, Governance and further sectoral development.

Communication between the two main authorities

The guidelines aim to reinforce the channel of communication and coordination between the two main authorities, the Environmental Authority (NEA) and the Health Authority (NCDC). The application of this document by both authorities (NCDC & NEA) to each new HIA should be an opportunity for improvement. Its use will be an opportunity to develop a common culture, improve knowledge of each other's practices, and thus gradually move towards a more integrated approach in line with future regulatory developments. Better coordination between the two authorities should make it possible to better harmonise environmental and health statements in order to jointly improve the population's health and living environments.

Active communication and public participation

The guidelines suggest a number of activities on Active communication and public participation throughout the HIA process. The aim is to improve transparency, public participation and communication. These are essential elements of the HIA process: It enhances the credibility of decision-making, helps to ensure that all relevant issues are considered and allows for early consideration of the public's views. In turn, it can mobilise public support for the implementation of project/strategic documents. It is a constant challenge, but it is worth reiterating that direct and personal communication with the public is the better way to ensure active and effective communication and public participation, the primary means of improving public health and living environments. Another challenge of public participation is to ensure that all the populations (or population groups) likely to be affected by the project are able to become familiar with all the reports and documents produced during the impact assessment process: This may require more than just a meeting and top-down communication or information, but familiarisation activities or even training tailored to the target audience. To guarantee genuine possibility to participate, emphasis should be on tailoring relevant information for each of the target audiences.

Governance

As already mentioned, governance is the key activity during the whole HIA process to 1/ Ensure the involvement and efficient communication channel between all stakeholders and 2/ Ensure that health concerns are a key decision criteria in the implementation of the project/strategic document. The possibility of appointing a HIA focal point in each structure, department and division should be considered to improve cooperation, as discussed at the NCDC. It should be added that governance, implemented by the HIA coordinator within the NCDC, should ensure the continuous improvement of these guidelines and its appropriation by all stakeholders.

Further sectoral development of the health in Environmental Assessment Guidelines

Further guidelines should be developed in the future for specific sectors mentioned in the Environmental Assessment Code, as done with the specific guide for SEA on spatial planning and the specific guide for EIA on hydropower projects. This would require the involvement of environmental health and public health experts in the process. The bibliography at the end of this document provides some examples of sector-specific guidelines for impact assessment procedures, based on international and European practices. However, there are only a few HIA guidelines dedicated to specific sectors and it is a growing bulk of work. This is largely due to the limits of the EA impact appraisal, defining area and populations potentially affected, and "Health" in a wide meaning, in case of specific activities. Most of the existing guides focus mainly on risks and less on well-being.

Bibliography

Adlakha, D., & John, F. (2022). The future is urban: Integrated planning policies can enable healthy and sustainable cities. *The Lancet. Global Health*, *10*(6), e790–e791. https://doi.org/10.1016/S2214-109X(22)00211-X

Australian Institute of Health and Welfare. (2022). *Built environment and health*. Australian Institute of Health and Welfare. https://www.aihw.gov.au/reports/australias-health/built-environment-and-health

Barton, H., & Grant, M. (2006). A health map for the local human habitat. *Journal of the Royal Society for the Promotion of Health*, *126*(6), 252–253. https://doi.org/10.1177/1466424006070466

Birley, M. H. (1995). *The health impact assessment of development projects*. HMSO. https://www.researchgate.net/profile/Martin-Birley/publication/327039836_The_Health_Impact_Assessment_of_Development_Projects/links/5b-74231892851ca65062bba9/The-Health-Impact-Assessment-of-Development-Projects.pdf

Burke, T. A., Cascio, W. E., Costa, D. L., Deener, K., Fontaine, T. D., Fulk, F. A., Jackson, L. E., Munns, W. R., Orme-Zavaleta, J., Slimak, M. W., & Zartarian, V. G. (2017). Rethinking Environmental Protection: Meeting the Challenges of a Changing World. *Environmental Health Perspectives*, *125*(3). https://doi.org/10.1289/EHP1465

Cave, B., Claßen, T., Fischer-Bonde, B., Humboldt-Dachroeden, S., Martín-Olmedo, P., Mekel, O., Pyper, R., Silva, F., Viliani, F., & Xiao, Y. (2020). *Human health: Ensuring a high level of protection. A reference paper on addressing Human Health in Environmental Impact Assessment. As per EU Directive 2011/92/EU amended by 2014/52/EU.* International Association for Impact Assessment and European Public Health Association. https://eupha.org/repository/sections/HIA/Human%20Health%20Ensuring%20Protection%20Main%20and%20Appendices.pdf

Cave, B., Pyper, R., Fischer-Bonde, B., Humboldt-Dachroeden, S., & Martin-Olmedo, P. (2021). Lessons from an International Initiative to Set and Share Good Practice on Human Health in Environmental Impact Assessment. *International Journal of Environmental Research and Public Health*, *18*(4), 1–23. https://doi.org/10.3390/ijerph18041392

Chang, M., Green, L., & Petrokofsky, C. (2022). *Public Health Spatial Planning in Practice*. Policy Press. https://policy.bristoluniversitypress.co.uk/public-health-spatial-planning-in-practice

Chapman, R., Howden-Chapman, P., & Capon, A. (2016). Understanding the systemic nature of cities to improve health and climate change mitigation. *Environment International*, *94*, 380–387. https://doi.org/10.1016/j.envint.2016.04.014

Coleman, S. (2017). *Australia state of the environment 2016: Built environment*. Australian Government, Department of the Environment and Energy. https://web.archive.org/web/20180501111328id_/https://soe.environment.gov.au/sites/g/files/net806/f/soe2016-built-launch-20feb.pdf?v=1488792899

Council Directive 85/337/EEC of 27 June 1985 on the Assessment of the Effects of Certain Public and Private Projects on the Environment (1985). http://data.europa.eu/eli/dir/1985/337/oj/eng

Dahlgren, G., & Whitehead, M. (2021). The Dahlgren-Whitehead model of health determinants: 30 years on and still chasing rainbows. *Public Health*, *199*, 20–24. https://doi.org/10.1016/j.puhe.2021.08.009

Davis, I. (2019). *Strengthening health impact assessment in strategic environmental assessments in Georgia, HIA recommendations including proposals for legislative amendments*. UNDP.

de Leeuw, E. (2022). Healthy Cities. In S. Kokko & M. Baybutt (Eds.), *Handbook of Settings-Based Health Promotion* (pp. 91–104). Springer International Publishing. https://doi.org/10.1007/978-3-030-95856-5_5

Deguen, S., Amuzu, M., Simoncic, V., & Kihal-Talantikite, W. (2022). Exposome and Social Vulnerability: An Overview of the Literature Review. *International Journal of Environmental Research and Public Health*, *19*(6), 3534. https://doi.org/10.3390/ijerph19063534

Deguen, S., & Kihal-Talantikite, W. (2022). Health Equity Impact Assessment Related to Air Pollution Reduction. *International Journal of Environmental Research and Public Health*, *19*(22), 15352. https://doi.org/10.3390/ijerph192215352

Diallo, T., André, P., Cantoreggi, N., Simos, J., & Christinet, N. (2023). Chapitre 15. Évaluations environnementales et évaluation d'impact sur la santé. In *Environnement et santé publique: Fondements et pratiques* (I. Goupil-Sormany, M. Debia, P. Glorennec, J-P. Gonzalez&N. Noisel (Eds.), pp. 401–432). Presses de l'EHESP. https://doi.org/10.3917/ehesp.goupi.2023.01.0401

Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the Assessment of the Effects of Certain Plans and Programmes on the Environment, CONSIL, EP, 197 OJ L (2001). http://data.europa.eu/eli/dir/2001/42/oj/eng

Economic and Social Council of United Nations. (2023). *Assessing health impacts in strategic environmental assessment*. https://unece.org/sites/default/files/2023-10/ece_mp.eia_sea_2023_10_e.pdf

Economic Cooperation and Development, United Nations Development Programme, United Nations Economic Commission for Europe, United Nations Industrial Development Organization, & United Nations Industrial Development Organization. (2010). Better policies for better lives—Guidelines on practical application of strategic environmental assessment in Georgia. In *OECD Science, Technology and Industry Outlook 2010*. OECD. https://doi.org/10.1787/sti_outlook-2010-3-en

Eikemo, T. A., & Øversveen, E. (2019). Social Inequalities in health: Challenges, knowledge gaps, key debates and the need for new data. *Scandinavian Journal of Public Health*, *47*(6), 593–597. https://doi.org/10.1177/1403494819866416

Evans, G. W., & Kantrowitz, E. (2002). Socioeconomic Status and Health: The Potential Role of Environmental Risk Exposure. *Annual Review of Public Health*, *23*(1), 303–331. https://doi.org/10.1146/annurev.publhealth.23.112001.112349

Food and Agriculture Organization, Organization for Animal Health, World Health Organization, & United Nations Development Programme. (2021). *Joint Tripartite (FAO, OIE, WHO) and UNEP Statement Tripartite and UNEP support OHHLEP's definition of "One Health*. https://wedocs.unep.org/xmlui/handle/20.500.11822/37600

Frumkin, H. (2021). COVID-19, the Built Environment, and Health. *Environmental Health Perspectives*, *129*(7). https://doi.org/10.1289/EHP8888

Giles-Corti, B., Vernez-Moudon, A., Reis, R., Turrell, G., Dannenberg, A. L., Badland, H., Foster, S., Lowe, M., Sallis, J. F., Stevenson, M., & Owen, N. (2016). City planning and population health: A global challenge. *Lancet*, *388*(10062), 2912–2924. https://doi.org/10.1016/S0140-6736(16)30066-6

Harris-Roxas, B., Villiani, F., Bond, A., Cave, B., Divall, M., Furu, P., Harris, P., Soeberg, M., Wernham, A., & Winkler, M. (2012). Health Impact Assessment: The State of the Art. *Impact Assessment and Project Appraisal*, *31*(1), 43–52. https://doi.org/10.1080/14615517.2012.666035

Haut Conseil de la Santé Publique. (2009). *Les inégalités sociales de santé: Sortir de la fatalité*. Haut Conseil de la Santé Publique. https://www.hcsp.fr/explore.cgi/avisrapportsdomaine?clefr=113

Jabot, F., & Gall, A. R. L. (2016). *Influence of political, institutional administrative contexts on Health Impact Assessment in France applied to urban projects*. 22nd IUHPE World Conference on Health Promotion 'Promoting Health and Equity'. https://hal.ehesp.fr/hal-02895432

Keshavarz Mohammadi, N. (2019). One step back toward the future of health promotion: Complexity-informed health promotion. *Health Promotion International*, *34*(4), 635–639. https://doi.org/10.1093/heapro/daz084

Kihal-Talantikite, W., Padilla, C., Lalloue, B., Rougier, C., Defrance, J., Zmirou-Navier, D., & Deguen, S. (2013). An exploratory spatial analysis to assess the relationship between deprivation, noise and infant mortality: An ecological study. *Environmental Health*, *12*(1), 109. https://doi.org/10.1186/1476-069X-12-109

Koehler, K., Latshaw, M., Matte, T., Kass, D., Frumkin, H., Fox, M., Hobbs, B. F., Wills-Karp, M., & Burke, T. A. (2018). Building Healthy Community Environments: A Public Health Approach. *Public Health Reports*, *133*(1_suppl), 35S-43S. https://doi.org/10.1177/0033354918798809

Krieger, G. R., Utzinger, J., Winkler, M. S., Divall, M. J., Phillips, S. D., Balge, M. Z., & Singer, B. H. (2010). Barbarians at the gate: Storming the Gothenburg consensus. *The Lancet*, *375*(9732), 2129–2131. https://doi.org/10.1016/S0140-6736(10)60591-0

Kunst, A. E. (2007). Describing socioeconomic inequalities in health in European countries: An overview of recent studies. *Revue d'Épidémiologie et de Santé Publique*, *55*(1), 3–11. https://doi.org/10.1016/j.respe.2006.12.001

Lalonde, M. (1974). *A New Perspective on the Health of Canadians (Lalonde Report) (1973-1974)*. https://www.phac-aspc.gc.ca/ph-sp/pdf/perspect-eng.pdf

Leischow, S. J., & Milstein, B. (2006). Systems thinking and modeling for public health practice. *American Journal of Public Health*, *96*(3), 403–405. https://doi.org/10.2105/AJPH.2005.082842

Lowe, M., Adlakha, D., Sallis, J., Salvo, D., Cerin, E., Moudon, A. V., Higgs, C., Hinckson, E., Arundel, J., Boeing, G., Liu, S., Mansour, P., Gebel, K., Puig-Ribera, A., Bhasin Mishra, P., Bozovic, T., Carlson, J., Dygryn, J., Florindo, A., … Giles-Corti, B. (2022). City planning policies to support health and sustainability: An international comparison of policy indicators for 25 cities. *The Lancet Global Health*, *10*(6), e882–e894. https://doi.org/10.1016/S2214-109X(22)00069-9

Novick, L., & Morrow, C. (2001). Defining public health: Historical and contemporary developments. In *Public health administration: Principles for population-based management* (Gaithersburg, Md. : Aspen Publishers, 2001., pp. 3–33).

Padilla, C. M., Deguen, S., Lalloue, B., Blanchard, O., Beaugard, C., Troude, F., Navier, D. Z., & Vieira, V. M. (2013). Cluster

analysis of social and environment inequalities of infant mortality. A spatial study in small areas revealed by local disease mapping in France. *Science of The Total Environment*, *454–455*, 433–441. https://doi.org/10.1016/j.scitotenv.2013.03.027

Quigley, R., den Broeder, L., Furu, P., Bond, A., Cave, B., & Bos, R. (2006). Health impact assessment international best practice principles: Special publication series no 5. *Health Impact Assessment International Best Practice Principles*.

Raphael, D., Bryant, T., Mikkonen, J., & Raphael, A. (2021). Déterminants sociaux de la santé: Les réalités canadiennes. *Faculté des sciences de la santé de l'Université Ontario Tech et École de gestion et de politique de la santé de l'Université York*, *2e édition*. https://thecanadianfacts.org/Les_realites_canadiennes-2021.pdf

Roué Le Gall, A., Le Gall, J., Potelon, J.-L., & Cuzin, Y. (2014). *Agir pour un urbanisme favorable à la santé, concepts et outils*. Sciences de l'Homme et de la Société. https://www.ehesp.fr/wp-content/uploads/2014/09/guide-agir-urbanisme-sante-2014-v2-opt.pdf

Roué Le Gall, A., Lemaire, N., & Diallo, T. (2022). Healthy urban planning: Taking action for health, the environment and social equality. *La Santé en action*, *459*. https://www.santepubliquefrance.fr/import/la-sante-en-action-december-2022-n-459-eng-urban-planning-dedicated-to-health

Roué Le Gall, A., Lemaire, N., & Jabot, F. (2018). Lessons learned from co-constructing a guide on healthy urban planning and on integrating health issues into environmental impact assessments conducted on French urban development projects. *Impact Assessment and Project Appraisal*, *36*(1), 68–80. https://doi.org/10.1080/14615517.2017.1364018

Roué Le Gall, A., Thomas, M.-F., Deloly, C., Romagon, J., Clément, B., & Nassiet, C. (2020). Le guide ISadOrA, une démarche d'accompagnement à l'Intégration de la Santé dans les Opérations d'Aménagement urbain. *EHESP, A-urba, FNAU, ADEME, DGS et DGALN*. https://www.ehesp.fr/wp-content/uploads/2020/06/001-Guide-entier-ISadOrA-version-web.pdf

Scott-Samuel, A. (1996). Health impact assessment. *BMJ (Clinical Research Ed.)*, *313*(7051), 183–184. https://doi.org/10.1136/bmj.313.7051.183

Simos, J., Christie, D., Jabot, F., Le Gall, A. R., & Cantoreggi, N. (2023). The Ongoing Contribution of Health Impact Assessment to Health Promotion Research. In D. Jourdan & L. Potvin (Eds.), *Global Handbook of Health Promotion Research, Vol. 3: Doing Health Promotion Research* (pp. 151–169). Springer International Publishing. https://doi.org/10.1007/978-3-031-20401-2_14

Thondoo, M., & Gupta, J. (2020). *Health impact assessment legislation in developing countries: A path to sustainable development? Review of European, Comparative & International Environmental Law*. https://onlinelibrary.wiley.com/doi/10.1111/reel.12347

Whitehead, M., Dahlgren, G., & Europe, W. H. O. R. O. for. (2006). *Levelling up (part 1): A discussion paper on concepts and principles for tackling social inequities in health* (EUR/06/5062293). WHO Regional Office for Europe. https://apps.who.int/iris/handle/10665/107790

Whitmee, S., Haines, A., Beyrer, C., Boltz, F., Capon, A. G., Dias, B. F. de S., Ezeh, A., Frumkin, H., Gong, P., Head, P., Horton, R., Mace, G. M., Marten, R., Myers, S. S., Nishtar, S., Osofsky, S. A., Pattanayak, S. K., Pongsiri, M. J., Romanelli, C., … Yach, D. (2015). Safeguarding human health in the Anthropocene epoch: Report of The Rockefeller Foundation–Lancet Commission on planetary health. *The Lancet*, *386*(10007), 1973–2028. https://doi.org/10.1016/S0140-6736(15)60901-1

Winkler, M. S., Furu, P., Viliani, F., Cave, B., Divall, M., Ramesh, G., Harris-Roxas, B., & Knoblauch, A. M. (2020). Current Global Health Impact Assessment Practice. *International Journal of Environmental Research and Public Health*, *17*(9), 2988. https://doi.org/10.3390/ijerph17092988

Winkler, M. S., Viliani, F., Knoblauch, A. M., Cave, B., Divall, M., Ramesh, G., Harris-Roxas, B., & Furu, P. (2021). Health Impact Assessment International Best Practice Principles. *Special Publication Series No. 5, International Association for Impact Assessment*. https://www.iaia.org/uploads/pdf/SP5%20HIA_21_5.pdf

World Health Organization. (1986). *Ottawa charter for health promotion*. https://www.who.int/publications-detail-redirect/WH-1987

World Health Organization. (2010). *Adelaide Statement II on Health in All Policies*. https://www.who.int/publications-detail-redirect/adelaide-statement-ii-on-health-in-all-policies

World Health Organization. (2021). *GHO | Global Health Observatory Data Repository (Eastern Mediterranean Region) | Burden of disease attributable to the environment, by disease and region—Estimates*. https://apps.who.int/gho/data/node.main-emro.ENVDALYSBYDISEASE?lang=en

World Health Organization, & United Nations-Habitat. (2016). *Global report on urban health: Equitable healthier cities for sustainable development*. https://apps.who.int/iris/handle/10665/204715

Further readings:

Guidelines for SEA and EIA in Georgia available here გარემოსდაცვითი შეფასების პორტალი (eia.gov.ge)

Winkler, M.S., Viliani, F., Knoblauch, A.M., Cave, B., Divall, M., Ramesh, G., Harris-Roxas, B. and Furu, P. (2021) Health Impact Assessment International Best Practice Principles. Special Publication Series No. 5. Fargo, USA: International Association for Impact Assessment

THE INTERNATIONAL BEST PRACTICE PRINCIPLES SERIES COVERS A VARIETY OF IMPACT ASSESSMENT TOPICAL AREAS, SHARING BEST PRACTICES FOR PRACTITIONERS

https://www.iaia.org/best-practice.php

For sectoral impact assessments:

The sectors for which we have some supportive guidelines are the following and you can find the English translations here (please note these guidelines do not have a regulatory value)

- Agriculture: ANALYSIS OF THE IMPACT ASSESSMENT of a classified livestock facility : Guide + Annexes
- Transport: Urban transport / tramways + Roads + Roads
- Tourism: Tourism and sport facilities, especially in mountainous areas
- Forestry: land clearing
- Energy: photovoltaic
- Waste water: Wastewater treatment plant

IFC, 2018. Good Practice Note: Environmental, Health, and Safety Approaches for Hydropower Projects (კარგი პრაქტიკის რეკომენდაციები: გარემოსდაცვითი, ჯანმრთელობისა და უსაფრთხოების მიდგომები ჰიდროელექტროსადგურების პროექტებისთვის).gpn-ehshydropower.pdf

NCEA, 2018. ESIA and SEA for Sustainable Hydropower Development. (ბსგზშ და სგშ ჰიდროენერგეტიკის მდგრადი განვითარებისთვის) (https://www.eia.nl/documenten/00000361.pd V&E ESIA and SEA for Sustainable Hydropower Devel2.pdf

EBRD, 2019. Environmental and Social Good Practice Note Small Hydropower Projects. (გარემოსდაცვითი და სოციალური საუკეთესო პრაქტიკის რეკომენდაციები მცირე ზომის ჰიდროენერგეტიკული პროექტებისათვის) 1136-environmental-and-social-good-practice-note-small-hydropower-projects.pdf

Energy Community Secretariat, 2020. Policy Guidelines on Small Hydropower Projects in the Energy Community. (პოლიტიკის სახელმძღვანელო მცირე ზომის ჰიდროელექტროსადგურების პროექტებთან დაკავშირებით ენერგეტიკულ საზოგადოებაში) https://energycommunity.org/dam/jcr:91af0fb3-54e6-4755-8607-0c1c6e400917/HPP_PG_02-2020.pdf

Annexes - The tools and support sheets

E1 -Screening

E1 - Screening

E1_ScreeningFlowChart

Core tools

E1-2CT1 Analysis of Screening and/or Scoping Application

Decision-tree included in the E1-2CT1

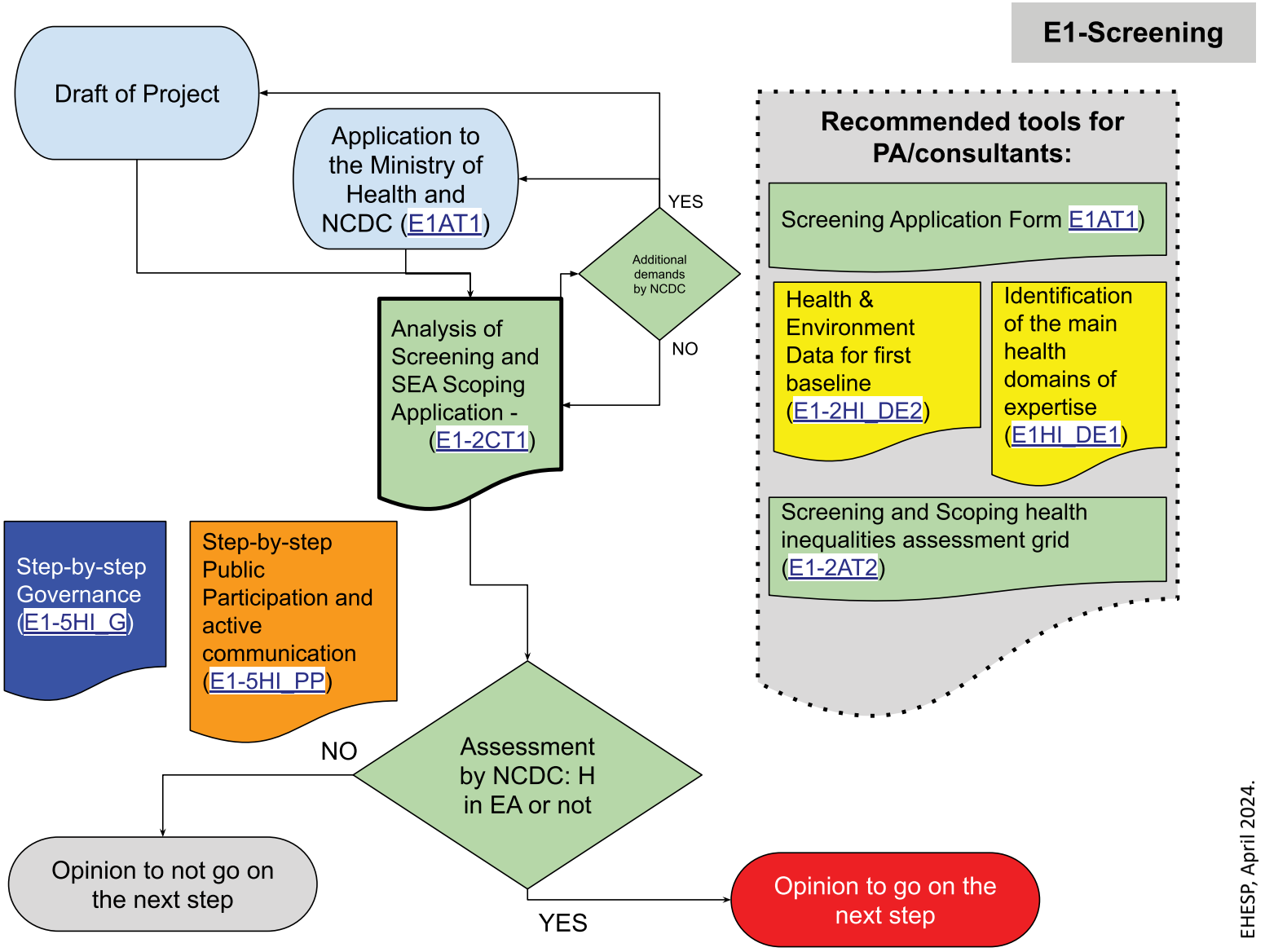
Additional tools

E1AT1 Screening Application Form

E1-2AT2 Screening and Scoping health inequalities assessment grid (excel file)

E1HI_DE1 Identification of the main health domains of expertise

E1-2HI_DE2 Health & Environment Data for first baseline


E1-Screening
Draft of Project
Application to the Ministry of Health and NCDC (E1AT1)
Additional demands by NCDC
YES
NO
Analysis of Screening and SEA Scoping Application - (E1-2CT1)
Step-by-step Governance (E1-5HI_G)
Step-by-step Public Participation and active communication (E1-5HI_PP)
Assessment by NCDC: H in EA or not
NO
YES
Opinion to not go on the next step
Opinion to go on the next step
Recommended tools for PA/consultants:
Screening Application Form E1AT1)
Health & Environment Data for first baseline (E1-2HI_DE2)
Identification of the main health domains of expertise (E1HI_DE1)
Screening and Scoping health inequalities assessment grid (E1-2AT2)
EHESP, April 2024.

Core tools

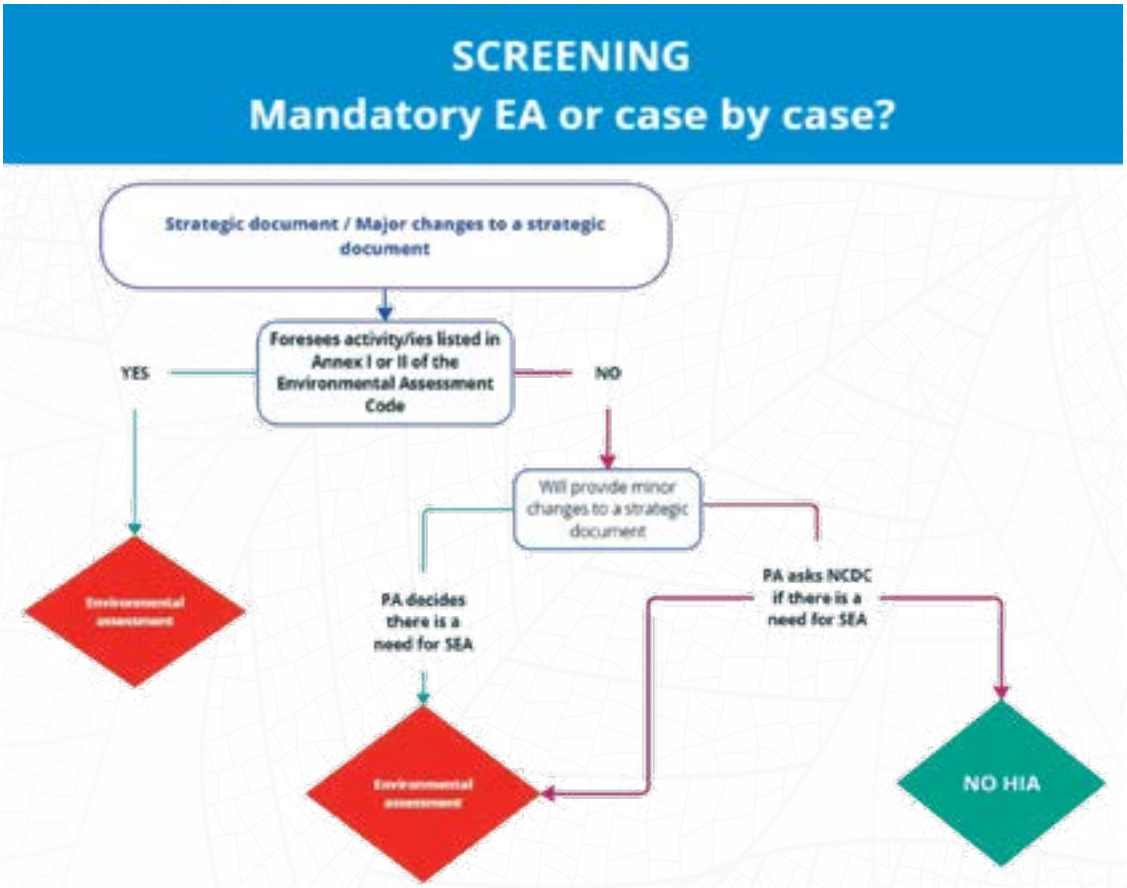
Tool of the guidelines to consider Health in Environmental Assessment			
Name:	Analysis of Screening and/or Scoping Application (E1-2CT1)	Code:	E1-2CT1
Objective:	To provide quick analysis by NCDC to decide if an HIA should be undertaken, following the Environmental Assessment Code. For activities and strategic documents under Annex I of the EAC, HIA/health in environmental assessment is mandatory; whereas for strategic documents under Annex II of the EAC, the NCDC has to go through the screening of the document and make a decision whether or not to conduct an SEA including health assessment. The tool aims to support the NCDC to assess if an HIA would be necessary. It also aims at identifying if the screening application and this conclusion match with the NCDC analysis or if the screening or draft of the project/program /strategic document application needs to be completed. The last box is related to the SEA Scoping application of Draft of program/strategic document.		
User:	NCDC (Planning Authority and Consultants can refer to this tool as a support to fill the Screening & scoping application form)		
Step of use:	E1-E2, Screening, Scoping with different conclusion		

Description:	The tool is composed of: ● a first block with items for **Implementation of the tool** ● the tool presents: o a block with 5 questions on **Quick review of the project/program/strategic document** o a block with questions on **Rapid review of territory of and around the project/program/strategic document** o block to analyze **8 health determinants** according to: Impact (-), Impact (+), Groups affected, and Comments; a block of questions on **Rapid Impact Assessment** o blocks of questions on **Context Assessment** o One block is the **Conclusion** of the tool for screening: Should an HIA be undertaken? Or/and if there is need of additional information o One block for conclusion in case of SEA Scoping application of Draft of program/strategic document o A decision tree to support the screening decision for the environmental factors: soil, water, air, noise, climate **change** **Filling in the items in the tool and summarizing them leads to the conclusion ("Should an HIA be undertaken? Or/and if there is need of additional information").** **It should be noted that the items are filled in without going into too much detail, and that some items may be considered inappropriate depending on the type o**f project.
Composition:	Modifiable Word file
Origin and references:	Adapted from: ● Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context Ch_XXVII_4_b.pdf (un.org) / ECE_MP.EIA_SEA_8_T.pdf(Shared) - Adobe cloud storage and especially the Annex III - Criteria for determining of the likely significant environmental, including health, effects referred to in article 5, paragraph 1

	• Françoise Jabot & Anne Roué Le Gall, 2019 ©. (EHESP, Rennes, France); NCCHPP, 2014; Harris et al, 2007; Human Impact Partners Toolkit, 2011 • Environmental Assessment Code of Georgia (Article 20 to 25) • Resolution No. 420 of 2 September 2019 of the Government of Georgia, On approval of the rule of human health impact assessment in the field of environmental assessment • UNECE - GUIDELINES ON PRACTICAL APPLICATION OF STRATEGIC ENVIRONMENTAL ASSESSMENT IN GEORGIA _ Final_SEA_Guidelines_ENG.pdf (unece.org) o Annex 1 - Screening form o Annex 2 - Possible content and the structure of Scoping report References: Carpiano, 2006; Forrest and Kearns, 2001; Pigeassou & Pruneau, 1998 The list of group of Health determinants used for this tool is presented there
	Other tools with similar objective: Appendix 14: Possible HIA assessment questions by themes and sectors of 2020 UNDP guide Appendix 17 - HIA Screening/Scoping Checklist HIA Screening/Scoping Checklist of 2020 UNDP guide (2002) NCCHPP Internal Tool Health Impact Assessment (HIA) Screening Grid (2014) Appendix A of the Cave report (2020): Screening checklist p57 Tool by ARS Ile de France (ANNEX 1. Selection grid for case-by-case projects; Annex 2 - Decision tree for the environmental assessment of case-by-case project dossiers, in order to modify the tool: here with Miro software) HIA Screening/Scoping checklist by University of California: wtjmas9y (cityofpasadena.net)
Version of the tool:	Version 1_5 of the tool; last update: April 2024. The NCDC can update the tool based on the modifiable text document and decision to change the tool.

Report - Quality control tool for the NCDC
Planning Authority: Report reception date:
Type of Plan/Program:
Location:
Contact at the Planning Authority level:
HIA coordinator inside NCDC:
Report author
Consultancy/ies (architects/urban planners/ ...):
Contact @:
Name of the author(s) (if identified in the report):
Nature and justification of the plan/programme

NCDC implementation of the tool:	
Date of analysis:	
Agent(s) who analyzed (surname(s), first name(s)):	
Legal status of the project under the Environmental Assessment Code(Annex 1 or Annex 2)	



The screening decision of the NCDC for health-inclusive environmental assessment can be supported by the following checklist:

When the Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs of Georgia make, within their competence, individual decisions on making the strategic document subject to an SEA, the following criteria, in addition to the criteria determined by Article 20(5) of this Code, shall may be taken into account:

a) the characteristics of the strategic document, in particular:

a) the extent to which the strategic document establishes a framework for future activities in terms of the place of implementation, their types, volume and working conditions or the distribution of natural resources;
b) the relation of the strategic document to other strategic documents (if any);
c) the importance of the strategic document in terms of the integration of environmental issues, in particular, the promotion of sustainable development;
d) general environmental aspects related to the strategic document;

b) general information on the nature of the impact of measures provided for by the strategic document and on the characteristics of the territory subject to the impact, in particular:

a) the transboundary nature of the impact;
b) risks associated with the environment and/or human health;
c) the value and vulnerability of the territory subject to impact, in particular, the natural characteristics or cultural heritage, and the impact on protected areas and on areas and/or landscapes to which the status of local and/or international importance has been assigned.

PART 1: REVIEW OF THE PROJECT/PROGRAM/STRATEGIC DOCUMENT	
What type of proposal is being considered?	☐ policy ☐ programme ☐ development project ☐ regulatory measure o other
What is the purpose of the proposal under consideration?	
What is the expected completion time?	☐ short (< 1 year) ☐ medium (1 - 5 years) ☐ long (> 5 years)
Are there any other studies or impact assessments related to the HIA project/program/ strategic document?	

PART 2: REVIEW OF THE AREA AROUND THE PROJECT/PROGRAM/STRATEGIC DOCUMENT For the following thematics, identify the specificities of the area and the associated health issues The Horizontal Issue Data and expertise tool (E1-2HI_DE2) lists existing Georgian data sources and can be a resource to fill in this part.	
Pollution-nuisance-risks & population exposure *e.g. critical points on noise, air, polluted soils, emerging risks...*	
Presence of facilities or institutions that host vulnerable populations *e.g. from nurseries to secondary schools, medical and social facilities, hospitals, social housing, etc.*	
Integration of the project in its territorial context *e.g. coherence of the project with the supply of transports, public facilities and public services, places of employment, etc.*	
Socio-economic profile of the populations *e.g.: neighborhoods in deprived urban areas*	
Health profile of the populations *e.g. obesity, depression, etc.*	

PART 3: PRELIMINARY IMPACT ASSESSMENT				
Health determinant	**Impact (-)**	**Impact (+)**	**Affected groups[1]**	**Comments[2]**
Individual behaviors and lifestyles				
Nutrition				
Physical activity				
Alcohol and tobacco consumption				
Risk taking (for example, smoking, excessive alcohol consumption or sexual risk-taking)				
Gambling				
Personal skills (level of education, self-confidence and self-esteem, sense of control, autonomy, social and parenting skills, sense of security)				
Physical environment				
Air quality*				
Water resources*				
Soil quality*				
Other chemical pollutants				
Waste production and management*				
Biodiversity				
Living environment				
Noise*				

[1] Including: Socio-professional categories (affluent, upper-middle, lower-middle, modest); Groups (women, children, people with disability or elderly, Internally Displaced Persons from the Occupied Territories…)

[2] Including to declare that the health determinant is not applicable or to express the need additional information

PART 3: PRELIMINARY IMPACT ASSESSMENT				
Health determinant	**Impact (-)**	**Impact (+)**	**Affected groups[1]**	**Comments[2]**
Temperature (related to climate change effects)				
Brightness				
Electromagnetic fields and infrastructures				
Quality of public spaces, including green spaces (aesthetics, continuity, security, amenities)				
Socio-economic environment				
Food (access, quality)				
Energy (access, security)				
Employment (access, safety, conditions)				
Economic development				
Gender equality				
Social equality				
Diversity of public services, facilities and shops (e.g. healthcare services, transport infrastructures, educational facilities, sport venues, grocery stores)				
Accessibility of public services, facilities and shops (e.g. healthcare services, transport infrastructures, educational facilities, sport venues, grocery stores)				
Socio-familial environment (family support, social ties[1] and support[2], social and generational diversity, social cohesion[3])				

1 Social ties: characteristics or mechanisms that link individuals to each other and to a community

2 Social support: emotional & practical support

3 Social cohesion: the ability of a group to live together (shared norms and values, relationships of trust and solidarity, the formation of social networks, a sense of belonging to the same group, attachment to the place where they live)

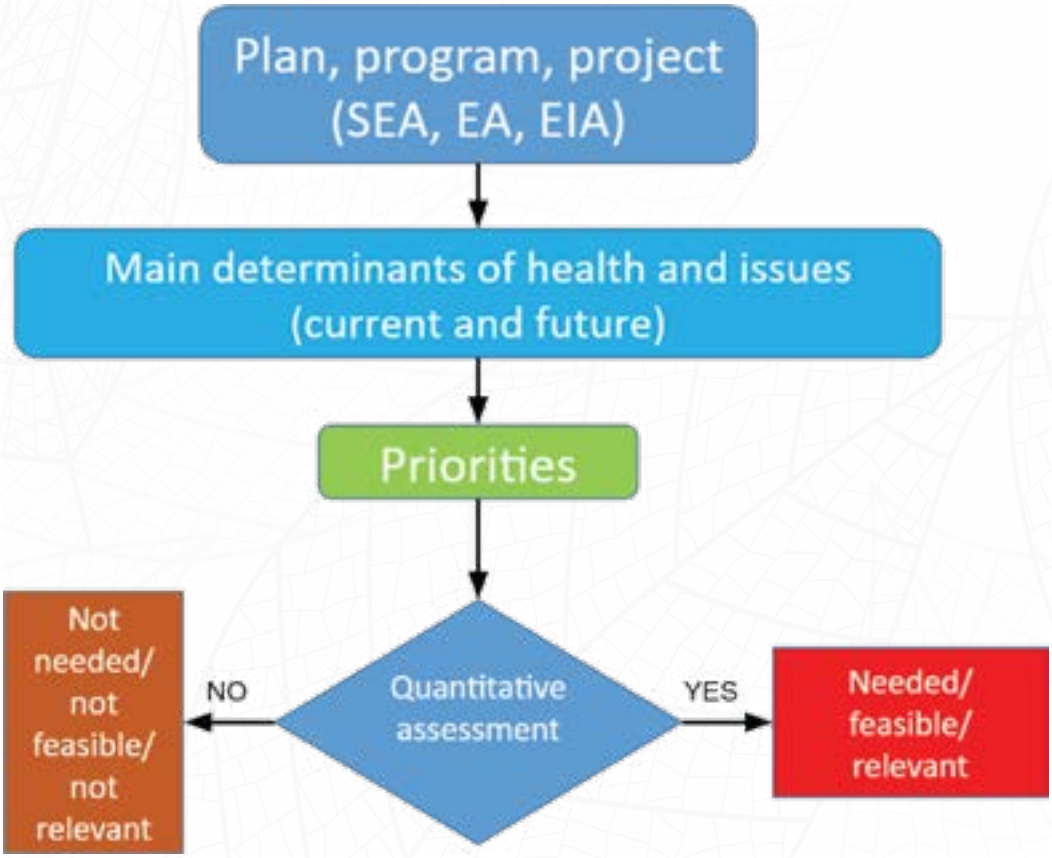
* Link to the "Decision tree for a more specific analysis on soil, water, air, noise and climate change items"

CONCLUSION OF THE ANALYSIS	**Yes**	**No**
Conclusion of the review of the context (*see Part 1*)		
Are there any elements related to the context of the project that might affect the implementation of the HIA? *(if yes, please specify)*	☐	☐
Will the PA and Cons. have to mobilize specific competences to carry out this HIA? *(if yes, please specify)*	☐	☐
If necessary, will the HIA have the ability to modify the project/ program/strategic document?	☐	☐
Conclusion of the review of the area (*see Part 2*)		
Does the area around the project/program/strategic document have specific health and/or environmental issues?	☐	☐
Does the area around the project/program/strategic document host specific vulnerable populations?	☐	☐
Conclusion of the preliminary impact assessment (*see Part 3*)		
Is the project/program/strategic document likely to have significant health effects?	☐	☐
Is the likelihood of the project/program/strategic document's effects occurring high?	☐	☐
Is the project/program/strategic document likely to affect population groups unequally ?	☐	☐
Should an HIA be undertaken?	**☐ yes**	**☐ no**
Need for additional information?	**☐ yes**	**☐ no**
List of additional information requested by the NCDC:		
Preparation of the NCDC SEA Scoping opinion: o One-Two pages of synthesis based on this tool and other tools o Proposal of letter of opinion to the Head of NCDC		

In case SEA is mandatory (according to Article 20 (4) of the EAC), please go directly to the scoping stage:	
This tool could be used to first analyze the SEA application and to provide the NCDC Scoping Opinion with the use of the other Scoping tools.	
In addition, NCDC will check if the SEA application match with the Georgian regulation (Article 24 of the EAC) on Scoping application in the SEA process: 1. To issue a scoping opinion, the Planning Authority shall, as early as possible but not later than at the stage of preparing a concept or a draft of a strategic document, file a scoping application with the Ministry Agency and the Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs of Georgia, to which a concept or a draft of a strategic document (both in tangible and electronic form) shall be attached. The Planning Authority shall place the scoping application and the attached documents on its website.	
2. A scoping application filed under the procedure established by paragraph 1 of this article shall include: a) information on the Planning Authority; b) short information on the strategic document, as well as on the geographical area and the respective populated areas where it is planned to implement the strategic document; c) short information on the environment (including the protected areas, as well as the territory and/or landscape to which the status of local and/or international importance has been assigned) and the extent of the potential impact on human health; d) general information on the potential transboundary impact on the environment and human health; e) a general description of the potential alternative measures envisaged by the strategic document; f) information on the types of potential impacts on the environment which will be subject to examination and will be included in an SEA report; g) the relation of the strategic document to other strategic documents; h) general information on the basic studies to be carried out in the SEA process; i) the estimated list of measures planned for preventing, mitigating and compensating potential adverse effects (if any) resulting from the implementation of the strategic document.”	
List of additional information requested by the NCDC:	
Preparation of the NCDC SEA Scoping opinion: o One-Two pages of synthesis based on this tool and other tools o Proposal of letter of opinion to the Head of NCDC	

Additional questions applicable for the scoping:

The diagram below illustrates an important additional question at this step of scoping: is it necessary, feasible and appropriate to request a quantitative risk analysis for some of the determinants selected in the appraisal?



Additional tools

Tool of the guidelines to consider Health in Environmental Assessment			
Name:	Screening Application Form (E1AT1)	Code:	E1AT1
Objective:	This form is the template for the application form under the Art. 22 of the Environmental Assessment Code, applicable to strategic documents under the legislation of Georgia. Its purpose is to identify among strategic documents those that are likely to have significant effects on the environment and health and therefore fall under the scope of an environmental assessment and health in EA. For activities and strategic documents meeting criteria under Annex I and II of the EAC, HIA/health in environmental assessment is mandatory; whereas for strategic documents under the thresholds of the Annex I and II, the Planning Authority has to go through a screening step and can consult the NCDC to make a decision whether or not to conduct an SEA including health assessment. The form helps provide a quick analysis by the Planning Authority whether or not an EA has to be carried out for a strategic document under the legislation of Georgia because, - they are foreseeing activities listed under Annex I and Annex II of the Environmental Assessment Code (Art.20(4)) - according to Art. 20 (paragraph 6) "If the planning authority considers that the performance of a SEA is not required, in order to identify the need to perform a SEA, it may apply a screening procedure envisioned by Article 23 of this Code based on the results of which a SEA either will be performed or not." The tool aims to facilitate decision-making and avoid screening and scoping to be too similar.		
User:	Planning Authority		
Step of use:	Before E1-E2, Screening		
Description:	The tool is composed of two categories and several categories: - Application to the Ministry of Health and determination of the legal status of HIA according to the EAC - Details of the strategic document, major or minor changes and screening application to the Ministry of Health ● General characteristics ● Relations with specific activities having an impact on human health ● Environmental sensitivity of the area ● Rapid public health profile ● Characteristics of the potential impact of the project on environmental risks and human health ● Self-assessment		

Composition:	
	Modifiable Word file
Origin and references:	Adapted from: - Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context Ch_XXVII_4_b.pdf (un.org) / ECE_MP.EIA_SEA_8_T.pdf(Shared) - Adobe cloud storage and especially the Annex III - Criteria for determining of the likely significant environmental, including health, effects referred to in article 5, paragraph 1 - Environmental Assessment Code of Georgia (Article 20 to 25) - Resolution No. 420 of 2 September 2019 of the Government of Georgia, On approval of the rule of human health impact assessment in the field of environmental assessment - UNECE - GUIDELINES ON PRACTICAL APPLICATION OF STRATEGIC ENVIRONMENTAL ASSESSMENT IN GEORGIA _ Final_SEA_Guidelines_ENG.pdf (unece.org) ● Annex 1: Screening form ● Annex 2 - Possible content and the structure of Scoping report - "Request for a case-by-case examination before an environmental assessment is carried out" (CERFA N°14734*04) by the Ministry of Environment of France ● FR:cerfa_14734-04.pdf ● EN: cerfa_14734-04 en-GB.pdf - "Explanatory note for applications for case-by-case examination" (CERFA N°51656#05) ● FR: notice_51656#05.pdf ● EN: notice_51656#05 en-GB.pdf - Tool by Regional Health Agency Ile de France (ANNEX 1. Selection grid for case-by-case projects; Annex 2 - Decision tree for the environmental assessment of case-by-case project dossiers, in order to modify the tool: here with Miro software)

	Further tools with similar objectives: Adapted from: Françoise Jabot & Anne Roué Le Gall, 2019 ©. (EHESP, Rennes, France); NCCHPP, 2014; Harris et al, 2007; Human Impact Partners Toolkit, 2011. References: Carpiano, 2006; Forrest and Kearns, 2001; Pigeassou & Pruneau, 1998; The list of group of Health determinants used for this tool is presented there Other tools with similar objective: Annex 14: Possible HIA assessment questions by themes and sectors of 2020 UNDP guide Annex 17 - HIA Screening/Scoping Checklist HIA Screening/Scoping Checklist of 2020 UNDP guide (2002) NCCHPP Internal Tool Health Impact Assessment (HIA) Screening Grid (2014) Annex A of the Cave report (2020): Screening checklist p57 Tool by ARS Ile de France (ANNEX 1. Selection grid for case-by-case projects; Annex 2 - Decision tree for the environmental assessment of case-by-case project dossiers, in order to modify the tool: here with Miro software) HIA Screening/Scoping checklist by University of California: wtjmas9y (cityofpasadena.net)
Version of the tool:	Version 1_5 of the tool; last update: April 2024. Other further versions are possible based on the modifiable text document and inside management of NCDC.

APPLICATION TO THE MINISTRY OF HEALTH FOR STRATEGIC ENVIRONMENTAL ASSESSMENT

This form is based on Article 22 of the Environmental Assessment Code – SEA stages: "the filing of an application by the Planning Authority with the Agency and the Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs of Georgia"

The Planning Authority attaches to this application:

The answered Annex 1 - Details of the Strategic Document / Major changes or Minor changes to a strategic document / Screening application
Draft strategic document / major changes to a strategic document / draft minor changes to a strategic document including maps
Other:

1. Title of the strategic document or changes to the strategic document

2. Identification of the Planning Authority

Name	
Administration	
Address	
Representative of the legal entity	

3. Applicable decision on strategic environmental assessment according to the legislation

3.1. **To which sector(s) belong the strategic document** *(as listed on Art.20(4) of the EAC)* **?**

agriculture	waste management
silviculture	water resources management
fishing	electronic communications
energy	tourism
industry	planning and spatial planning
transport	Other *(please describe)*

3.2. **Legal basis for carrying a strategic environmental assessment including a Human Health Impact Assessment or not**

Check the case for which your application match

The strategic document foresees the implementation of activities listed in Annex I or Annex II of the Environmental Assessment Code (Article 20(4))

If yes, the strategic document is automatically submitted to an SEA and will go to the scoping step of the SEA process, unless it concerns issues related to the ensuring of state security or the implementation of measures due to urgent necessity caused by a force majeure situation, as well as financial and/or budgetary issues.

If yes, the NCDC will act as Health and Sanitary authority. You can fill Annex 1 in order to give more details about the strategic document.

Introducing a major change to a strategic document (involving increase in scale of activities listed under Annex I and II of the EAC, location and expansion of the activity, operational conditions or production capacities) - (Article 20(4))

If yes, the strategic document is automatically submitted to an SEA and will go to the scoping step of the SEA process, unless it concerns issues related to the ensuring of state security or the implementation of

measures due to urgent necessity caused by a force majeure situation, as well as financial and/or budgetary issues.

If yes, the NCDC will act as Health and Sanitary Authority. You can fill the Annex 1 in order to give more details about the strategic document.

Introducing a minor change to a strategic document (Article 20(5)) which:

- has a long-term and irreversible impact on the environment or an impact with a highly cumulative effect;
- poses an increased risk to the environment and/or human health;
- has an effect on territories having unique natural characteristics or containing cultural heritage, and protected areas, as well as areas and/or landscapes to which the status of local and/or international importance has been assigned.

To know whether the minor changes to your strategic document require an SEA, Annex 1 of the form will support you in assessing the need for an SEA.

The strategic document might be subject to a screening decision by the Planning Authority (with the support of the Ministry of Health) according to Art. 23 of the EAC if it concerns the modification of a strategic document (Art.20(5)).

None of the above

If "None of the above", the Planning Authority can fill the screening application (Annex 1) and the NCDC will give its opinion.

If "None of the above" - see if Art.20(7) of the EAC applies to this case and join to this application the legislative act of Georgia making the SEA process mandatory.

4. Decision, commitment and signature

After the filling of this application and of Annex 1,

the strategic document / the major changes to the strategic document
the minor changes to strategic document

is/are

subject to SEA process automatically
subject to an SEA process upon a screening opinion of the NCDC

For the Planning Authority
I certify on my honor that the above information is correct Name First name Quality of the signatory Done on / / Signature of applicant(s)

ANNEX 1 - DETAILS OF THE STRATEGIC DOCUMENT, MAJOR CHANGES OR MINOR CHANGES TO A STRATEGIC DOCUMENT AND SCREENING APPLICATION

These following sections aims at:

- detailing the information on the strategic document or major changes to a strategic document subjected to mandatory SEA
- supporting the application of a screening decision by the Planning Authority according to the Art. 20(6) and Art.23 of the EAC: i.e. strategic documents are undergoing minor changes (defined in Art.20(5))

Art. 23(3). The screening application submitted by the Planning Authority to the Ministry Agency and the Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs of Georgia shall, in addition to information provided for by Article 78 of the General Administrative Code of Georgia, include information on the area where the strategic document will be implemented (including the population residing in that area), as well as on the nature of the potential impact on the environment and human health.

1. General characteristics of the activity/ strategic document or changes to the strategic document

1.1. Nature of the strategic document/changes, including demolition works

1.2. Objectives of the strategic document/changes

1.3. Relation with specific activities having an impact on human health

1.3.1. Does the project foresee activities listed in Annex I and II of the Environmental Assessment Code,

Yes

No

If, yes, describe according to their category and thresholds listed in the Annex I and Annex II of the Environmental Assessment Code

Category and subcategory	Characteristics of the project in relation to the thresholds and criteria of the category

1.3.2. Is it a modification/extension of an existing strategic document / activity?

Yes

No

1.3.3. If yes, please explain briefly the reasons and describe the changes and improvements of the strategic document (specify the characteristics of the project "before/after")

Yes

No

1.3.4. If yes, had this previous activity / strategic document been subject to an environmental assessment?

Yes

No

If yes, please describe the process / If not, please mention the reason (no SEA legislation in force, no activity/activities under Annex I or II of the EAC, …).

1.4. Briefly describe the strategic document/changes and especially the parts of the document that are under the Annex I and II of the Environmental Assessment Code

1.4.1. In its construction phase

1.5. To which administrative authorisation procedure(s) has the strategic document / changes been or will be submitted?

1.6. Location of the strategic document/changes to the strategic document/activities listed in the Annex I and II of the EAC

Be as precise as you can be at this stage, you can annex maps in GIS if already available (1. Location map 1/25000 or 1/50000 2. Map of the surroundings 1/2500; 3. Overall plan 1/200)

Coordinates of the facility

Municipalities and villages crossed:

Specify the planning document in force and the zoning to which the project is subject:

2. Environmental sensitivity of the proposed siting area

To be filled by the environmental specialist in the Planning Authority if there is any.
For identification of pollution by the Ministry of Environmental Protection and Agriculture:

- *Electronic Air Pollution Reporting System from Point sources:* https://emoe.gov.ge/#;
- *Map of emissions of pollutants into the ambient air from stationary sources:* map.emoe.gov.ge

Is the strategic document/changes or activities foreseen located …	Yes	No	If yes, please describe briefly
In mountainous areas?	☐	☐	
In a dense urban area?	☐	☐	
On the territory of a coastal municipality?	☐	☐	
In a national park, marine nature park, nature reserve (national or regional), fisheries conservation area or a regional nature park?	☐	☐	
In a World Heritage property or its buffer zone, a historic monument or its surroundings or an outstanding heritage site?	☐	☐	
In a delineated wetland?	☐	☐	
On a polluted site or soil? Is there a suspicion of soil pollution? *Hotspots for human exposure to soil pollution are contaminated sites (like former factories or landfills), certain agricultural and urban soils, and land that has previously been flooded.*	☐	☐	

In a water distribution zone?	☐	☐	
Within a sanitary protection zone, especially for water catchments intended for human consumption or natural mineral water? If so, what activity in which zone?	☐	☐	
Where climate events and temperatures can be extreme ? *(heatwaves for more than 3 days; cold waves)*	☐	☐	
In an area prone to technological risks? *Technological risks are linked to human action and more specifically to the handling, transport or storage of substances dangerous to health and the environment (e.g. industrial, nuclear, biological risks, etc.).*	☐	☐	
In an area affected by natural hazards? *Such as heavy rains and floods, wildfires, landslides, earthquakes*	☐	☐	
In an area close to industrial facilities or facilities that emit noise, air pollution, light, dangerous waste?	☐	☐	

3. Public health profile of the area

(Not applicable for nation-wide strategic document)

To be filled by the Health Authority/social affairs specialist in the Planning Authority if there is any.

Data can be found at the municipal level, some on the website of the National Statistics Office (საქართველოს სტატისტიკის ეროვნული სამსახური (geostat.ge)), which provides for demographic and health data at municipal, regional and national level (http://regions.geostat.ge/regions) as well as comparison with neighbouring areas.

Please describe the source of the data used, with the latest data available. You can complement it if you have more qualitative information from your experience.

3.1. Demographic data

Population in the administrative unit - total - by gender - by age groups	
Mortality and main causes of death over the last 3 years (excluding COVID years)	

3.2. Healthcare system and local public health concerns

Inhabitants per primary health care practitioner	
Number and status of hospitals	
Inhabitants per nurse	
Percentage of population covered by health insurance	
Self-assessment of the main public health issues at local level and the policies at local level if any *Such as: addiction (tobacco use, gambling, ...), malnutrition and obesity,*	

Source: Statistical Information on Tskaltubo Municipality, Imereti Region (geostat.ge)

3.3. Vulnerable populations on the impacted territory

Number and details of hospitals or care facilities *Please indicate them on the maps you provide attached to your application*	
Number of schools and education facilities *Please indicate them on the maps you provide attached to your application*	
Facilities hosting children or sensitive populations *Please indicate them on the maps you provide attached to your application*	
Number of people with the disability status and their categories (registered in State Care Agencies)	
Other (socially vulnerable,ethnic and language minorities, internally displaced persons, …)	

4. Characteristics of the potential impact of the project on environmental risks and human health

To be filled by the developer, in charge of the strategic document / major or minor changes to the document.

4.1. Is the strategic document and some of its activities likely to have the following significant impact?

Potential impacts		Yes	DN	No	Of what nature? How important is it? Summarize the potential impact (if known at this stage)
RESOURCES	Does it involve water abstraction? If so, from which environment?	☐	☐	☐	
	Is it in line with the resources available, drinking water supply facilities/ sanitation?	☐	☐	☐	
	Are there water resources to protect (water catchments / water bodies … and sanitary zones)?	☐	☐	☐	
	Is it likely to lead to disturbance, degradation or destruction of existing biodiversity: fauna, flora, habitats, ecological continuity?	☐	☐	☐	
Nuisance	Does it generate travel/traffic?	☐	☐	☐	
	Is it a source of noise?	☐	☐	☐	
	Is it affected by noise pollution?	☐	☐	☐	
	Does it generate smells?	☐	☐	☐	
	Is it affected by odor nuisance?	☐	☐	☐	
	Does it generate vibrations?	☐	☐	☐	
	Is it affected by vibrations?	☐	☐	☐	
	Does it generate light emissions?	☐	☐	☐	
	Is it affected by light emissions?	☐	☐	☐	
	Might it increase the number of mosquitoes in the area (with more stagnant water for instance)?	☐	☐	☐	
Emissions	Does it cause discharges in the air?	☐	☐	☐	
	Does it generate liquid discharges?	☐	☐	☐	
	If yes, in which environment?	☐	☐	☐	
	Does it generate effluents?	☐	☐	☐	
	Does it generate non-hazardous, inert, hazardous waste?	☐	☐	☐	
Quality of space	Does it lead to changes in human activities (agriculture, forestry, urban planning, development), including land use?	☐	☐	☐	

Potential impacts		Yes	DN	No	Of what nature? How important is it? Summarize the potential impact (if known at this stage)
	Will green and/blue areas be increased after the implementation of the strategic document?	☐	☐	☐	
	Are their projects/activities as mentioned in Annex I and Annex II of the Environmental Assessment Code foreseen in the plan ?	☐	☐	☐	

4.2. Are the project impacts identified in 4.1 likely to be cumulative with other existing or approved project s / plans / programmes?

Yes
No

If yes, describe which ones

4.3. Description of the main results available from relevant environmental assessments in the area required under other applicable legislation

4.4. Description, where appropriate, of the measures and characteristics of the activity / strategic document likely to be adopted or implemented to avoid or reduce the significant adverse effects of the project on human health (including any alternative scenarios studied) and to ensure the absence of significant residual impacts. These measures should be specific and detailed (type of measures, content, implementation, monitoring, duration)

5. Self-assessment

In view of the completed form, do you consider it necessary for your project to go through a strategic environmental assessment? A decision-tree on the next page explains the main risks related to environmental health for when to carry out an health impact assessment.

Please also mention what would be the challenges to go through an SEA and Human Health Impact Assessment?

6. Annexes

This may include map extracts from the planning document if existing

1	Location map 1/25000 or 1/50000	●
2	Map of the surroundings 1/2500	●
3	Overall plan 1/200	
4	…	

7. Commitment and signature

I certify on my honor that the above information is correct

Name

First name

Quality of the signatory

Done on / / Signature of applicant(s)

Tool of the guidelines to consider Health in Environmental Assessment			
Name:	Screening and Scoping health inequalities assessment grid (E1-2AT2)	Code:	E1-2AT2
Objective:	Tool for identifying the need of HIA according to the potential impacts of an land-use and urban development project on social inequalities in health.		
User:	Planning Authority and Consultants		
Step of use:	E1-E2, Screening, scoping (with adaptation of use)		
Description:	Tool for identifying the potential impacts of an urban development project on social inequalities in health. The tool addresses 8 themes, such as public space, access to infrastructures or individual behaviors, which are broken down into 22 questions on health determinants. It also proposes a division of the population into identified groups, according to socio-economic level, age, gender, etc., and a score to be assigned collectively according to the impact on the different social groups by theme. It is completed by informative answers on the evaluation of health impacts and the highlighting of "points of vigilance". It is a turnkey tool in the form of a spreadsheet linked to a website that allows for quick and easy handling and offers an optimized time for shared reflection on health-friendly urban planning.		
Composition:	Modifiable Excel file of 2 spreadsheets - 1 Grid - 1 Summary		
Origin and references:	Adapted from: This grid was developed and co-constructed in 2019 by a French inter-university research federation (IFERISS) and the Toulouse urban planning and development agency (AUAT) within the framework of PRSE3 (Environmental Health Regional Plan number 3 of Occitanie). Reference: Bretagne and al, 2022		
Version of the tool:	Version 1_5 of the tool; last update: April 2024. Other further versions are possible based on the modifiable text document and inside management of NCDC.		

Link to the turnkey tool in the form of a spreadsheet with 2 sheet ("Screening/Scoping grid social inequalities" & "Summary")

Screening Health inequality Tool.xlsx - Google Sheets

Health determinants					Unknown impact	Points of vigilance on the project/ Levers identified	Recommendations
Very negative impact = -2 Negative impact = -1 No impact = 0 Positive impact = 1 Very positive impact = 2							
INDIVIDUAL BEHAVIOURS							
Populations	Affluent	Upper Middle class	Lower Middle class	Modest	Unknown impact		
1. What impact will the project have on the way people eat? For example: Has accessibility to shops been considered? Are organic farming, community gardens or open air markets planned? Are there fast food restaurants located near homes or schools?	0	0	0	0	-		**A HIA is not necessary**
Populations and specific populations	Affluent	Upper Middle class	Lower Middle class	Modest	Unknown impact		
2. What impact does it have on people's ability to be physically active? Does it have a more specific impact on women? early childhood, people with reduced mobility? For example: Have sports facilities, green spaces, pedestrian areas, landscaped waterfronts... been planned for the project?	0	0	0	0	-		**A HIA is not necessary**
	Women	Children	Person with a disability	Other:	Unknown impact		
	0	0	0	0	-		**Careful with specific populations**

SOCIAL DETERMINANTS AND SOCIAL SUPPORT							
Populations and specific populations	Affluent	Upper Middle class	Lower Middle class	Modest	Unknown impact		
3. What impact can the project have on social isolation? Does it have a more specific impact on the elderly, people with reduced mobility? For example: Does the project provide for meeting spaces, a neighborhood square, equitably distributed convivial spaces?	0	0	0	0	-		**A HIA is not necessary**
	Elderly	Person with a disability	Children	Other:	Unknown impact		
	0	0	0	0	-		**Careful with specific populations**
Populations	Affluent	Upper Middle class	Lower Middle class	Modest	Unknown impact		
4. What impact can the project have on citizen participation/decision making or involvement in the associative life of the population? For example: Is there a local community centre close and accessible, are there local unions, is there a active community life?	0	0	0	0	-		**A HIA is not necessary**
5. What impact will the project have on the availability of childcare? For example: Are there any preschool institutions, kindergartens, day care centers, nurseries nearby and accessible? Is there a need to create other infrastructures?	0	0	0	0	-		**A HIA is not necessary**

6. Does the project promote "living together"? CF. mix of building types, pavilion, collective, social housing...	0	0	0	0	-		**A HIA is not necessary**
CULTURAL OFFER AND ACCESS TO EMPLOYMENT							
Populations	Affluent	Upper Middle class	Lower Middle class	Modest	Unknown impact		
7. What impact does the project have on the population's access to a public (free) school?	0	0	0	0	-		**A HIA is not necessary**
8. What impact does the project have on the access (distance, offer) of the populations to cultural places such as associations, artistic associative workshops, cinema, theater...?	1	2	0	-2	-		**Careful with health and social inequalities in designing the plan/ program/project**
9. **What impact does it have on access (distances and offers from the neighborhood or nearby neighborhoods) to employment?** For example: Is the project a source of employment, or is there sufficient employment in the project area? What types of jobs for what types of populations?...	-2	-2	1	1	-		**Careful with health and social inequalities in designing the plan/ program/project**

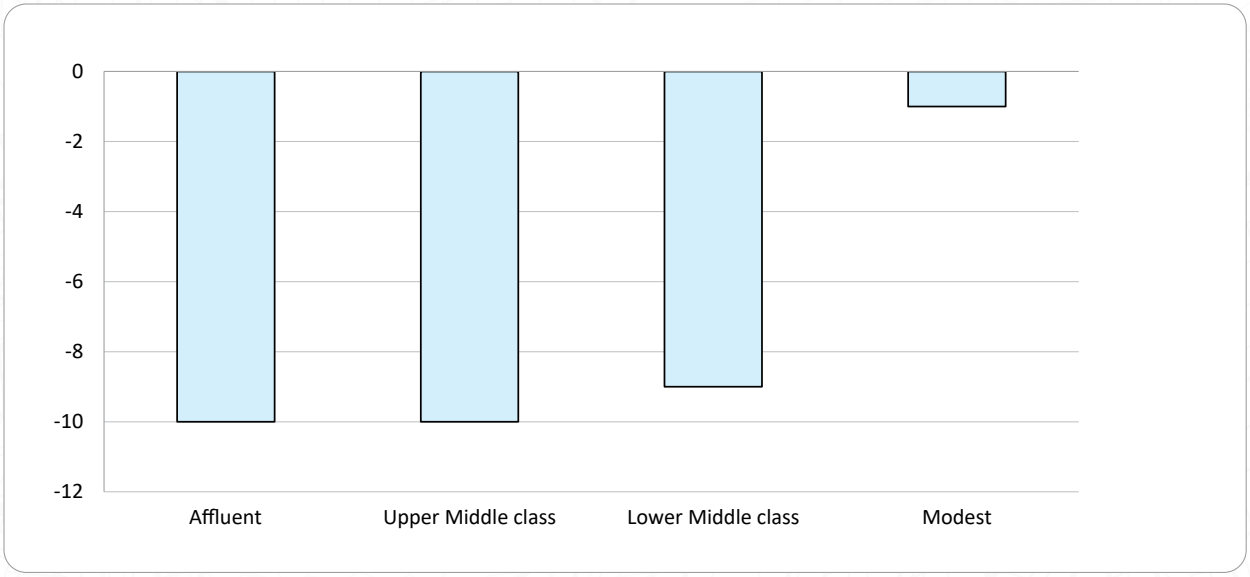
ACCESS TO HEALTHCARE SERVICES							
Populations	Affluent	Upper Middle class	Lower Middle class	Modest	Unknown impact		
10. What impact does the project have on access to a primary care health professional? For example: multidisciplinary health center, general practitioner...	-1	-1	-1	0	-		**A HIA is highly recommended**
Populations and specific populations	Affluent	Upper Middle class	Lower Middle class	Modest	Unknown impact		
11. What impact does it have on access to a pharmacy? Can it impact more particularly people with reduced mobility? accessibility, distance of the service from living areas..."	-1	-1	-1	0	-		**A HIA is highly recommended**
	Person with a disability	Elderly	Other		Unknown impact		
	-2	-1			-		**Careful with specific populations**
PUBLIC SPACE							
Populations and specific populations	Affluent	Upper Middle class	Lower Middle class	Modest	Unknown impact		
12. Does the project facilitate the use of public space (green spaces, benches, children's games, accessibility of bicycle lanes/tracks, pedestrian areas, lighted spaces, etc.)? Urban Amenities and Quality of Life Does it have a more specific impact on women, early childhood, people with reduced mobility?	-1	-1	-1	0	-		**Careful with specific populations**
	Women	Children	Person with a disability or elderly	Other	Unknown impact		
	-1	-1	-1	0	-		**Careful with specific populations**

Populations spécifiques	Women	Children	Person with a disability or elderly	Other	Unknown impact		
13. Does the project design the spaces to promote a sense of safety? For example: Perceived sense of safety by women, children, parents. Facilities that make people feel safer...	-1	-1	-1	0	-		**Careful with specific populations**
Populations and specific populations	Affluent	Upper Middle class	Lower Middle class	Modest	Unknown impact		
14. What impact does it have on access to public transportation? For example: Are existing transportation services sufficient, safe (e.g., consideration of women's use of transportation, especially at night), and accessible?	-1	-1	-1	0	-		**A HIA is highly recommended**
	Women	Children	Person with a disability or elderly	Other	Unknown impact		
	-1	-1	-1	0	-		**Careful with specific populations**
Populations	Affluent	Upper Middle class	Lower Middle class	Modest	Unknown impact		
15. Does the project expose populations to noise pollution? For example: Housing planned near noisy places (roads, bars, factories) or noisy services, housing architecture and sound insulation, neighborhood noise... Excluding nuisances linked to the construction phase of the urban project	-1	-1	-1	0	-		**A HIA is highly recommended**

PHYSICAL ENVIRONMENT							
Populations	Affluent	Upper Middle class	Lower Middle class	Modest	Unknown impact		
16. Does the project expose populations to degraded outdoor air quality? Adequacy between uses and air quality. For example, a school near a highway	-1	-1	-1	0	-		**A HIA is highly recommended**
17. Does the project expose populations to degraded indoor air quality? Architecture of the dwellings, their depth/ orientation to the prevailing winds…	-1	-1	-1	0	-		**A HIA is highly recommended**
18. Does the project expose populations to degraded soil quality? Adequacy between uses and soil quality. E.g. a kindergarten on soil that was previously polluted by chemicals	-1	-1	-1	0	-		**A HIA is highly recommended**
19. Does the project expose populations to degraded water quality? Adequacy between uses and water quality. For example, stormwater management to avoid flooding, infiltration, sealing…	-1	-1	-1	0	-		**A HIA is highly recommended**

20. Does the project expose populations to urban heat islands? These may be existing or potentially created by the project	-1	-1	-1	0	-		**A HIA is highly recommended**
HOUSING							
Populations	Affluent	Upper Middle class	Lower Middle class	Modest	Unknown impact		
21. Does the project facilitate access to quality housing for all? For example: Creation or renovation of housing for all types of budgets, housing accessible to people with reduced mobility...	-1	-1	-1	0	-		**A HIA is highly recommended**
NEGATIVE AND POSITIVE EXTERNALITIES OF THE PROJECT							
Populations	Affluent	Upper Middle class	Lower Middle class	Modest	Unknown impact		
22. Can the project have impacts on populations outside the project? For example: does the project have an impact on the populations adjacent to the project, on the flow of people or cars, on the use of public space, on access to services, to facilities...?	-1	-1	-1	0	-		**A HIA is highly recommended**
Populations	Affluent	Upper Middle class	Lower Middle class	Modest	Unknown impact		
	-10	-10	-9	-1			Careful with health and social inequalities in designing the plan/ program/project

Summary table of recommendations according to the different determinants of health					
	A HIA is not necessary	A HIA is highly recommended	Careful with health and social inequalities in designing the plan/ program/project	Unknown impact on health	Comments
Food safety					
Physical activity					
Social isolation	X				
Public participation					
Childcare					
Social mixity					
Access to education					
Access to culture	X				
Access to employment					
Access to healthcare					
Access to a pharmacy					
Public spaces	X				
Sense of safety	X				
Transports	X				
Environmental noise					
Outdoor air					
Indoor air	X				
Soils					
Water					
Urban heat islands					
Access to housing					
Externalities					


0
-2
-4
-6
-8
-10
-12
Affluent
Upper Middle class
Lower Middle class
Modest

Tool of the guidelines to consider Health in Environmental Assessment			
Name:	Identification of the main health domains of expertise (E1HI_DE1)	Code:	E1HI_DE1
Objective:	To identify the main health domains and competencies of expertise that could be mobilized in the next steps of the application.		
User:	NCDC, Planning Authority and Consultants		
Step of use:	E1, Screening		
Description:	This tool presentes 3 lists of domains of expertises (Core domains, Specific domains, and Other specific domains) to ensure that health will be properly considered in the EA application.		
Composition:	Modifiable Word file		
Origin and references:	Adapted from: copie de gex liste domaine eng References: copie de gex liste domaine eng Other tools with similar objective: Appendix 16 - Procurement of Services for HIA Consultant of UNDP report prepared by Irina Davis dec 2019 Strengthening HIA in SEA in Georgia - **Chapter 10. Competence and expertise** of Cave, B., Claßen, T., Fischer-Bonde, B., Humboldt-Dachroeden, S., Martín-Olmedo, P., Mekel, O., Pyper, R., Silva, F., Viliani, F., Xiao, Y. 2020. Human health: Ensuring a high level of protection. A reference paper on addressing Human Health in Environmental Impact Assessment. As per EU Directive 2011/92/ EU amended by 2014/52/EU. International Association for Impact Assessment and European Public Health Association Human Health Ensuring Protection Main and Appendices.pdf (eupha.org)		
Version of the tool:	Version 1_5 of the tool; last update: April 2024. Other further versions are possible based on the modifiable text document and inside management of NCDC.		

Main domains of expertise of experts/consultants

Main domains of expertise of expert/consultancy to ensure that health will be properly considered by the expert/consultant in the EA application:

Core domains of expertise to ensure that health is properly considered in the EA application:	
• Health Impact Assessment • Environmental Determinants of Health • Health determinants • Public Health • Social Inequalities in Environment and Health • Urban health	
Specific domains of expertise according to the activities/strategic document: • Air quality • Cancer	Other specific domains of expertise according to the activities/strategic document: • Alcohol • Child and adolescent health

• Cardiovascular Disease • Chemical safety • Climate and territories • Climate change • Diabetes • Disease prevention • Environmental risk assessment and risk management • Food safety • Health service delivery • Housing and health • Mental health • Migration and health • Noise • Non communicable diseases • Nutrition • Obesity • Parasitic and vector-borne diseases • Physical activity • Prevention, reduction and adaptation to natural, accidental risks • Primary health care • Public health services • Social Determinants • Transportation and health • Urban development • Water and sanitation	• Chronic respiratory diseases • Communicable diseases • Culture and Heritage • eHealth • Health policy • HIV/AIDS • Illicit drugs • Laboratory services • Malaria • Maternal, newborn and child health (MNCH) • Nursing and obstetrics • Oral health • Sexual and reproductive health • Sexually Transmitted Infections • Technological Innovations • Tobacco use • Tuberculosis • Violence and trauma

According to B. Cave (2020), 8 competencies across the field of impact assessment are relevant for those who produce, and for those who examine, EIA Reports. Health professionals should be responsible for, and engaged in, the health assessment of the EIA. That includes public health professionals, officers, officials and health authorities:

Competencies:

1. hold a relevant degree from an accredited university and/or be a member in good standing of a relevant professionally accredited organization;
2. have sufficient experience in undertaking or reviewing IA studies (number of years of experience reflecting seniority);
3. have a good or thorough working knowledge of IA methods, including cumulative and strategic IA;
4. have a capacity to effectively lead IA studies or reviews (or carry them out effectively under direction) and to look beyond compliance to develop and promote best practice;
5. have a good understanding of the structure, functioning and interrelatedness of ecological, socio-economic, health and political systems that support sustainable development and the ability to apply this understanding to sound impact assessment, review or decision-making;
6. have a working knowledge of IA administrative systems, institutions and guidelines in the country(s) in which s/he works (including related legislation and policies), and a demonstrated ability to effectively interpret and fulfill their requirements;
7. have an ability to evaluate the adequacy of IA documents, and if appropriate to craft (and follow-up on) practical project approval conditions; and
8. have an active commitment to best practice and continuing professional development through readings, publications/presentations, training, and/or mentoring.

Tool of the guidelines to consider Health in Environmental Assessment			
Name:	Health & Environment Data for first baseline (E1-2HI_DE2)	Numb:	E1-2HI_DE2
Objective:	To present a data collection that could be used as a baseline in the Draft Project/Strategic Document and in the application documents. It supports the screening decision for activities/strategic documents under Annex 2 of the Environmental Assessment Code.		
User:	Planning Authority and Consultants		
Step of use:	E1-E2, Screening and scoping		
Description:	The list is composed of a table with general indicators required to measure demography and health according to the literature. The table allows checking for each indicator if it is available and if it could be compared to the national level or another level in the different application documents.		
Composition:	Modifiable Word file		
Origin and references:	Adapted from: Webster, 2012 References: Webster, Premila & Sanderson, Denise. (2012). Healthy Cities Indicators-A Suitable Instrument to Measure Health?. Journal of urban health: bulletin of the New York Academy of Medicine. 90. 10.1007/s11524-011-9643-9.		
Version of the tool:	Version 1_5 of the tool; last update: April 2024. Other further versions are possible based on the modifiable text document and inside management of NCDC.		

Data Baseline proposed for screening and scoping application

Demographic Indicators	**General information about the availability for the relevant regions/municipalities**	**Available (Y/N) for the relevant regions/ municipalities according to the project**	**Compared and analyzed (Y/N) with national or other relevant regions/ municipalities and trends over time?**	**Comment** *(NCDC can countercheck and also provide more information on some specific topics)*
Population on the impacted territory	Data are available at region and municipal level: Statistical Information by Regions and Municipalities of Georgia (geostat.ge)			

Population by sex	Data are available at region and municipal level: Statistical Information by Regions and Municipalities of Georgia (geostat.ge)			
Population major age group	Data are available at region and municipal level: Statistical Information by Regions and Municipalities of Georgia (geostat.ge)			

Adapted Healthy city Indicators (Webster, 2012)	**General information about the availability for the relevant regions/municipalities**	**Available (Y/N) for the relevant regions/ municipalities according to the project**	**Compared and analyzed (Y/N) with national or other relevant regions/ municipalities and trends over time?**	**Comment** *(NCDC can countercheck and also provide more information on some specific topics)*
1. Health				
Mortality	Data are available at region and municipal level: Statistical Information by Regions and Municipalities of Georgia (geostat.ge)			
Main causes of death	Data are available at region and municipal level: Statistical Information by Regions and Municipalities of Georgia (geostat.ge)			
Low birth weight	Data are with NCDC, but not published at region/municipality level: Medical Birth Register			

Adapted Healthy city Indicators (Webster, 2012)	General information about the availability for the relevant regions/municipalities	Available (Y/N) for the relevant regions/ municipalities according to the project	Compared and analyzed (Y/N) with national or other relevant regions/ municipalities and trends over time?	Comment *(NCDC can countercheck and also provide more information on some specific topics)*
2. Health services				
City health education programs				
Immunization rates	Data are with NCDC, but not published at region/municipality level: Immunisation statistics			
Inhabitants per primary health care practitioner	Data are available at region level: Statistical Information by Regions and Municipalities of Georgia (geostat.ge)			
Inhabitants per nurse	Data are available at region level: Statistical Information by Regions and Municipalities of Georgia (geostat.ge)			
Percentage of population covered by health insurance	Data are with NCDC, but not published at region/municipality level: Health statistics			
Availability of services in foreign and minority languages in the area				
Health debates in city council				
Healthcare services				

Adapted Healthy city Indicators (Webster, 2012)	**General information about the availability for the relevant regions/municipalities**	**Available (Y/N) for the relevant regions/ municipalities according to the project**	**Compared and analyzed (Y/N) with national or other relevant regions/ municipalities and trends over time?**	**Comment** *(NCDC can countercheck and also provide more information on some specific topics)*
3. Environmental indicators				
Air pollution	*If any database, exist, list the potential sources of Pollutants of the territory (emission)*			
Water quality				
Sewage collection				
Household waste treatment				
Green space				
Derelict industrial sites / Soil contamination				
Sport and leisure facilities				
Pedestrianization				
Cycle routes				
Public transport access				
Public transport range				
Living space				

Adapted Healthy city Indicators (Webster, 2012)	General information about the availability for the relevant regions/municipalities	Available (Y/N) for the relevant regions/ municipalities according to the project	Compared and analyzed (Y/N) with national or other relevant regions/ municipalities and trends over time?	Comment *(NCDC can countercheck and also provide more information on some specific topics)*
4. Socioeconomic indicators				
Percentage of population in inadequate housing	Self-reported available at Households Incomes and Expenditures Survey, not reported by region.			
Homelessness				
Unemployment	Available from Labour Force Survey, GEOSTAT: Regional Statistics - National Statistics Office of Georgia (geostat.ge)			
Poverty	Self-reported available at GEOSTAT Households Incomes and Expenditures Survey, not reported by region.			
Availability of child care	Data are with Geostat, but not published at region/municipality level: Children and Youth in Georgia 2022 (geostat.ge)			
Age of mothers at time of birth	Data are with NCDC, but not published at region/ municipality level: Medical Birth Register			

Adapted Healthy city Indicators (Webster, 2012)	**General information about the availability for the relevant regions/municipalities**	**Available (Y/N) for the relevant regions/ municipalities according to the project**	**Compared and analyzed (Y/N) with national or other relevant regions/ municipalities and trends over time?**	**Comment** *(NCDC can countercheck and also provide more information on some specific topics)*
Employment of disabled people	Data are with GEOSTAT, but not published at region/municipality level: Census data			

E2 - Scoping

E2 - Scoping

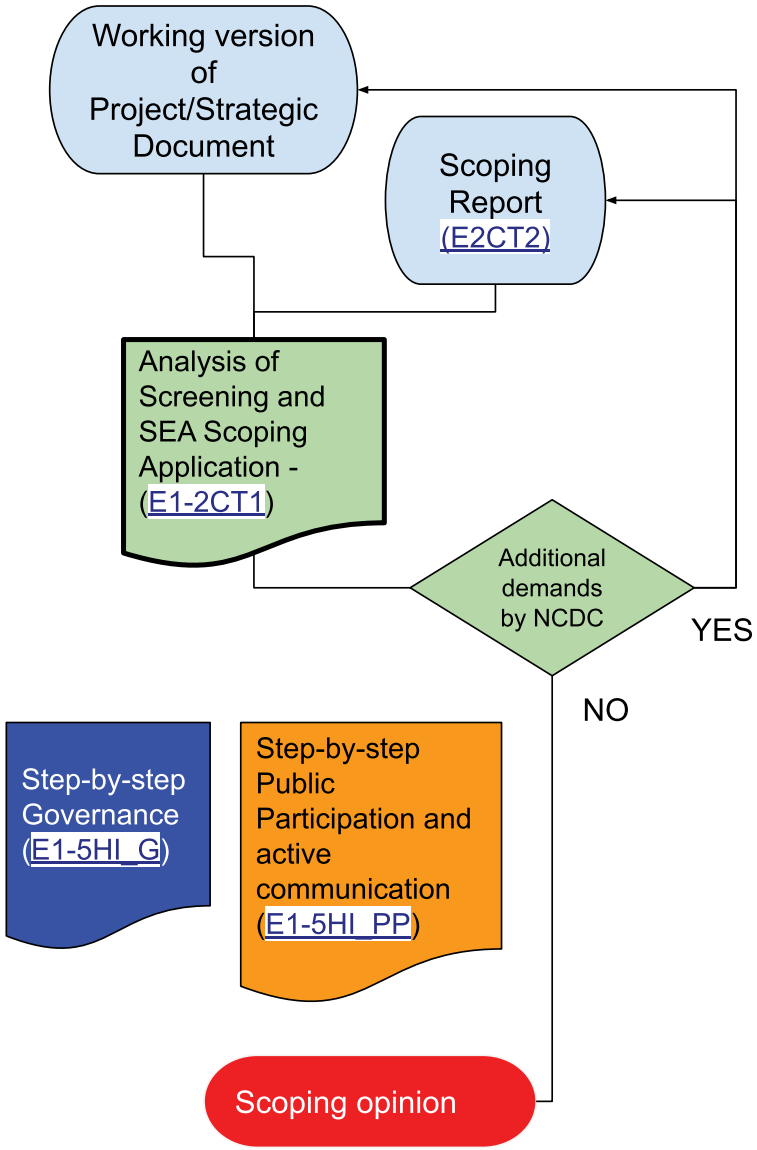
E2_ScopingFlowChart

Core tools

E1-2CT1 Analysis of Screening and/or Scoping Application (cf. screening)
E2CT2 Template for Health in Scoping Report
E2CT3 Causal Model
E2CT4 Health Determinant Sorting grid (Tool+X)

Additional tools

E1-2AT2 Screening and Scoping health inequalities assessment grid (excel file) (cf. screening)
E1-2HI_DE2 Health & Environment Data for first baseline (cf. screening)
E2AT3 Methodologies to prepare impact appraisal
E2-3HI_DE3 Basic requirements to mobilize expertise



E2-Scoping

Recommended tools for PA/consultants:

- Causal Model (E2CT3)
- Health Determinant Sorting grid (E2CT4)
- Health & Environment Data for first baseline (E1-2HI_DE2)
- Basic requirements to mobilize expertise (E2-3HI_DE3)
- Methodologies to prepare impact appraisal (E2AT3)
- Screening and Scoping health inequalities assessment grid (E1-2AT2)

EHESP, April 2024.

Core tools

Tool of the guidelines to consider Health in Environmental Assessment			
Name:	Template for health in Scoping Report (E2CT2)	Code:	E2CT2
Objective:	Mainstream health in the Scoping Report		
User:	Planning Authority and Consultants		
Step of use:	Scoping (application form)		
Description:	This tool describes the main items to address to ensure that health will be properly considered by the expert/consultant in the Scoping Report		
Composition:	Modifiable Word file		
Origin and references:	Adapted from: - Environmental Assessment Code of Georgia (Article 8 and 26) - Resolution No. 420 of 2 September 2019 of the Government of Georgia, On approval of the rule of human health impact assessment in the field of environmental assessment		
	- UNECE - GUIDELINES ON PRACTICAL APPLICATION OF STRATEGIC ENVIRONMENTAL ASSESSMENT IN GEORGIA _ Final_SEA_Guidelines_ ENG.pdf (unece.org) Additional boxes to consider health in SEA report: French unpublished expertise (M. LEGEAS, EHESP) Other tools with similar objective: none		
Version of the tool:	Version 1_2 of the tool; updated date: Feb. 2024 Other further versions are possible based on the modifiable text document and inside management of NCDC.		

According to the Environmental Assessment Code and the UNECE - GUIDELINES ON PRACTICAL APPLICATION OF STRATEGIC ENVIRONMENTAL ASSESSMENT IN GEORGIA (Annex 2) the Possible structure of Scoping Report could be completed with the elements highlighted in yellow to consider health in the Scoping Report:

Following information should be generally included in the scoping statement:

- Short annotation/summary (for health, see box 1)
- Introduction
  - The purpose and objectives of the application
  - Scoping approach
- Information about the Planning Authority and consultants, the main components of the strategic document
  - Information about the strategic document, including the implementation period of the strategic document
  - Objectives and priorities

- An overview of the main events
- The stage of preparation of the strategic document and subsequent steps
- Linkages to other relevant plans and programs

- A background description of the main environmental and human health aspects of the affected area, which should include: a brief description of the situation highlighting the main environmental and health issues and problems in the likely affected area (e.g. major sources of water pollution or biodiversity loss)
  - For health, see box 2
- Description of past trends and factors causing these trends, i.e. the main factors affecting the existing environment (for example, agriculture can be the main source of water pollution, and hunting can be the main cause of biodiversity loss, etc.)
  - For health, see box 2
- Overview of sensitive areas or hotspots for a given environmental or health issue, e.g. areas with unsatisfactory water quality, protected areas, areas vulnerable to erosion and/or flooding, etc. In this section, maps and diagrams should be used, if the area cannot be precisely defined, the "characterization of the area" should be described (e.g. "sections of the river downstream of large cities may be considered a geographic area of municipal sewage pollution")
  - For health, see box 2
- Major gaps in existing information and data, which are needed for further analysis of possible impacts
- Overview of relevant environmental and health challenges
  - Objectives should be taken from official strategic documents of international, national and/or local/municipal level, they mean e.g. National Strategy for Environmental Protection, National Action Plan for Environmental Protection, National Notification to the United Nations Framework Convention on Climate Change, etc. The tasks and objectives of the international agreements to which Georgia is a party/signatory can be used, if there is no relevant document at the national level.
  - **National health strategies and challenges to consider:** Healthcare development strategy, health promotion strategy (nutrition action plan, physical activity action plan), heat-health action plan, mental health strategy, …
- Characteristics of the area significantly affected (Note: the list below should be specified in accordance with the strategic document subordinate to the SEA. It is important that the study and SEA to be concentrated on the appropriate areas and issues):
  - Climate and climate change
  - Ambient air
  - Geology, land and soil (including land use, soil degradation and pollution)
  - Water (overview of water resources, quality, distribution, consumption, as well as, main sources of pollution)
  - Waste and Wastewater Management - Ecosystems and Biodiversity/Protected Areas
  - Cultural heritage

- Social aspects (population, economic situation)
- Access to healthcare services, individual behaviors and lifestyles, etc. Tool to use to systematically question how the project/policy/programme might affect the different factors that influence the health status of a population: E2CT3_Causal Model.docx

- Preliminary identification of priority issues to be discussed in the SEA report. Since, the scoping procedure should differentiate between important and less important issues.
  - Priority issues can be identified in advance using scoping matrices. The scoping matrix should summarize the environmental and human health issues relevant to the strategic document, which will be discussed at a later stage in the SEA process.
  - Scoping matrix that can be used to address both environmental and health issues: E2CT4_ Health Determinant Sorting grid_Matrix
- Identification of stakeholders
  - including in the public health and healthcare sector: local health authority, researchers, civil society…)
- Next steps, e.g. brief explanation and informing stakeholders about what to expect in the next stage of the SEA.
- Annexes
  - Summary of scoping consultations
  - List of references (used materials)
- The scoping statement should include information about the group responsible for the preparation of the SEA report, indicating their qualifications
- including if relevant in the public health and healthcare sector:

  E2-3HI_DE3_Basic requirements to mobilize expertise

Box 1: non-technical summary to present the SEA/EIA project, including:

a. Main health baseline and alternative scenario chosen
b. List of health determinants selected at the end of the scoping step
c. And (recommended) the causal model elaborated during the process

Box 2: The health and environment portrait of the territory.

The health and environment portrait of the territory can be composed of three "sub-portraits":

- A sub-portrait of the physical, mental and perceived health status of the inhabitants.
- A sub-portrait of the state of the living environment (physical environment, living environment, socio-economic environment).
- A sub-portrait of individual behaviors with a recognised impact on health.

Tool to be used to fill in this portrait: E1-2HI_DE2_Health & Environment Data for first baseline.docx

A sub-portrait of the physical, mental and perceived health status of the inhabitants

The sub-portrait of the state of health (physical, mental and perceived) of the populations by profile (age, sex, class, etc.), which should make it possible to reveal health inequalities, may include:

A diagnosis of physical health status based on health indicators (respiratory disease rates, cardiovascular disease rates, diabetic rates, analysis of medical causes of death, etc.).

A diagnosis of mental health status based on health indicators (suicide mortality rate, suicide attempts, drug and alcohol mortality rate, etc.).

A diagnosis of perceived health status based on indicators of well-being (feelings of psychological distress and well-being, perception of risk, self-esteem, sense of community, etc.).

A sub-portrait of the state of the living environment

The sub-portrait of the state of the living environment (physical environment, living environment and socio-economic environment), with the identification of multi-exposure zones, can include:

A diagnosis of the state of the physical environment (outdoor air pollution, surface and groundwater quality, soil pollution, soil artificialization, biodiversity) which must be drawn up as part of the environmental impact study.

A diagnosis of the state of the living environment of the inhabitants/users (electromagnetic fields, noise environment, sunshine rate, presence of heat and cold islands, quiet areas, safety and cleanliness, state of existing housing, accessibility of green and blue spaces, location of establishments receiving the public, number of schools and healthcare facilities in the area and their ease of access, etc.).

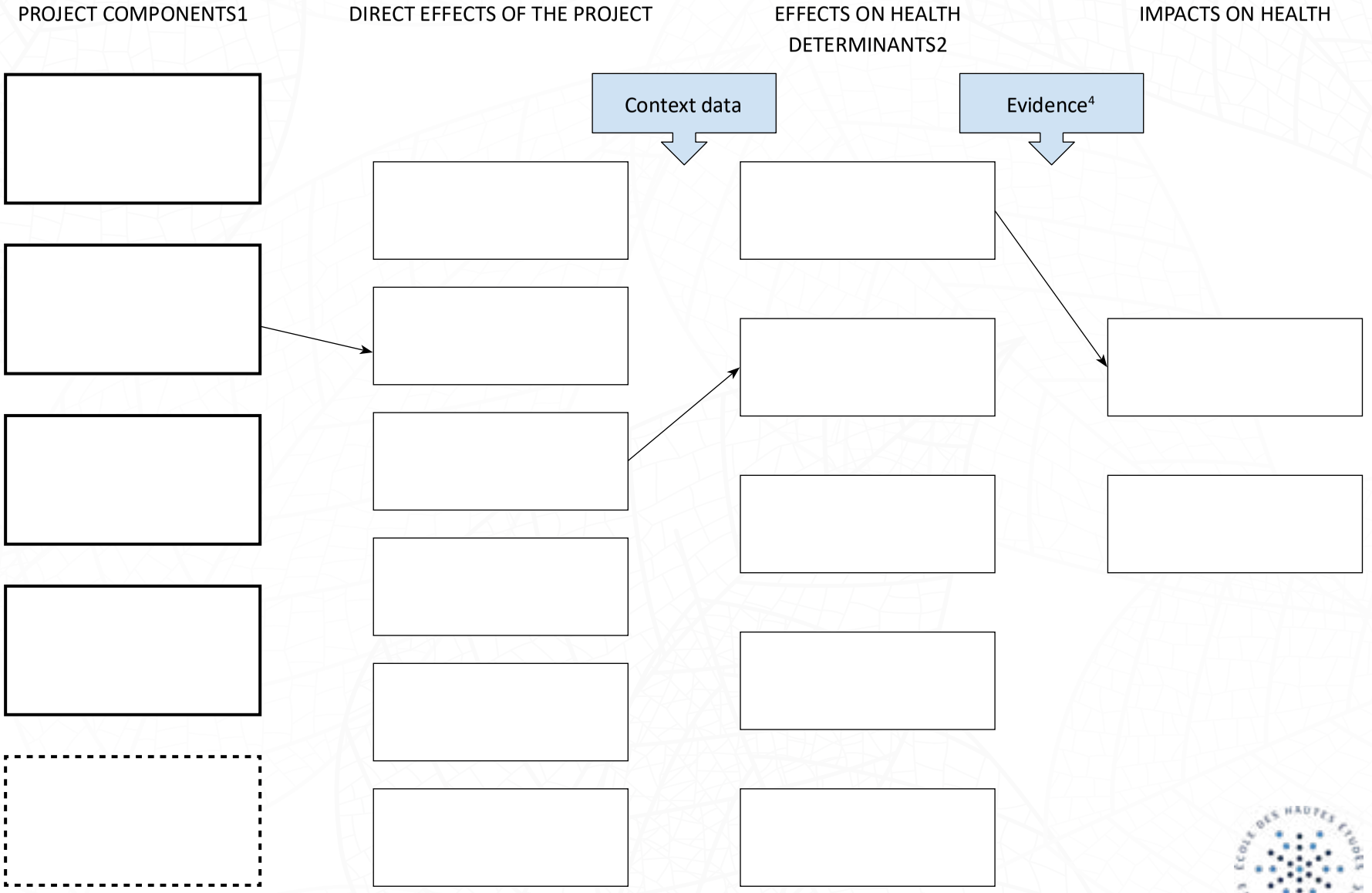
A diagnosis of the state of the socio-economic environment (income levels, social housing rates, presence and accessibility of public facilities, health care provision, frequency and quality of social interaction in the urban space, etc.). **Focus on access to health services**: specifying according to the types of services (basic care, hospitals/general and specialized clinics including maternity and pediatric care, emergencies services, prevention services (ex: vaccination, pharmacies, etc…).

A sub-portrait of individual behaviors with a recognised impact on health

The sub-portrait on individual behaviors with a recognised impact on health can include:

- A diagnosis of the practice of physical activity can be carried out (number of steps per day, time spent per day on physical activity, modes of transport, etc.). This diagnosis can be used for the programming and design of the operation to adjust it to the needs of the population, particularly in terms of mobility;
- Even if it is not directly related to planning, other diagnoses can also be carried out on other individual behaviors such as eating habits, healthcare consumption, addictive practices, etc.

Tool of the guidelines to consider Health in Environmental Assessment			
Name:	Causal Model (E2CT3)	Code:	E2CT3
Objective:	To understand how a project (and its components*) can influence the health, well-being and quality of life of one or more population groups. The causal model enables a shared vision of the project to be constructed and the health determinants to be selected for appraisal The causal model is the theoretical framework key for HIA and a graphic visualization of and the links between the project/ plan/ programme/ policy/ strategic document and health When to use it and what for? • to elaborate the explanatory hypotheses on the impacts of the project/policy on health • to define the scope of HIA (geographical or thematic) select health determinants to be explored 2023_Modele-causal_en.pdf - Google Drive		
User:	Consultants with the participation of all stakeholders (workshop) *Optimal application of the tool: Recommended by the NCDC, applied by the consultant, with the participation of all stakeholders (including the NCDC).*		
Step of use:	E2, Scoping		
Description:	A visual way to diagram the pathways between the project components and the impacts on health PROJECT COMPONENTS -> DIRECT EFFECTS OF THE PROJECT -> EFFECTS ON HEALTH DETERMINANTS -> IMPACTS ON HEALTH Method 1. Define the components* of the project. 2. Identify the changes** brought about by each component: desired direct effect, antagonisms, synergies... 3. Consider the possible consequences on the determinants of health. 4. Diagram the pathways between the project components and health. *Examples of project components: construction or renovation of housing, installation of new facilities (stadiums, etc.), establishment of a healthcare facility, development of public spaces (rehabilitation and creation of green spaces), modification of traffic lanes, roadways and access areas **Examples of changes: Increase and diversification of the built-up area, proximity of housing to industrial activities and road infrastructures, job creation, population influx, provision of local public services, requalification of green spaces, modification of the urban morphology, increase in road traffic...		
Composition:	Modifiable Word file		
Origin and references:	Adapted from & Reference: Françoise Jabot, Anne Roué Le Gall. Évaluation d'impact sur la santé, un atout pour la promotion de la santé. La promotion de la santé, comprendre pour agir dans le monde francophone., https://www.presses.ehesp.fr/produit/promotion-de-sante/, pp. 457-496, 2017, 978-2-8109-0551-5. Other tools with similar objective: -		
Version of the tool:	Version 1_5 of the tool; last update: April 2024. Other further versions are possible based on the modifiable text document and inside management of NCDC.		


PROJECT COMPONENTS1
DIRECT EFFECTS OF THE PROJECT
EFFECTS ON HEALTH DETERMINANTS2
IMPACTS ON HEALTH
Context data
Evidence4

[1] **Project components**: project interventions (actions, legislative or budgetary measures), infrastructures and equipment.

[2] **Health determinants**: factors that have an influence on the health status of a population. Here is a suggested list of the health determinants, gathered into four main categories, that might be affected by a projet, policy or programme:

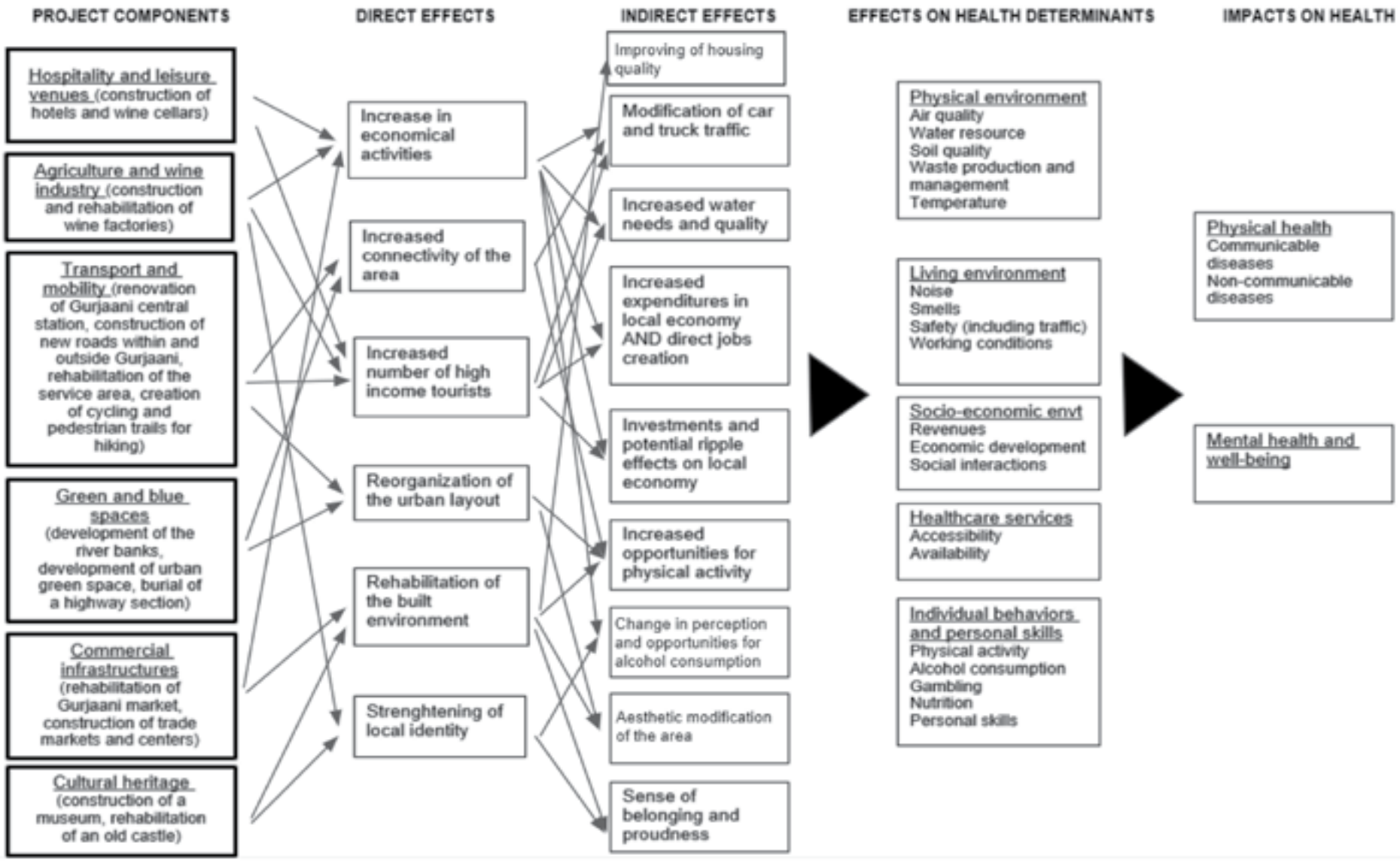
- **Individual behaviors and lifestyles**: Nutrition, Physical activity, Alcohol and tobacco consumption, Risk taking, Gambling, Personal skills (level of education, self-confidence and self-esteem, sense of control, autonomy, social and parenting skills, sense of security)
- **Physical environment**: Air quality, Water resources, Soil quality, Other chemical pollutants, Waste production and management, Biodiversity
- **Living environment**: Noise, Temperature (related to climate change effects), Brightness, Electromagnetic fields and infrastructures, Quality of public spaces, including green spaces (aesthetics, continuity, security, amenities), housing (access, safety, quality)
- **Socio-economic environment**: Food (access, quality), Energy (access, security), Employment (access, safety, conditions), Economic development, Gender equality, Social equality, Diversity of public services, facilities and shops (e.g. healthcare services, transport infrastructures, educational facilities, sport venues, grocery stores), Accessibility of public services, facilities and shops (e.g. healthcare services, transport infrastructures, educational facilities, sport venues, grocery stores), Socio-familial environment (family support, social ties and support, social and generational diversity, social cohesion)

[3] **Context data**: qualitative information or quantitative data at the local level and potential impact of the project/programme (for instance air quality projection if number of cars/traffic increases, noise pollution due to increased traffic, …)

[4] **Evidence**: scientific literature like the causality between air pollution and cardiovascular diseases and cognitive issues, green spaces and mental health, physical activity and well-being, …

EHESP

Exemple of a causal model used on Gurjaani Municipality Development plan, aiming at increasing economic development through transport hub, touristic development, spatial upgrade and wine production



Tool of the guidelines to consider Health in Environmental Assessment			
Name:	Health Determinant Sorting grid (E2CT4)	Code:	E2CT4
Objective:	Make the final selection of health determinants (by using selection criteria) and prepare the impact assessment (in step E3). At the end the health determinants are selected for the appraisal.		
User:	Consultants and Planning Authority with final opinion by NCDC		
Step of use:	E2, Scoping		
Description:	It is a turnkey tool in the form of a spreadsheet that allows for quick and easy handling and offers an optimized time to provide the final selection of health determinants selected for the appraisal, according to 2 ranges of items: ● Selection criteria: Local issues; Potential impacts of the project/ plan/ programme; HIA added-value ● Final decision on whether or not to include the health determinant in the impact assessment and comments on data availability and impact assessment methodology or, if not, reasons why the health determinant was excluded) ● Preparation of impact assessment: Main issues/mechanisms to be investigated; Expertise and stakeholders to be mobilized; Data to be collected; Impact assessment methods and tools		
Composition:	Modifiable Excel file of 2 spreadsheets		
Origin and references:	Adapted from & References: ● 2017. Jabot F., Roué Le Gall A., Dardier G., Oberlé M., Lemaire N., Romagon J., Schauder N. Evaluation des impacts sur la santé du projet d'aménagement du quartier de Port du Rhin, Ecole des hautes études en santé publique, 161 p. https://www.researchgate.net/publication/328042519_Evaluation_d%27impact_sur_la_sante_du_projet_d%27amenagement_du_quartier_de_Port_du_Rhin_a_Strasbourg ● 2023. Dardier G., Christie D.P.T.H., Simos J., Roué Le Gall A., Cantoreggi N.L., Tabbone L., Mallet Y., Jabot F. 'Health impact assessment to promote urban health: a trans-disciplinary case study in Strasbourg, France', Sustainability, 2023/15, 8013. https://www.mdpi.com/2071-1050/15/10/8013		
Version of the tool:	Version 1_5 of the tool; last update: April 2024. Other further versions are possible based on the modifiable text document and inside management of NCDC.		

Link to the turnkey tool in the form of a spreadsheet with 2 sheet (How to fill the grid & E2a Sorting grid): E2CT4_Health Determinant Sorting grid_Matrix

E2CT4 - HEALTH DETERMINANT SORTING GRID					
Health determinants	**Selection criteria**			**Final decision: is the health determinant scoped in for impact assessment?**	
	Local issues	Potential impacts of the project/ plan/programme	HIA added-value	YES / NO	**Comments** (if yes, on data availability and impact assessment methodology; if no, reason why the health determinant was scoped out)
Individual behaviors and lifestyles					
Nutrition					
Physical activity					
Alcohol and tobacco consumption					
Risk taking (for example, smoking, excessive alcohol consumption or sexual risk-taking)					
Gambling					
Personal skills (level of education, self-confidence and self-esteem, sense of control, autonomy, social and parenting skills, sense of security)					
Physical environment					
Air quality					
Water resources (quality & quantity)					
Soil quality					
Other chemical pollutants					
Waste production and management					
Biodiversity					

Living environment					
Noise					
Temperature (related to climate change issues)					
Brightness					
Electromagnetic fields and infrastructures					
Quality of public spaces, including green spaces (aesthetics, continuity, security, amenities)					
Housing (access, safety, quality)					
Socio-economic environment					
Food (access, quality)					
Energy (access, security)					
Employment (access, safety, conditions)					
Economic development					
Gender equality					
Social equality					
Diversity of public services, facilities and shops (e.g. healthcare services, transport infrastructures, educational facilities, sport venues, grocery stores)					
Accessibility of public services, facilities and shops (e.g. healthcare services, transport infrastructures, educational facilities, sport venues, grocery stores)					
Socio-familial environment (family support, social ties and support, social and generational diversity, social cohesion, self-help networks and solidarity)					

Local issues*	Potential impacts*	HIA added-value*	Final decision*	Comments*
H- High	H- High	H- High	YES or NO	
M- Medium	M- Medium	M- Medium		
L- Limited	L- Limited	L- Limited		
* Does the determinant contribute to the health status of local populations? Determined thanks to the available documentation on the territory and on the project/policy/program and to exchanges with local stakeholderss.	* Will the activities of the project/policy/programme, and any change in the determinant of health, result in a likely significant effect on health?[1] Or, are the effects of the project/policy/programme likely to be unevenly distributed among different population groups? Determined thanks to the causal model and the takeaways from the scientific literature.	* Can the approach provide new data and/or solutions in addition to the information already available? Or can the approach support or critique findings in other assessments? Determined thanks to the analysis of the SEA/EIA and the other existing studies related to the project/program/policy.		* If the final decision is YES, meaning the health determinant is retained/scoped in for impact assessment, comments regarding data availability and planned appraisal methodologies: Which quantitative or qualitative methodologies should be used to assess the potential effects of the project on this health determinant?[2] Which data is necessary to implement those methodologies and will it be possible to mobilise and/or produce it? Which expertise is necessary to implement those methodologies and will it be possible to mobilise it? If the final decision is NO, meaning the health determinant is scoped out/excluded from impact assessment, short explanation of the decision.

(1): "Significance relies on informed, expert judgement about what is important, desirable or acceptable with regards to changes triggered by the project in question" (Cave et al., 2020, p.17)

(2): Necessary data might refer to local quantitative data but also to local qualitative data or general data coming from national surveys or the scientific/grey literature.

Source:

Dardier, Guilhem, Derek P. T. H. Christie, Jean Simos, Anne Roué Le Gall, Nicola L. Cantoreggi, Lorris Tabbone, Yoann Mallet, and Françoise Jabot. "Health Impact Assessment to Promote Urban Health: A Trans-Disciplinary Case Study in Strasbourg, France" Sustainability 15, no. 10 (2023): 8013. https://doi.org/10.3390/su15108013

Additional tools

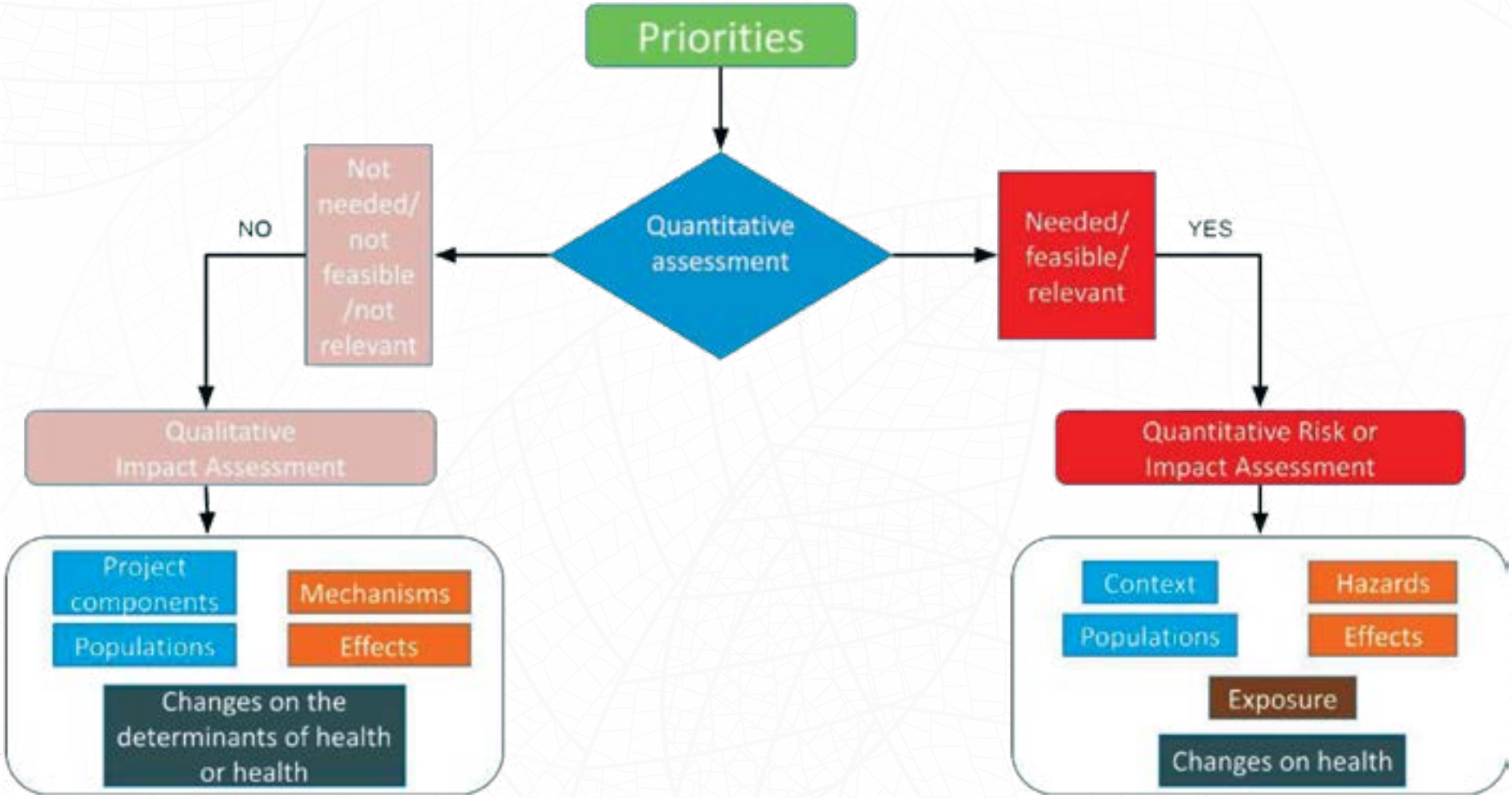
Tool of the guidelines to consider Health in Environmental Assessment			
Name:	Methodologies to prepare impact appraisal (E2AT3)	Code:	E2AT3
Objective:	The objective of the tool is to present a few pieces of information about selected quantitative and qualitative methodologies for appraisal, identifying the risks and methodologies/profiles of specialists to take part in the appraisal. It is the kind of methodologies the NCDC can ask the Planning Authority to implement in the future. It provides some sector specific guidelines from the French experience and other international best practices.		
User:	Planning Authority		
Step of use:	E2, Scoping		
Description:	General information about appraisal methodologies.		
Composition:	Modifiable Word file		
Origin and references:	Adapted from: - Matrixes of Regional Environmental Authorities in France: "Indicative grid of analysis of issues - effects - measures" for specific sectors References: Cave, B., Claßen, T., Fischer-Bonde, B., Humboldt-Dachroeden, S., Martín-Olmedo, P., Mekel, O., Pyper, R., Silva, F., Villani, F., Xiao, Y. 2020. Human health: Ensuring a high level of protection. A reference paper on addressing Human Health in Environmental Impact Assessment. As per EU Directive 2011/92/EU amended by 2014/52/EU. Other tools with similar objective: - Appendix G: How should changes in health be reported in SEA/EIA? Human Health Ensuring Protection Main and Appendices.pdf (eupha.org) International Association for Impact Assessment and European Public Health Association Human Health Ensuring Protection Main and Appendices.pdf (eupha.org)		
To update:	Version 1_5 of the tool; last update: April 2024. Other further versions are possible based on the modifiable text document and inside management of NCDC.		

Methodologies for population health impact assessment (not exhaustive)					
	Quantitative methodologies			Qualitative methodologies	
	Risk assessment	Quantitative Impact assessment	Biological exposure assessment	GIS/mapping approach	Sociological approach
Significance	Probability of undesired effects	Percentage of a health outcome attributable to a specific nuisance	Internal exposition of exposure pathways	Characterization of the positive and negative effects of the project on the selected determinants of health through identified mechanisms	Characterization of the positive and negative effects of the project on the selected determinants of health through identified mechanisms
Methods	Modeling, toxicology and environmental measurements/ samplings	Epidemiology, cohorts	Biological measures	**Data collection:** Collection of local data using the sociological field survey tools (individual interviews, observation time, questionnaires, etc.) + extraction of data from project documentation **Data analysis:** Superimposition of the «initial state/baseline» layer with the «project» layer, carried out manually or computer-assisted (using GIS). Confrontation of the findings with the scientific literature	**Data collection:** Collection of local data using the sociological field survey tools (individual interviews, focus groups, observation time, questionnaires, etc.) + extraction of local secondary data from project documentation and general data from international or national surveys/databases **Data analysis:** Multi-case thematic analysis and/ or single case individual analysis, carried out manually or computer-assisted (using CAQDAS such as NVivo). Confrontation of the findings with the scientific literature

Methodologies for population health impact assessment (not exhaustive)					
	Quantitative methodologies			Qualitative methodologies	
	Risk assessment	Quantitative Impact assessment	Biological exposure assessment	GIS/mapping approach	Sociological approach
Timeframe	Short-term	Long-term	Middle-term	Short to long-term	Short to middle-term
Application	Contaminated and polluted soils, food safety risks, chemicals substances	Impact of air pollution (using AirQ+ for example) Impacts of noise pollution Impacts of heatwaves	General population Specific population	Accessibility of public services, facilities and shops Quality of public spaces Physical activity (walkability)	Social ties, social cohesion Gender and social equality Individual behaviors and personal skills (e.g. Sense of security)
Entrypoint/ inclusion in for SEA/EIA/HIA	- Baseline - Risk assessment	- Baseline - Scenarios if there are alternatives to the plan/ program/ project	- Baseline	- Baseline - Impact assessment	- Baseline - Impact assessment
Responsible authority and budget	Planning Authority with support from NCDC (methodology)	Planning Authority with support from NCDC (methodology)	Planning Authority with support from NCDC (methodology)	Planning Authority with support from NCDC (methodology)	Planning Authority with support from NCDC (methodology)

The diagram below illustrates the key points of a quantitative or qualitative assessment.

For quantitative methodologies, the dossier must present information on: the context, scientific knowledge of the effects, the models used to characterise exposure and the distribution of effects on the health of populations.



From Cave[1], there are several quantitative methods available to estimate health impacts, but mostly they are grouped in two main categories:

- human health risk assessment (HHRA) and
- comparative risk assessment (CRA) or burden of diseases.

Human health risk assessment

HHRA, especially where based on toxicological scientific evidence, can be conducted quite quickly at modest expense, providing direct information on the urgency of intervention to protect the health of population, remediate exposure, or identifying appropriate public health actions such as medical monitoring, health education, and/or health surveillance and substance-specific research. HHRA estimates could inform whether or not the population might be at risk of being affected by non-carcinogenic or carcinogenic health effects, but does not quantify the number of health events (in terms of morbidity and mortality) associated with such exposure. A wide variety of other guidance on how to conduct HHRA in contaminated sites is offered by different international, national, and regional health and environmental agencies.

Useful considerations on the use of quantitative methods for assessing health effects in the context of EA can be drawn from similar discussions within the field of HIA. Several publications recommended a framework for robust quantitative HIA that is applicable to the health assessment of an EA:

1. Profile affected populations;
2. Identify potential impacts;
3. Obtain evidence for impacts;
4. Determine how impacts are affected by differences in subgroups' exposures and susceptibilities;
5. Draw up causal pathway;
6. Select impact measures;
7. Select (or develop) statistical model;
8. Test statistical model against empirical data & sensitivity analyses;
9. Consider economic analysis (cost-effectiveness).

Established quantitative health methods can be used for estimating health effects. These methods, and their underlying evidence base, may inform the use of quantitative approaches for estimating health effects in the context of EA. Examples include:

- Health risks of air pollution in Europe – HRAPIE project: Recommendations for concentration–response functions for cost–benefit analysis of particulate matter, ozone and nitrogen dioxide; especially with the use of AirQ+ (quantitative health impact assessment tool)
- Introduction and methods: assessing the environmental burden of disease at national and local levels;
- Methodological guidance for estimating the burden of disease from environmental noise; and
- Health economic assessment tool (HEAT) for walking and for cycling: Methods and user guide on physical activity, air pollution, injuries and carbon impact assessments.

[1] Human Health Ensuring Protection Main and Appendices.pdf (eupha.org) Cave, B., Claßen, T., Fischer-Bonde, B., Humboldt-Dachroeden, S., Martín-Olmedo, P., Mekel, O., Pyper, R., Silva, F., Viliani, F., Xiao, Y. 2020. Human health: Ensuring a high level of protection. A reference paper on addressing Human Health in Environmental Impact Assessment. As per EU Directive 2011/92/EU amended by 2014/52/EU. International Association for Impact Assessment and European Public Health Association Human Health Ensuring Protection Main and Appendices.pdf (eupha.org)

Comparative risk assessment

CRA involves calculating the population attributable risk, or where multi-level data are available, a potential impact fraction, defined as the proportion of future burden of disease or injury that could be avoided if current or future exposure levels to a risk factor or group of risk factors were reduced to hypothetical scenarios. This is a population-based approach, which aims to assess changes in the specific studied population, using epidemiological methods and evidence. Such approaches may not be readily applicable within EA due to the small populations regularly affected by a project/plan/programme, quite different to those for which the exposure-response functions were defined. However, if the risk characterisation highlights a need for assessment using the population-based approach, the Competent Authority should be explicit about it and the deadline should accommodate this.

Indicative grids of analysis of issues - effects - measure used in France

https://drive.google.com/drive/folders/1LJ_bNiMQKXkTQbBqsAFVccMBqvKGk2KK?usp=share_link

Health is partially addressed throughout them, especially through the topic of sanitation and sanitary norms.

The grids contain the following:

- Key issues
- Main effects
- Main measures for removal/avoidance, reduction and compensation
- Specific methods of investigation and analysis to precise at the scoping stage + necessary contacts

The sectors for which we have some supportive guidelines are the following and you can find the english translations here:

- Agriculture: Guide + Annexes
- Transport: Urban transport / tramways + Roads + Roads
- Checklist for urban planners: health in urban planning Isadora_Fiches_GEO + ademe_synthese_sante-urbanisme-durable_version_en_anglais.pdf
- Tourism: Tourism and sport facilities, especially in mountainous areas
- Forestry: land clearing
- Energy: photovoltaic
- Waste water: Wastewater treatment plant

Indicative grids of analysis of issues - effects - measure used for specific sectors

Hydropower:

IFC, 2018. Good Practice Note: Environmental, Health, and Safety Approaches for Hydropower Projects (კარგი პრაქტიკის რეკომენდაციები: გარემოსდაცვითი, ჯანმრთელობისა და უსაფრთხოების მიდგომები ჰიდროელექტროსადგურების პროექტებისთვის).gpn-ehshydropower.pdf

NCEA, 2018. ESIA and SEA for Sustainable Hydropower Development. (ბსგზშდასგშჰიდროენერგეტიკის მდგრადი განვითარებისთვის) (https://www.eia.nl/documenten/00000361.pdV&E ESIA and SEA for Sustainable Hydropower Devel2.pdf

EBRD, 2019. Environmental and Social Good Practice Note Small Hydropower Projects. (გარემოსდაცვითი და სოციალური საუკეთესო პრაქტიკის რეკომენდაციები მცირე ზომის ჰიდროენერგეტიკული პროექტებისათვის) 1136-environmental-and-social-good-practice-note-small-hydropower-projects.pdf

Energy Community Secretariat, 2020. Policy Guidelines on Small Hydropower Projects in the Energy Community. (პოლიტიკის სახელმძღვანელო მცირე ზომის ჰიდროელექტროსადგურების პროექტებთან დაკავშირებით ენერგეტიკულ საზოგადოებაში) https://energycommunity.org/dam/jcr:91af0fb3-54e6-4755-8607-0c1c6e400917/HPP_PG_02-2020.pdf

Indicative information from the International Association of Impact Assessment has developed a serie of sub-sectors specifics to renewable energy, available here: SEA GUIDANCE FOR RENEWABLE ENERGY DEVELOPMENT (iaia.org)

PART B: SUB-SECTOR SPECIFIC ISSUES

Tool of the guidelines to consider Health in Environmental Assessment			
Name:	Basic requirements to mobilize expertise (E2-3HI_DE3)	Code:	E2-3HI_DE3
Objective:	***If expert/consultancy is/are or will be mobilized***, this tool allows to evaluate the quality of expert/consultant selection based on evidence of guarantees of quality of the expert/consultant to ensure that health will be properly considered by the expert/consultant in the EA application.		
User:	NCDC, Planning Authority and Consultants		
Step of use:	Scoping; appraisal		
Description:	This tool describes the main items to address to ensure that health will be properly considered by the expert/consultant in the EA application. It proposes i) lists of domains of competences to analyze a CV and ii) an example of sworn statement for experts and consultancy to contribute to values (independency, absence of conflict of interest, responsibility)		
Composition:	Modifiable Word file		
Origin and references:	Adapted from: Environmental evaluation charter for engineering firms Expertise france code of conduct Sworn statement on exclusion criteria, the absence of conflict of interest Copie de gex liste domaine eng References: **Chapter 10. Competence and expertise** of Cave, B., Claßen, T., Fischer-Bonde, B., Humboldt-Dachroeden, S., Martín-Olmedo, P., Mekel, O., Pyper, R., Silva, F., Viliani, F., Xiao, Y. 2020. Human health: Ensuring a high level of protection. A reference paper on addressing Human Health in Environmental Impact Assessment. As per EU Directive 2011/92/EU amended by 2014/52/EU. International Association for Impact Assessment and European Public Health Association Human Health Ensuring Protection Main and Appendices.pdf (eupha.org) Other tools with similar objective: Appendix 16 - Procurement of Services for HIA Consultant of UNDP report prepared by Irina Davis dec 2019 Strengthening HIA in SEA in Georgia		
Version of the tool:	Version 1_5 of the tool; last update: April 2024. Other further versions are possible based on the modifiable text document and inside management of NCDC.		

Procurement of Services for Expert/Consultant

This document describes the basic requirements of the expert/consultant to ensure that health is properly considered in the EA application. To ensure the quality of the expertise/consultancy, CV and a signed sworn statement on exclusion criteria and absence of conflict of interest (see below) must be presented within application documents.

1. GUARANTEED INDEPENDENCE

The expert/consultancy must notify, in advance, of any conflict of interest that may arise in the performance of its duties or that may affect its independence.

2. DUTY TO INFORM AND CONFIDENTIALITY

The expert/consultancy must treat all information received or to which it has access during its work, as strictly confidential.

3. TRANSPARENCY

The expert/consultancy must describe and justify the methods and techniques that it uses and must explain how the collected data is processed. It must use standardized methods, where these exist, in the interest of reproducibility and monitoring. The expert/consultancy must specify the limitations of the results of the study, in line with the scientific and technical difficulties encountered and the reliability of the techniques used.

4. APPROPRIATE RESOURCES

The expert/consultancy must propose quantified details of its human, technical and financial resources, commensurate with key issues and challenges of the project. It must ensure that the proposed resources (employees and subcontractors) are adequate.

5. IDENTIFICATION OF SUITABLE SKILLS

The expert/consultancy must demonstrate ability to conduct with health consideration:

- For cross-functional analyses (interactions and inter-relations between environmental components, including, social and societal components where applicable) and summarize;
- For holistic analysis of spaces and ecosystems, including interactions between them (initial training and/or continuing professional development, experience);
- With knowledge of the various themes and the corresponding analysis methods, in order to be able to define, incorporate and verify the services provided by specialists.

The health domains of competences are listed in the table below.

6. MOBILIZATION OF SUITABLE SKILLS

The expert/consultancy must provide evidence of the professional experience and skills held by its employees and subcontractors, where applicable. It must provide up-to-date documentary evidence of the proposed skills (e.i. CV and other official documents)

7. ORGANIZATION, PROJECT MANAGEMENT AND QUALITY CONTROL CAPABILITIES

The expert/consultancy must implement suitable quality control measures, commensurate with the issues and challenges associated with its services, throughout the E and H assessment. It must also conduct a quality control of the deliverable documents.

8. RESPONSIBILITY

The expert/consultancy is bound by a best-efforts obligation, rather than a performance obligation, in its conduct of the environmental evaluation, particularly in terms of securing administrative authorisation, where applicable. The expert/consultancy (and its subcontractors) must be covered by appropriate professional liability insurance policies.

Table: Domains of expertise of expert/consultancy:

<table>
<tr><td colspan="2">Core domains of expertise to ensure that health is properly considered in the EA application:
Health Impact Assessment
Environment and health
Health determinants
Public Health
Social Inequalities in Environment and Health
Urban health</td></tr>
<tr><td>Specific domains of expertise according to the activities/strategic document:
Air quality
Cancer
Cardiovascular Disease
Chemical safety
Climate and territories
Climate change
Diabetes
Disease prevention
Environmental risk assessment and risk management
Food safety
Health service delivery
Housing and health
Mental health
Migration and health
Noise
Non communicable diseases
Nutrition</td><td>Other specific domains of expertise according to the activities/strategic document:
Alcohol
Child and adolescent health
Chronic respiratory diseases
Communicable diseases
Culture and Heritage
eHealth
Health policy
HIV/AIDS
Illicit drugs
Laboratory services
Malaria
Maternal, newborn and child health (MNCH)
Nursing and obstetrics
Oral health
Sexual and reproductive health
Sexually Transmitted Infections
Technological Innovations</td></tr>
</table>

• Obesity • Parasitic and vector-borne diseases • Physical activity • Prevention, reduction and adaptation to natural, accidental risks • Primary health care • Public health services • Social Determinants • Transportation and health • Urban development • Water and sanitation	• Tobacco use • Tuberculosis • Violence and trauma

According to B. Cave (2020), 8 competencies across the field of impact assessment are relevant for those who produce, and for those who examine, EA Reports. Health professionals should be responsible for, and engaged in, the health assessment of the EA. That includes public health professionals, officers, officials and health authorities:

Competencies:

1. hold a relevant degree from an accredited university and/or be a member in good standing of a relevant professionally accredited organization;
2. have sufficient experience in undertaking or reviewing IA studies (number of years of experience reflecting seniority);
3. have a good or thorough working knowledge of IA methods, including cumulative and strategic IA;
4. have a capacity to effectively lead IA studies or reviews (or carry them out effectively under direction) and to look beyond compliance to develop and promote best practice;
5. have a good understanding of the structure, functioning and interrelatedness of ecological, socio-economic, health and political systems that support sustainable development and the ability to apply this understanding to sound impact assessment, review or decision-making;
6. have a working knowledge of IA administrative systems, institutions and guidelines in the country(s) in which s/he works (including related legislation and policies), and a demonstrated ability to effectively interpret and fulfill their requirements;
7. have an ability to evaluate the adequacy of IA documents, and if appropriate to craft (and follow-up on) practical project approval conditions; and
8. have an active commitment to best practice and continuing professional development through readings, publications/presentations, training, and/or mentoring.

Technical competencies must reflect an expertise within the topics of IA, environment and health. A public health background is desirable with knowledge and skills across relevant health determinants. Assessments of human health are inter-disciplinary so there is a need for a flexible aptitude to engage in various topics. Experts with a high degree of specialisation can provide focus on specific topics.

A team should have mixed skills and the ability to translate and adapt to the technical demands for different sectors that bring forward EIA projects, i.e. projects of different natures. This ensures a comprehensive coverage of relevant health determinants and avoids a one-size-fits-all approach to scoping and assessment.

Public health and IA competencies should be evident across the team undertaking the health assessment, i.e. good practice would be for both the EA Report health chapter author and technical reviewer to be competent experts. Competencies should also be evident across the team required to have sufficient expertise to examine the EA Report and reach reasoned conclusions.

Exemple: Statement document:

SWORN STATEMENT ON EXCLUSION CRITERIA, AND THE ABSENCE OF CONFLICT OF INTEREST

[Document to be adapted]

Purpose of the contract: xxx

The undersigned (*name of the signatory of this form*):

- full official name:
- official legal form:
- full official address:
    - o acting in his/her own name (in the case of an application by a physical person with legal personality):

    or

    - o acting as representative of the following legal entity:

1. declares that he/she/it is not in any of the situations referred to the Georgian Public procurement code, and in particular those in which he/she/it:

    a) has been sentenced by a judgment of a competent authority having the force of res judicata for any offense affecting his/her/its professional integrity;

    b) or any member of the management, administrative, executive or supervisory or a physical person who has powers of representation, of decision or of control over the above mentioned legal person has not been convicted as referred to in point (a);

    c) has not complied with his/her/its obligations relating to the payment of social security contributions or obligations relating to the payment of taxes in accordance with the legal provisions of the country where he/she/it is established or those of the contracting authority's country or those of the country where the contract is to be executed[1];

    d) is in a state or is the subject of bankruptcy, liquidation, judicial settlement proceedings or an arrangement with creditors, cessation of activity, or is in any similar situation resulting from proceedings of the same kind under the national laws and regulations;

1 Recent certificates or letters issued by the competent authorities of the relevant State are required. These documents must provide proof of payment of all taxes, duties and social security contributions for which the tenderer is liable, including VAT, income tax (individuals only), corporation tax (legal entities only) and social security costs.

e) has been subject to an administrative penalty issued by a State or by any International Organization;

In the hypothesis of such a decision of exclusion, we can join to the present declaration on honor the additional information which would allow to consider that this decision of exclusion is not relevant within the framework of the market.

2. declares that he/she/it:
   a) is not in a conflict of interest in relation to the contract[1];
   b) will promptly inform the contracting authority about any situation constituting a conflict of interest or likely to lead to a conflict of interest;
   c) has not granted, sought, requested or accepted, and undertakes not to grant, seek, request, or accept, financially or in kind, any benefit for or on behalf of any person where such benefit is an illegal practice or amounts to corruption, directly or indirectly, in the form of a gift or reward in relation to the award of the contract;
   d) has provided accurate and complete information to the contracting authority in the context of this procurement procedure;
3. acknowledges that he/she/it may be subject to judicial, administrative and financial penalties if it is established that misrepresentations have been made or that false information has been provided.
4. In the event of award of the contract, the following details must be provided upon request and within the deadline set by the contracting authority:

   For the cases mentioned in points (1), a recent extract from the criminal record is required or, failing that, a recent equivalent document, issued by a judicial or administrative authority of the country of origin, showing that the requirements concerned are met[2].

   With regard to the situations described in points (1), when a document referred to in the two paragraphs above is not issued in the country concerned, it may be replaced by a sworn statement or, failing that, a solemn declaration, made by the person concerned before a judicial or administrative authority, a notary or a qualified professional body of the country of origin.

   If the tenderer is a legal entity, information concerning individuals having the power of representation, decision or control over that legal entity must be provided only at the request of the contracting authority.
5. declares that he/she:
   a) do not acquire and don't supply/will not acquire or supply equipment and do not intervene/will not intervene in sectors under embargo by the United Nations, the European Union or France;
   b) is not included in the lists of financial sanctions adopted by the United Nations, the European Union, Georgia and/or the United States, notably in the fight against the

1 a conflict of interest may result from economic interests, political or national affinities, family or emotional ties, or any other type of relationship or common interests.

2 If the tenderer is a legal entity and the national law of the country in which it is established does not provide for the provision of such proof for legal entities, these documents are required for the relevant individuals, such as company managers or any person having the power of representation, decision or control of the tenderer.

financing of terrorism and against attacks on national peace and security. For information, the lists can be consulted at the references below:

- for the United Nations, the United Nations Security Council sanctions lists: https://www.un.org/securitycouncil/content/un-sc-consolidated-list,
- for the European Union, the lists can be consulted at the following address: https://www.sanctionsmap.eu,
- for Georgia, see: (to be adapted),
- for the United States, see: https://home.treasury.gov/policy-issues/financial-sanctions/sanctions-programs-and-country-information,

c) is not subject to a World Bank exclusion order and is not on the list published by the World Bank. For information, the list can be consulted at the following address: https://www.worldbank.org/en/projects-operations/procurement/debarred-firms

6. acknowledge and accept that the above-mentioned situations may lead to the automatic termination of the contract.
7. undertake to inform the Planning Authority without delay of any change in the situation during the execution of the Contract with regard to the present declaration.
8. declares that it has read the provisions of this statement and undertakes to comply with them throughout the procurement procedure.

Signature of a person authorized to engage and represent the tenderer *This insert is to be signed in the case of an expression of interest filed by a legal entity*	
Last name: First name: Role:	Date: Signature:

E3 - Preparing Report and Public Hearing

E3 - Preparing Report and Public Hearing

E3_PreparingReportFlowChart

Core tools

E3CT5 Impact assessment matrix

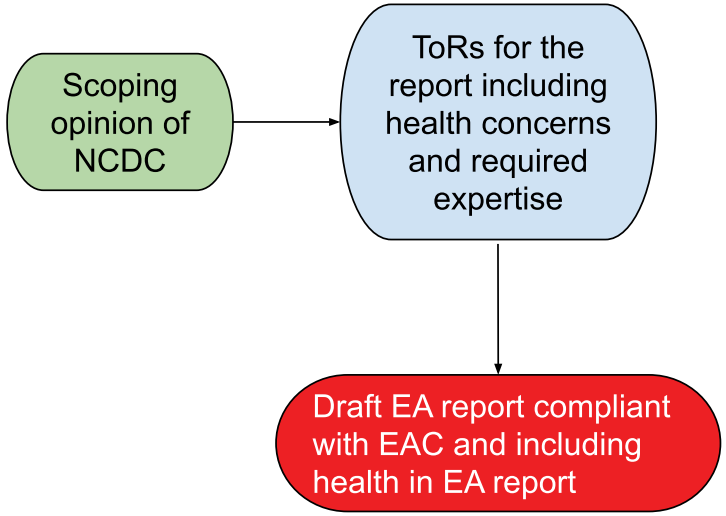
E3CT6 Template for Health in EA report

Additional tools

E2-3HI_DE3 Basic requirements to mobilize expertise (cf. scoping)

E3_PublicHearingFlowChart

E3-Preparing Report



Recommended tools for PA/consultants:

- Impact assessment matrix (E3CT5)
- Health in EA report template (E3CT6)
- Basic requirements to mobilize expertise (E2-3HI_DE3)

- Step-by-step Governance (E1-5HI_G)
- Step-by-step Public Participation and active communication (E1-5HI_PP)

EHESP, April 2024.

Core tools

Tool of the guidelines to consider Health in Environmental Assessment			
Name:	Impact assessment matrix (E3CT5)	Code:	**E3CT5**
Objective:	To represent variables specific to health determinants categories and several items to impacts: Explanatory mechanisms, indicators, sources of information, affected population groups, and timing		
User:	Planning Authority and Consultants recommended by NCDC		
Step of use:	E3, Preparing the Report		
Description:	Table to be filled in.		
Composition:	Modifiable Excel file of 3 spreadsheets: - How to use the matrix - 1- Reminder of Health Determinant selection - 2-Impact Assessment Matrix		
Origin and references:	Adapted from: National French guides (EHESP-MoH): Agir pour un urbanisme favorable à la santé 2014 Book "La promotion de la santé, Comprendre pour agir dans le monde francophone" 978-2-8109-0885-1. Chapter by Roué Le Gall A. and Jabot F. Adapted by EHESP expertise (may 2023) Other tools with similar objective: -		
Version of the tool:	Version 1_5 of the tool; last update: April 2024. Other further versions are possible based on the modifiable text document and inside management of NCDC.		

Modifiable spreadsheet file: E3CT5_Impact assessment matrix_spreadsheet file

HOW TO USE THE MATRIX FOR PA AND Cons ?

Each plan/programme is assessed with regard to the determinants of health that were selected at the end of the scoping stage. Each determinant of health is evaluated at the different stages of the impact study: Analysis of the initial state (baseline), analysis of temporary and permanent impacts, "Avoiding-Reduction-Compensation" measures (mitigation and countervailing), etc. This approach must facilitate the writing of the "health component" of the EA report (see. Core tool n°6 "Health in EA Report Template" - especially its box 4).

By offering an analysis of each determinant selected with regard to the challenges of the project, it allows the assessor to produce, in the end, an overall analysis of the impacts. These annotations will also allow him to understand all the strengths and weaknesses of the project.

The assessment is organized in three stages: Reminder of the determinants of health selected at the end of the scope stage and rationale behind these choices, assessment of the temporary and permanent impacts of the project and its mitigation measures for each selected determinant of health, overall assessment of the project.

1	Health determinant affected		Presents the determinant of health which will be assessed.
2	Project component		Presents, for each impact on health described in the matrix, the specific project component that generates this impact.
3	Baseline		This column allows to assess the initial state by identifying: • all the elements likely to be affected by the project (air, water, soil, noise, social cohesion, mobility-transport, development, etc.) as well as the interrelationships between these elements; • the assets of the site, the natural or anthropogenic pollution, the sensitivity of the environments and more broadly the characteristics of the territory in which the project will take place project. This step is decisive insofar as it serves as a reference to measure the positive or negative changes brought about by the project. The baseline should be as exhaustive as possible in its findings, should not omit essential data and should not minimize possible vulnerabilities of the site. For example, for the "air quality" determinant, the initial state must include (non-exhaustive list): • an inventory of the various sources of pollutant emissions already present on the site and at proximity, with the most exhaustive qualitative and quantitative inventory possible of the pollutants released; • if relevant, measured or modeled and updated data; • the project must: - comply with the regulations in force (verification of the conformity of the project with regulatory values and enforceable framework documents (requirements); - take into account the objectives specific to the territory (and not general objectives, valid nationally) recorded in planning or policy documents.
4	Analysis of temporary impacts		This column allows to analyze the impacts of the project during the construction phase on the environment and the health of populations.

			"Temporary" impacts are, for example, the production of dust, noise, vibrations, cuts in networks, diversion of public transport and pedestrian routes, rehousing, etc. They have immediate consequences and are essential to take into account in the analysis of the project: on the one hand because of the nuisances caused, even in a limited time (which can moreover sometimes be prolonged), do not compensate for each other with the well-being that the project can bring once completed (the example of the rehousing of people during the rehabilitation of buildings is a fairly eloquent example); on the other hand because good management of nuisances and disturbances caused from the start of the project is the guarantee of a development that respects the physical and mental well-being of people. It is necessary that the temporary impacts become low enough to preserve the environment and not harm health.
5	Analysis of Avoiding/Reduction/ Compensation measures of temporary impacts		This column should present the measures taken to, if possible, avoid the negative impacts of the project from the outset, knowing that: • **"avoid"** is always a better option (if it is possible) than "reduce" or "compensate for"; • **"reduce"** only occurs in a second phase, when the negative impacts on the environment and health could not be fully avoided. These impacts must then be sufficiently reduced to only constitute the smallest possible residual negative impacts. Lastly, if the reduction did not make it possible to obtain sufficiently low residual impacts, it is a matter of compensating for them; • **"compensate"** must make it possible to restore the initial state, be technically and financially feasible and efficient. If it is also not possible to compensate for the negative effects caused by the project, the project owner must imperatively justify this impossibility. Reduction and compensation measures rarely have immediate and definitive effects.

				This is why they should be monitored by the contracting authority. The latter must explain how it intends to manage these measures over time to ensure their effectiveness and efficiency. It is important to specify (if possible): the duration of the development and therefore the phasing of the works; whether or not the site is inhabited during the development.
6	Assessment of residual temporary impacts	Sense	+	This column is used to "score" (negative, neutral, positive) the impacts of the project during the construction phase on the environment and health once the mitigation measures have been applied. The impacts are also characterized in terms of: • Intensity: extent of change, ability to manage consequences, duration of effects: low, medium, high, very high • Probability of occurence: strenghteness of the demonstrated links between the intervention and the impact and uncertainty level of the intervention implementation: unlikely, possible, probable, certain • Geographic extent: micro local, local, regional, national • Populations affected: sociodemographic profile and percentage of total population affected • Effects on health inequities: Worsening or decrease, based on the sense of the impact and the groups of population that are going to be affected, with a specific attention to vulnerable groupes
			-	
		Intensity		
		Probability of occurrence		
		Extent		
		Affected populations		
		Effect on health inequities		
7	Analysis of permanent impacts and cumulative effects			This column allows the analysis of the permanent impacts of the project or the cumulative effects on the environment and the health of populations. **Permanent impacts:** for example, the creation of a railway infrastructure will generate a additional and permanent source of noise. Concerning the socio-economic determinants, the evaluator may possibly be led to point out inconsistencies of the project with the

			territorial context in which it is located: For example, lack of meshing of cycle paths with the rest of the municipality, typologies and statutes of housing not suitable for all socio-demographic categories: housing not suitable for the elderly, unable to accommodate families with modest incomes, ... and which defitnitely impact the quality of life of the populations if the project remains as it is. **Cumulative effects:** On a scale larger than the perimeter of the development project: the Planning Authority must consider the cumulative effects of the project with other known projects. "Known projects" means: Projects that have been the subject of an impact document and a public inquiry; Projects that have been the subject of an impact study with the opinion of the environmental authority, made public. These projects are only known and therefore have not yet entered the operational phase. The scope to be taken into account must be that concerned by the major issues (environmental and health) related to the project. Within this scope, taking into account the cumulative impacts of all the plans and projects (same or different contracting authority) can lead to an overall review and improvement all the projects in order to limit their cumulative impacts. The evaluator will have to assess whether the study area is delimited judiciously with regard to the issues of health of the population and polluting and/or harmful equipment present on the territory. In this regard, the impact assessment zone may differ from one issue to another: The ground-building interface is assessed at the micro scale of the building, the impact on water quality at the more macro of the underground water resources. Regarding air quality, the presence of an incineration plant on or outside the perimeter of the development project will necessarily have an additional health impact for all nearby populations. It is also a question of including new sources of pollutant emissions and characterizing them:

			• Planned construction of new facilities classified for the environment and qualification of the type of emission; • Planned construction of housing and type of energy used for heating and hot water sanitary (whether or not using renewable energies); • Expected increase in road traffic and nature of the expected increase (if more lories/heavy goods vehicles, more pollution important compared to light vehicles). The analysis of permanent impacts and cumulative effects must also allow (non-exhaustive): • To take into account the direct effects: these are the effects directly attributable to the developments that are planned. They have immediate consequences. For example, the project may damage the landscape or lead to the destruction of elements of cultural heritage. They can also lead to water and air pollution, the production of various wastes; • To take into account the indirect effects: these are the effects that result from a causal relationship originally having a direct effect. These effects can be felt on land far from the project and within more or less long timeframes. This may be, for example, cascading effects that propagate through several compartments of the environment without the intervention of new planning stakeholders. This is the case of soils polluted by the construction of a classified facility and which years later, on distant land, will come contaminate groundwater on another site. It can also be effects induced by the project, in particular on the socio-economic level or on the living environment of the inhabitants: Creation of new businesses and emergence of Competition, creation of housing and increase in traffic with increased air pollution and noise pollution.

8	Analysis of Avoiding/Reduction/ Compensation measures of permanent impacts and cumulative effects			This column makes it possible to assess whether the mitigation measures make it possible to make the impact of the plan/project on health and the environment sufficiently weak (idem column 5).
9	Assessment of residual permanent impacts and cumulative effects	Sense	+	This column is used to "score" (negative, neutral, positive) the permanent impacts of the project on the environment and health once the mitigation measures have been applied. The impacts are also charactetized in terms of: • Intensity: Extent of change, ability to manage consequences, duration of effects: low, medium, high, very high • Probability of occurence: Strenghteness of the demonstrated links between the intervention and the impact and uncertainty level of the intervention implementation: Unlikely, possible, probable, certain • Geographic extent: Micro local, local, regional, national • Populations affected: Sociodemographic profile and percentage of total population • Effects on health inequities: Worsening or decrease
			-	
		Intensity		
		Probability of occurrence		
		Extent		
		Affected populations		
		Effect on health inequities		
10	Sources of information			Literature (literature review, systematic review, other literature), quantitative modeling, survey of experts, professionals, populations, field observations, etc.

REMINDER OF HEALTH DETERMINANTS SELECTION AND PREPARATION OF IMPACT ASSESSMENT			
Health determinants	Reminder: was the health determinant scoped in for impact assessment?		Preparation of impact assessment
	YES/NO	**Reason(s) for choosing this determinant to be covered in the EA report**	**Support sheets for impact assessment** (extracted and adapted from the French National guidelines (EHESP-MoH): Agir pour un urbanisme favorable à la santé 2014)
Individual behaviors			
Nutrition			
Physical activity			"Active lifestyle, transport and access to facilities and services" support sheet

Alcohol and tobacco consumption			
Risk taking (for example, smoking, excessive alcohol consumption or sexual risk-taking)			
Gambling			
Personal skills (level of education, self-confidence and self-esteem, sense of control, autonomy, social and parenting skills, sense of security)			
Physical environment			
Air quality			"Outdoor air quality" support sheet
Water resources			"Water management and quality" support sheet
Soil quality			"Soil quality and use" support sheet
Other chemical pollutants			
Waste production and management			"Waste management" support sheet
Biodiversity			"Adaptation to climate change and energy management" support sheet
Living environment			
Noise			"Quality of the sound environnement" support sheet
Temperature (related to climate change effects)			"Adaptation to climate change and energy management" support sheet
Brightness			
Electromagnetic fields and infrastructures			"Non-ionising radiation management" support sheet
Quality of public spaces, including green spaces (aesthetics, continuity, security, amenities)			"Housing and living environment" support sheet
Housing (access, safety, quality)			"Housing and living environment" support sheet
Socio-economic environment			
Food (access, quality)			

Energy (access, security)			"Adaptation to climate change and energy management" support sheet
Employment (access, safety, conditions)			
Economic development			
Gender equality			
Social equality			
Diversity of public services, facilities and shops (e.g. healthcare services, transport infrastructures, educational facilities, sport venues, grocery stores)			"Active lifestyle, transport and access to facilities and services" support sheet
Accessibility of public services, facilities and shops (e.g. healthcare services, transport infrastructures, educational facilities, sport venues, grocery stores)			"Active lifestyle, transport and access to facilities and services" support sheet
Socio-familial environment (e.g. family support, social ties and support, social and generational diversity, social cohesion)			

1	Determinant of health affected		1 - Water management and quality				Determinant n°2	Determinant n°3	Determinant n°4	Determinant n°5	Determinant n°6	Determinant n°7	etc.
2	Criteria for impact analysis		1-1- Water resources	1-2- Drinking water	1-3- Wastewaters	1-4- Rain water							

3	Baseline													
4	Analysis of temporary impacts													
5	Analysis of Avoiding/ Reduction/Compensation measures of temporary impacts													
6	Assessment of residual temporary impacts	Sense	+											
			-											
		Intensity												
		Probability of occurrence												
		Extent												
		Affected populations												
		Effect on health inequities												
7	Analysis of permanent impacts and cumulative effects													
8	Analysis of Avoiding/ Reduction/Compensation measures of permanent impacts and cumulative effects													
9	Assessment of residual permanent impacts and cumulative effects	Sense	+											
			-											
		Intensity												
		Probability of occurrence												
		Extent												
		Affected populations												
		Effect on health inequities												
10	Sources of information													

Tool of the guidelines to consider Health in Environmental Assessment			
Name:	Template for Health in report (E3CT6)	Numb:	E3CT6
Objective:	Mainstream health in the whole SEA report		
User:	Planning Authority and Consultants, recommended by NCDC		
Step of use:	E1-3, Screening (application form); scoping (application form); preparing report		
Description:	This tool describes the main items to address to ensure that health will be properly considered by the expert/consultant in the SEA report.		
Composition:	Modifiable Word file		
Origin and references:	Adapted from: - Environmental Assessment Code of Georgia (Article 26) - Resolution No. 420 of 2 September 2019 of the Government of Georgia, On approval of the rule of human health impact assessment in the field of environmental assessment - UNECE - GUIDELINES ON PRACTICAL APPLICATION OF STRATEGIC ENVIRONMENTAL ASSESSMENT IN GEORGIA _ Final_SEA_Guidelines_ ENG.pdf (unece.org) Additional boxes to consider health in SEA report: French unpublished expertise (M. LEGEAS, EHESP) Other tools with similar objective: None		
Version of the tool:	Version 1_5 of the tool; last update: April 2024. Other further versions are possible based on the modifiable text document and inside management of NCDC.		

According to the Environmental Assessment Code and the UNECE - GUIDELINES ON PRACTICAL APPLICATION OF STRATEGIC ENVIRONMENTAL ASSESSMENT IN GEORGIA (Annex 3) the Possible structure of SEA Report could be completed with boxes to consider health in the SEA Report:

Following information should be generally included in the SEA Report; however additional requirements may result from the scoping too – therefore the points below should not be considered as a 'fixed structure', but rather as recommendation on possible content of SEA report:

- A non-technical summary (for health, see box 1)
- Scope, objectives of the strategic document, its alternatives (if elaborated in the strategic document) and relationship with other relevant plans and programmes;
- Outcomes of previous SEA process which are relevant for the assessment of the proposed plan/ programme, presentation of the scope of assessment (as resulted from the scoping and analyses performed) and explanation of how were these matters addressed within the SEA Report;
    - For health, see box 2
- Environmental and health baseline i.e.:
    - The current state of the environment and health and the likely evolution without implementation of the strategic document (i.e. 'business as usual' scenario);
    - The environmental characteristics of areas likely to be significantly affected;

- Existing environmental/health problems arising from the strategic document, its relationship with any environmental/nature protection areas or sensitive areas;
- For specific health issues, see box 3

- A description of the environmental and health protection objectives, established at national and international levels, which are relevant to the strategic document and the way those objectives and any environmental and health considerations have been taken into account during its preparation;
- The likely significant effects of the strategic document on the environment and health, including biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage, landscape and the interrelationship between the above factors (these effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects);
  - For specific health issues, see box 4
- The measures envisaged to prevent, reduce and as fully as possible eliminate entirely any significant adverse effects on the environment and health of implementing the strategic document, including possible alternative options to be considered in the strategic document;
- Evaluation and comparison of the alternatives of the strategic document from environmental and/or health impacts point of view. An outline of the reasons for selecting the alternatives dealt with;
  - For specific health issues, see box 5
- A description of the measures envisaged concerning monitoring of the environmental impacts those may arise during the implementation of the strategic document;
  - For specific health issues, see box 6
- A description of how the assessment was undertaken, any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information; A description of gaps in data and information and how these have been addressed in the assessment;
- Conclusion – a summary of the main recommendations which have to be considered in decision-making and implementation of the strategic document.

Box 1: non-technical summary to present the SEA/EIA project, including:

a. Main health baseline and alternative scenario chosen and its health impacts
b. Health determinants decided at the scoping step
c. And (recommended) the causal model elaborated during the process

Box 2: specific analysis of the project regarding health issues

a. Areas affected by the strategic document/project
   i. Immediate area: from the description in the general study
   ii. Remote areas: to be defined on the basis of an analysis of the indirect effects of the project on the territory concerned (e.g. modification of transport conditions affecting an entire municipality and not just the city in the local sense; modification of agricultural activities in more rural areas; etc.)
b. Identification of populations within these areas
   i. Populations present in immediate and remote areas (demographic, socio-economic, habitat, educational, sports, etc.)
   ii. Existing health inequalities, more vulnerable people, etc …
   iii. Future populations to take into account: demographic extrapolation, workers' populations (seasonal, permanent), tourists or others; to be discussed at a reasonable horizon in terms of forecasts, i.e. basically at 5 years

Box 3: Environmental and health baseline

a. Health Strengths and weaknesses: Diseases, care centers, well-being indicators (e.g. declared quality of life). Refer to box 2 of the Template for health in Scoping Report (E2CT2) and E1-2HI_DE2_Health & Environment Data for first baseline
b. Positive and negative environmental aspects: The geographical, meteorological, biodiversity, pollution, development (green spaces, public transport, etc.), types of buildings (including housing), water supply, sanitation and waste collection systems, etc.

Box 4: Likely significant effects of the project on population health

a. The project itself: Existing and future populations; approach by 'diseases' and by indicators of well-being; taking into account the capacities of health-friendly systems and equipment (in relation to the findings of 2); use, if necessary, of different quantitative estimation tools in this chapter;
b. Indirect effects of the project: Effects to be expected beyond the immediate scope of the project and in the longer term, if possible to discuss, including integrating the issue of climate change: E3CT5_Impact assessment matrix_Tool

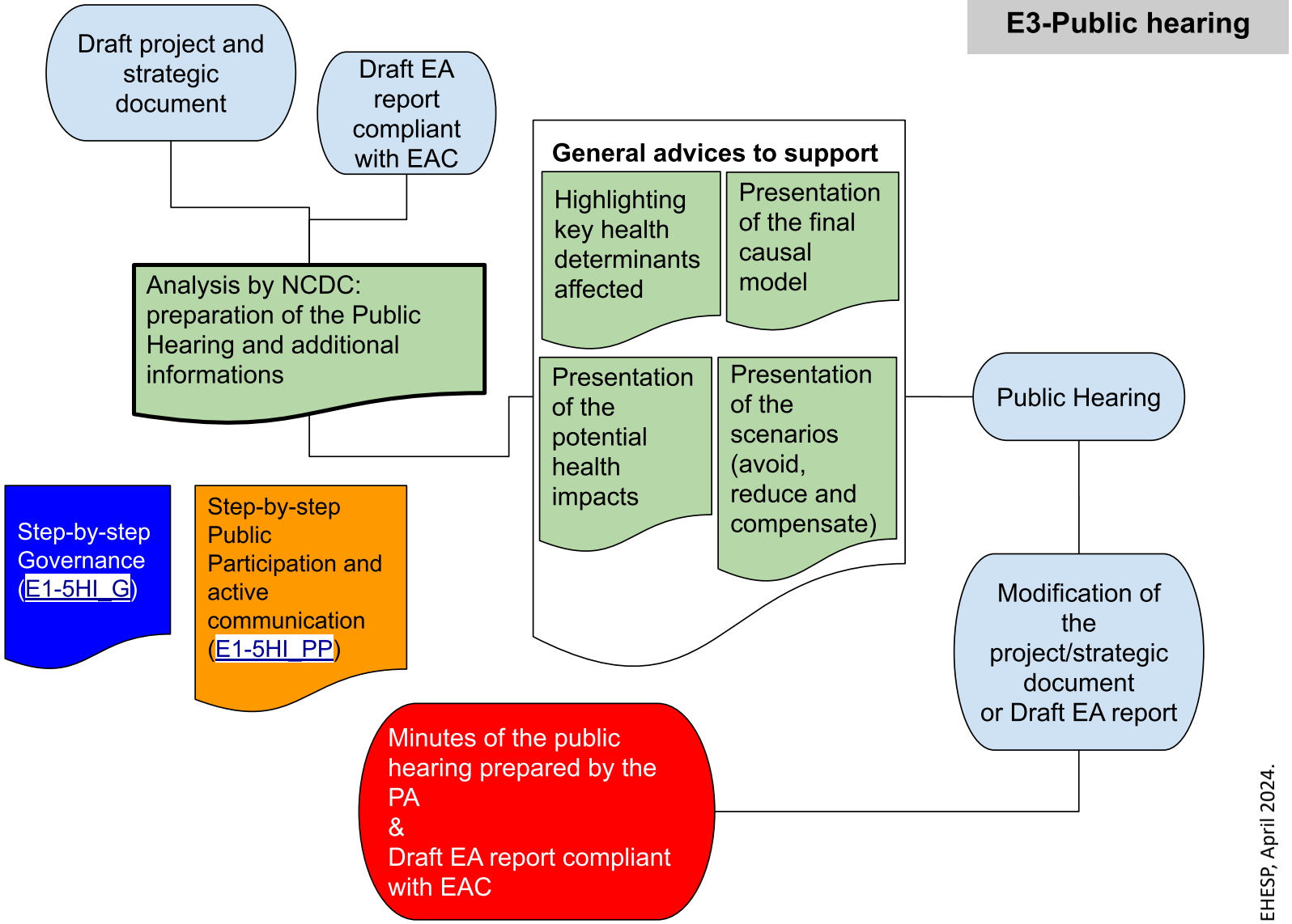
Box 5: Countervailing/mitigating measures under the environmental assessment and health

a. Are they sufficient for health issues
b. Are they feasible in the context of the project or must they be the subject of other decisions (e.g. creation of a new health center which cannot be borne by the Public Authority unless it is also legally responsible for these aspects)

Box 6: A proposal of monitoring/follow up of health outcomes, health outputs and health impact of the **SEA/EIA** project

Additional tools

E3-Public hearing



EHESP, April 2024.

E4 - Assessing report and Issuing recommendations

E4 - Assessing report and Issuing recommendations

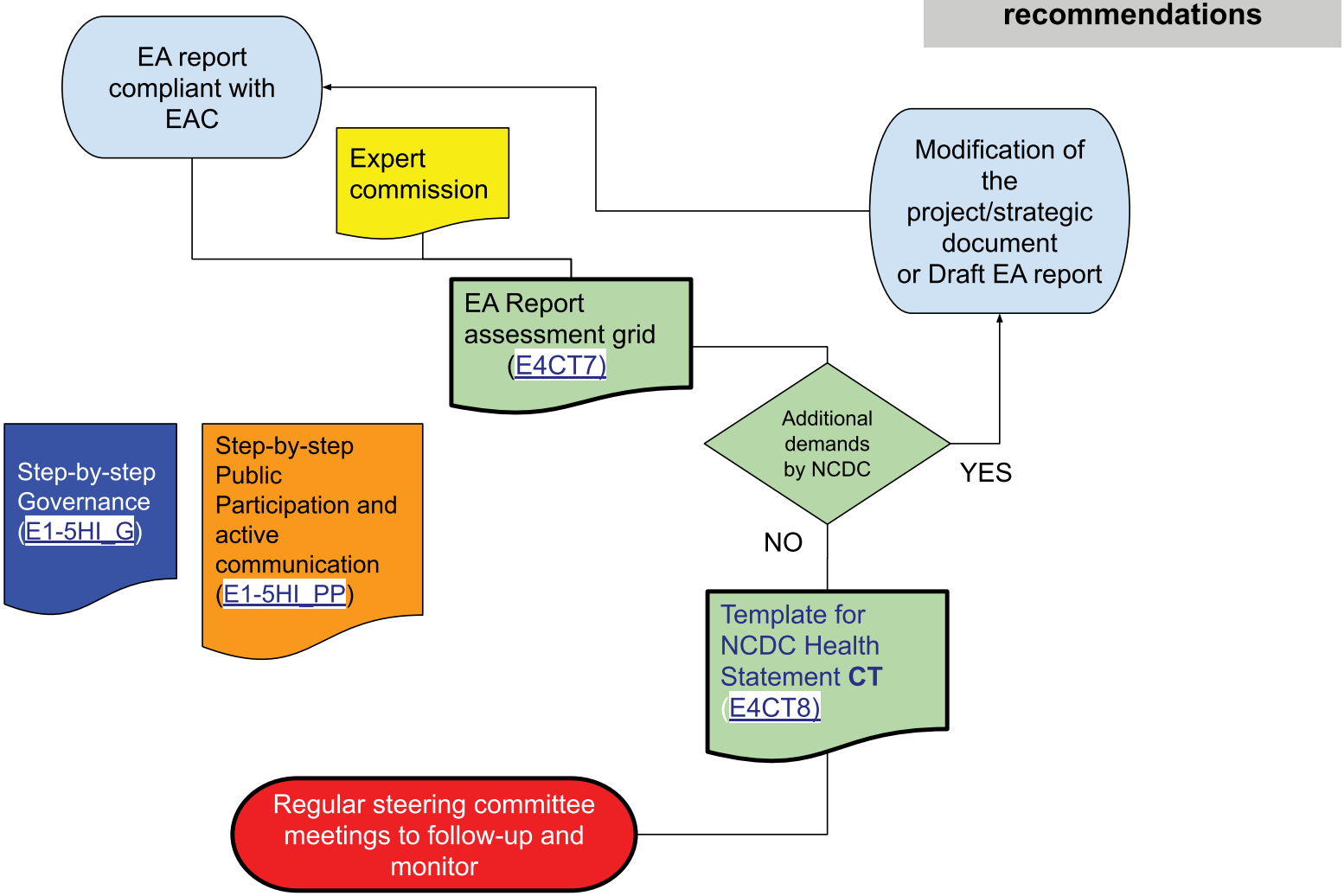
E4_AssessmentOfReport&IssuingRecommendationsFlowChart

Core tools

E4CT7 EA Report assessment grid (tool+X)

E4CT8 Template for NCDC Health Statement (Tool+Tool)

E4-a-Assessment of report & b-Issuing EA recommendations



Core tools

Tool of the guidelines to consider Health in Environmental Assessment			
Name:	E4CT7 - EA Report assessment grid	Code:	**E4CT7**
Objective:	The grid can be used by the health authority internally to support consistent and proportionate feedback on the EA Report's health assessment if requested.		
User:	NCDC		
Step of use:	E4 Assessment of the report		
Description:	Excel table to be filled in.		
Composition:	Modifiable Excel file of 4 spreadsheets: • How to use the grid • 1-Administrative informations • 2-EA Report Checklist • 3-Quality assessment grid		
Origin and references:	Adapted from: Adapted by EHESP expertise (may 2023) Other tools with similar objective:		
Version of the tool:	Version 1_5 of the tool; last update: April 2024. Other further versions are possible based on the modifiable text document and inside management of NCDC.		

Modifiable spreadsheet file: E4CT7_EA Report assessment grid_spreadsheet file

E4CT7 - EA Report assessment grid
Identification number of the HIA
Planning Authority: SEA report reception date:
Type of Plan/Program:
Location:
Contact details at the Planning Authority level:
HIA coordinator inside NCDC:
SEA report author
Consultancy/ies (architects/urban planners/ ...): Contact details:
Contact details @:
Name of the author(s) (if identified in the report):
Seector and justification of the plan/programme

HOW TO USE THE EA REPORT QUALITY ASSESSMENT GRID FOR NCDC?

The EA Report assessment grid can be used by the health authority (NCDC) internally to support consistent and proportionate feedback on the health component of the EA Report. Feedback can be requested informally by the PA (e.g. review of a draft EA Report) or formally by the environmental authority (NEA) as a part of the official SEA/EIA procedure. In this case, the EA Report quality assessment grid helps the health authority (NCDC) determine whether or not they have additional demands for the PA and to produce its final health statement (see Core Tool n°8 "Template for NCDC Health Statement").

In considering whether the information is complete and sufficient, the reviewer should consider wheter there are any omissions in the information and wheter these omissions are *vital* to the consultation or decision-making processes. If these omissions are not vital, then it is likely unecessary to identify or request additional demands (which is a formal process led by the Competent Authority that could delay the SEA/EIA process).

This EA Report quality assessment grid is widely based on the IAIA and EUPHA's Assessment checklist (Cave and al., 2020), which can be found here: https://rucforsk.ruc.dk/ws/portalfiles/portal/76015473/Human_Health_Ensuring_Protection_Main_and_Appendices.pdf

General questions	Does the EA Report make visible the determinants of health identified at the end of the scoping stage and cover all of them?
	Do mitigation measures for negative impacts abide by the Avoid/ Reduce/Compensate philsophy?
	Have impacted/vulnerable groups been consulted?
Elaboration of the local health profile and definition of the scope of the SEA	Was there a mapping of the health and social infrastructures of the area around the project/program/strategic document?
	Were the local authorities consulted to identify the main health, social and environmental issues of the area around the project/program/ strategic document?
	Were quantitative data from NCDC/Geostat used to characterize the main causes of mortality and morbidity in the area?
	How was the scope of the SEA defined (use of specific tools e.g. the causal model or the sorting grid; involvment of different stakeholders, including public health specialists, etc.)?
Assessment of the impacts of the project on health	Is baseline data available for the health determinants ?

	What sources of information were used to identify the impacts of the project/program/strategic document on health?
	What kind of impact assessment methodologies and studies have been carried out?
Public consultation and health-related issues	Were public health stakeholders consulted by the Planning Authority?
	Were public health concerns discussed during the public hearing? If so, what were the main concerns, answers and mitigations measures?
Mitigation measures and monitoring plan	Are health indicators related to mitigation measures and monitoring plan proposed and integrated?
	Were the NCDC recommendations issued at the scoping stage followed?
	Are roles, responsabilities and methodology/sources for monitoring clearly presented?
	Is the timeframe for the validity of the plan and SEA explicitly described?

	Health impacts identification and characterization			
	1	2	8	9
Determinants of health covered in the EA Report	Have the temporary, short term impacts caused only during construction or during time limited phases of the projet/ policy/program been described?	Have the permanent impacts, caused by construction, operation or decommissioning of the projetc/ policy/program, been described?	Were the positive and negative impacts on human health and well-being explicitly described and, where appropriate, quantified?	Has the potential for health inequalities been appropriately adressed within the assessment?
Determinant n°1 (e.g. outdoor air quality)				
Determinant n°2 (e.g. environmental noise)				
Determinant n°3 (e.g. nutrition and food security)				
Determinant n°4 (e.g. economic development)				
Determinant n°5 (e.g. social cohesion)				
Determinant n°6 (e.g. housing access, safety and quality)				
Determinant n°7 (e.g. access to healthcare services)				

Impact assessment methods		Public and partners consultation	Mitigation measures
10	13	17	20
Have the methods used to predict the impacts described, and the reasons for their choice, any difficulties encountered and uncertainties in the results been discussed?	Has the basis for evaluating the significance or importance of impacts, including health baseline data, been clearly described?	Were public health concerns discussed during the public hearing? If so, have the comments and views of consultees been presented and adressed?	Are the mitigation measures sufficient and relevant to adress the health impacts of the project/program/ policy?

Monitoring plan	NCDC and NEA general comments and recommendations		
22			
Where adverse effects are expected, does the PA propose to implement measures to monitor these effects? If so, are they clearly described and justified? If not, is the absence of monitoring measures clearly explained?	General comment	Recommendations for additional mitigation measures or adjustements in the project/policy/ program regarding its health impacts and the existing local health issues	Recommendations for new monitoring measures or adjustements in the monitoring plan included in the EA report

Tool of the guidelines to consider Health in Environmental Assessment	
Name:	Example of the template for health Statement from Regional Health Agency in France
Objective:	Proposal for items for final recommendations by NCDC regarding SEA and Health determinants assessment
User:	NCDC
Step of use:	Issuing recommendations
Description:	Proposal for generic items, specifics items and items regarding SEA and Health determinants assessment for final recommendations by NCDC regarding SEA and Health determinants assessment. There is a link to a French framework Health opinion on a development project to be adapted to the Georgian context.
Composition:	Modifiable Word file
Origin and references:	Adapted from: EHESP expertise References: - Other tools with similar objective: -
To update:	Version 1_5 of the tool; last update: April 2024. Other further versions are possible based on the modifiable text document and inside management of NCDC.

Proposal for generic items for final recommendations by NCDC regarding SEA and Health determinants assessment.

Why to use this tool?

Because all strategic plans or projects must be integrated inside the initial global health context of the concerned areas to take advantage of it to improve the existing conditions. It must be enriched with specific items coming from the environmental health assessment report.

How to use it?

Accounting this list of generic items, NCDC reviewers must choose those that are relevant, accounting the worst determinants of health issued from baseline diagnosis and main components of the plan/project. They must be answered at a geographical level corresponding to the main components of the plan/project (example: differences between a region, a municipality, a town and a district).

Accounting this analysis, NCDC should be able to produce global recommendations before to propose specific ones.

It must be related to the conclusions of the 'health component' of the SEA report.

Results could be related to a GIS to create maps of main current weaknesses in the area of the plan/project.

General suggested items:

The recommendations aim to reach a healthy living environment: physical environment, living environment and socio-economic environment. The recommendations can concern these items:

- A Healthy physical environment: Outdoor air, surface and groundwater quality, soil, soil artificialization, biodiversity…
- A Healthy living environment of the inhabitants/users: Electromagnetic fields, non-noisy environment, sunshine rate, presence of cold islands, quiet areas, safety and cleanliness, state of existing housing, accessibility of green and blue spaces, location of establishments receiving the public, etc.
- A Healthy socio-economic environment: Adapted income levels, adapted social housing rates, presence and accessibility of public facilities, health care facilities, frequent and good quality of social interactions in the urban space, etc.

The recommendations aim to develop healthy individual behaviors and can concern these items:

- Possibilities to practice healthy physical activity and active modes of transport… adjusting to the needs of the population and the public health indicators;
- The recommendations could address to other individual behaviors such as eating habits, healthcare consumption, addictive practices, etc providing synergy with different sectors of interventions (nutrition, education, climate, sustainable development, etc.) or resource in the area (health care providers, social workers, neighborhood associations, etc.)

Specific suggested items:

NB1: It is highly likely that all these points cannot be detailed; the idea is to keep them in mind to avoid critical situations;

NB2: For each item, not only numbers or ratios must be mentioned but also distances and ways and means of transport and maximum consideration of the needs of citizens with disabilities, as much as possible.

- **Access to health services:** Specifying according to the types of services (basic care, hospitals/general and specialized clinics including maternity and pediatric care, emergencies services, prevention services (ex: vaccination), pharmacies, …; to precise current lacks;
- **Access to decent housing:** Depending of Georgian definition of 'decent'; for example: age of building (presence of asbestos or lead), type of heating, having being renovated, number of sleeping rooms, number of people per flat/house, number of floors of the building, distance to roads/motorways, street lighting, …; to define current black spots;
- **Access to public services of hygiene:** Drinking water of quality, wastewaters collect and treatment, solid wastes (including healthcare or other hazardous wastes) collect and treatment;
- **Access to educational system from children garden to university:** Number of establishment per level and part of the town or area concerned, state of the building, presence of restauration services for users, …;

- **Access to employment:** number of unemployed people and localization of black spots, mains activity sectors concerned, …
- **Access to basic shopping:** food (industrial, biologic, self-produced, healthy or not) and clothes (prices), …
- **Access to non-polluting modes of transportation:** collective, individual, safety and security, ease to use, …
- **Access to sport and natural environment:** types, level of air quality, ease to access, safety and security, …

Appraisal Report Results items:

According to the report, especially the EA Report assessment grid (E4CT6), the Health Statement should be written.

Health Statement should content for each health determinant with concern:

- General comment
- Recommendations for additional mitigation measures or adjustments in the project/policy/ program regarding its health impacts and the existing local health issues
- Recommendations for new monitoring measures or adjustments in the monitoring plan included in the EA report

Determinants of health covered	General comment	Recommendations for **additional mitigation measures or adjustments in the project/policy/ program** regarding its health impacts and the existing local health issues	Recommendations for **new monitoring measures or adjustments** in the monitoring plan included in the EA report
Determinant n°1 (e.g. outdoor air quality)			
Determinant n°2 (e.g. environmental noise)			
etc…			

Based on this table, the text of the health statement should be written, if it was preferred than a table.

French Framework used in Regional Health Agencies could be adapted to the Georgian context: FRAME-WORK Health opinion on a development project

Tool - Template for Health Statement	
Name:	Example of the template for health Statement from Regional Health Agency in France
Objective:	Proposed a FRAMEWORK Health opinion on a development project to be adapted to the Georgian context
User:	NCDC
Step of use:	Issuing recommendations
Description:	The tool can be used as a template for the health statement of the NCDC after and with the inputs of the SEA quality assessment tool. It is divided into 9 chapters and a summary with options to delete/amend/complete: 1) Quick description of the project; 2) Review of the quality of the SEA 3) Water resources; 4) quality of soil; 5) outdoor air quality; 6) indoor air quality; 7) environmental noise; 8) adaptation to climate change; 9) exposition to electromagnetic fields and 10) Other health issues and health promotion opportunities 11) Monitoring suggestions and a summary
Composition:	Modifiable Word file
Origin and references:	Adapted from: Frame Avis Sanitaire NCDC Bourgogne March 2023 - Template health statement - frame avis sanitaire V3 en-GB.docx References: Other tools with similar objective:
To update:	Version 1_5 of the tool; last update: April 2024. Other further versions are possible based on the modifiable text document and inside management of NCDC.

FRAMEWORK Health opinion on a development project

SUMMARY:

Colour code:

In black: preliminary indication - description of the context and the issue

In purple: text to be inserted in the draft opinion

In red: to be completed by the HIA coordinator

By e-mail received on XX XXXX XXXX, the National Center for Disease Control and Public Health (NCDC) was asked to provide its opinion of the «XXXX» project/plan/program/strategic document.

I. Description of the project

In projects, a study area is defined within which the initial state is qualified and the impacts are analyzed. The delimitation of this zone must be justified and take into account residential sectors and sensitive establishments. The NCDC may be asked to make comments on this study zone.

It is also at this stage, when the project is read as a whole, that the notion of environmental inequalities in health developed in paragraph VII may emerge.

II. Review of the quality of the SEA

Not more than 1 page -

Quality of the process on different topics using the tools on quality control.

- Health concerns and health determinants selected at the scoping stage well taken into consideration in the SEA,
- methodologies used for baseline and impact assessment, alternatives mentioned and justification
- Consultation of the public health sector,
- Public participation and public hearing, integration of comments on the SEA reports
- Mitigation measures abiding by the philosophy of Avoid/Reduce/Compensate
- Proposed monitoring plan

III. Quality and protection of water resources

1. Initial state

Ensure that the initial assessment addresses all of the issues listed in the planning matrix relating to water resources and recreational waters. In particular:

- Checking water catchment points and protection areas, water quality and quantity,
- Check the identification of recreational waters and the presence of a vulnerability profile.

→ If the initial state is complete:

- Out of scope project

«The issue of protection of water resources has been identified, and a census of drinking water catchments and their protection perimeters has been carried out. The project is outside of any protection perimeter, the nearest water catchment is located XX metres away.

The adequacy between the water needs generated by the project and the available resource has been well studied. In addition, the XXX bathing area has been identified and its vulnerability profile taken into account.

- Project within a perimeter

«The issue of water resource protection has been identified, the census of drinking water catchments and their protection perimeters has been carried out. The project is located within the perimeter (specify which) of the X catchment, state the consequences (restrictions within the perimeter...).

Report the case where an administrative process is being revised or drawn up: «However, catchment X is currently the subject of an investigation procedure aimed at establishing the protection perimeters by declaration of public utility »

OR

«The protection perimeters of the X catchment established by administrative orders are currently being revised or drawn up; the approved hydrogeologist in charge of examining the protection of this catchment issued an opinion dated XXXX. The latter proposes a delimitation of the protection perimeters of the catchment as follows (attach a map extract) and the following prescriptions.

The NCDC requests that this protection perimeter project, together with its proposed prescriptions, be taken into account in the study (see attached hydrogeological opinion).

The drinking water consumption of the site (if it existed before the project) is presented (describe the elements presented).

→ If the initial state is incomplete:

«The report/dossier presents a map of the drinking water supply catchments with their protection perimeters, however errors appear (cite the catchments concerned or refer to an appendix). In addition, the presence of bathing facilities has not been studied.

In order to study the impact of the project on the water resources, both from a qualitative and quantitative point of view, the initial state must exhaustively list the drinking water catchments and their protection perimeters, the bathing areas with their vulnerability profiles and study the availability of the resource.

The NCDC asks to complete the cartography of the catchments and protection perimeters with the elements in appendix X or quoted above and to take into account the vulnerability zone of bathing site X (the petitioner should contact the person responsible for the quality of the bathing water to obtain the vulnerability profile).

The drinking water consumption of the site (if it existed before the project) is not presented.

The NCDC requests a presentation of the site's drinking water consumption before the project is carried out.

2. Impacts during the construction phase

Temporary impacts concern the construction phase, and involve ensuring that all risks of pollution of the water table or surface water used for WDHC have been identified and that the proposed measures are adequate.

- **No catchment**

«It is not enough to state that a clean worksite charter has been implemented; the inventory of risks with avoid, reduce and compensate (ARC) measures must be detailed.

The project is not located in a protection area and/or in the area of influence of a bathing facility.

The inventory of risks to water resources and/or bathing during the works phase has been carried out (quote the risks identified) and ARC measures are planned (quote the main measures).

OR

«The inventory of risks to the water resource is not exhaustive (name the missing ones).

The NCDC requests that the impact study during the construction phase be thorough so that all measures can be implemented to protect the water resource.

OR

«The inventory of risks to water resources is not detailed, stating the implementation of a clean worksite charter does not allow us to judge whether all the risks generated by this worksite are taken into account.

The NCDC requests that the impact study lists all the risks of pollution for water resources and/or bathing as well as the planned ARC measures.

The project is located within the protection area of a water catchment intended for human consumption.

- **Presence of catchment(s) with a protection perimeter**

«The project is located within the close or remote protection perimeter of the X water catchment protected by an administrative order (quote), however the site does not implement any use prohibited by the order within this perimeter.

OR

«The project is located within the close or remote protection perimeter of the X water catchment protected by an administrative order (cite it). This work site foresees uses prohibited in the close or remote protection perimeter (list these uses).

The NCDC requests that the prescriptions of the order (quote it) be respected in order to preserve the quality of the water resource used for drinking water supply purposes.

- **Presence of a catchment without administrative order**

«The project is located within the close or remote protection perimeter of the X catchment proposed in the opinion of the approved hydrogeologist of XXXX in charge of examining the protection of this catchment. However, the work site does not implement any use that is incompatible with the proposed prescriptions of the approved hydrogeologist within this perimeter.»

OR

«The project is located within the close or remote protection perimeter of the X water catchment proposed in the opinion of the approved hydrogeologist of XXXX in charge of examining the protection of this catchment. The site foresees uses that are incompatible with the proposed prescriptions of the approved hydrogeologist (list these uses).

The petitioner must ask the NCDC to appoint an approved hydrogeologist who will determine the management measures to be implemented to protect the water resource.

- **If project in the area of influence of a bathing facility**

Check whether the dossier takes into account this bathing area and the risks of pollution.

«The dossier takes into account the existence of a bathing area and its vulnerability profile and the risks of pollution have been identified (quote the risks identified), avoid/reduction/compensation measures are planned (quote the main measures).

OR

«The inventory of risks to the bathing area is not detailed, and stating that a clean worksite charter has been implemented does not allow us to judge whether all the risks generated by this worksite have been taken into account.

The NCDC requests that the impact study be updated by listing all the pollution risks of bathing area X with reference to its vulnerability profile, as well as the planned ARC measures.

OR

«The dossier does not take into account the existence of bathing area X.

The NCDC requests that the impact study be updated to take into account bathing area X or to list the pollution risks of this bathing area, with reference to its vulnerability profile and the ARC measures planned to ensure the health protection of bathers.

3. Permanent impacts

The permanent impacts concern the project during the operational phase, i.e. ensuring that all risks of pollution of the water resource and/or a bathing area have been identified and that the proposed measures are adequate.

An estimate of water consumption and its compatibility with the capacity of the production/distribution facilities should be made for certain types of projects:

- The project is not located in a protection area and/or in the area of influence of a bathing facility;
- The project is located outside of any water catchment protection area intended for human consumption and/or any bathing area;
- The project is located within the protection zone of a water catchment for human consumption.

- **With a sanitary protection perimeter**

"The project is located within the close or remote protection perimeter of the X catchment, however it does not implement any use prohibited in this perimeter by the administrative order.

OR

"The project is located within the close or remote protection perimeter of the X water catchment and uses prohibited in this perimeter by the DUP are planned in the project presented (list these uses).

The NCDC requests that the prescriptions of the administrative order (quote) be respected in order to preserve the quality of the water resource used for drinking water supply purposes.

- **Without administrative order/status of sanitary protection perimeter**

"The project is located within the close or remote protection perimeter of the X catchment proposed in the opinion of the approved hydrogeologist of XXXX in charge of examining the protection of this catchment. However, it does not implement any use that is incompatible with the proposed prescriptions in this perimeter by administrative order."

OR

"The project is located within the close or remote protection perimeter of the X catchment defined in the opinion of the approved hydrogeologist of XXXX in charge of examining the protection of this catchment. The operation foresees uses that are incompatible with the proposed prescriptions contained in the opinion of the approved hydrogeologist (list these uses).

The petitioner must ask the NCDC to appoint an approved hydrogeologist who will determine the management measures to be implemented to protect the water resource.

- **If project in the area of influence of a bathing facility**

"The project is located outside the zone of influence of bathing area X."

OR

«The project is located in the zone of influence of bathing area X and the activities that could pollute this bathing area are not identified in the dossier.

The NCDC requests that the impact study be updated by listing all the risks of pollution of bathing area X with reference to its vulnerability profile as well as the mitigation measures planned to ensure the health protection of bathers.

- **In case of rain water recovery for indoor and/or outdoor use:**

Check that the project is one of the buildings for which the use of rainwater for distribution in an indoor network is authorized according to Georgian regulation.

«The project foresees the recovery of roof water for floor washing and/or excreta disposal or outdoor use. The conditions for installation, maintenance and monitoring of rainwater harvesting systems are well described and comply with the decree of 21 August 2008 on rainwater harvesting and its use inside and outside buildings.

The project foresees the recovery of roof water for floor washing and/or excreta disposal or outdoor use, but the conditions for installation, maintenance and monitoring of rainwater harvesting systems are not described.

The NCDC requests that the impact study be completed with a description of the conditions of installation, maintenance and monitoring of rainwater harvesting systems.

- **For projects likely to be «large water consumers» (real estate, industrial, landscaping, etc.):**

«The water requirements of the project have been estimated and a comparative study of consumption in the initial state and after the project has been carried out. Measures are planned to limit water consumption (quote the main measures).

OR

«The water needs of the project have not been estimated or the water needs of the project have been estimated and/or no comparative study has been carried out on consumption in the initial state and after the project has been completed, whereas green spaces have been created as well as a green roof with a space dedicated to urban agriculture requiring regular watering, or a building of XX dwellings has been planned, or the processes of this industrial project require significant water consumption...

The NCDC requests that a comparative study of drinking water requirements between the initial state and the end of the project be carried out in order to assess the impact of the new developments on water consumption and to consider appropriate mitigation measures.

In the case of green spaces, check the measures envisaged for their maintenance (use of phytosanitary products or alternatives).

IV. Quality and use of soils and subsoils

Examine whether the project site is located within the vicinity of a polluted area, with *pollution website of the MEPA/NEA (map.emoe.gov.ge).* The «department's memory» can also be called upon.

- **If there is at least a serious doubt about the pollution of the site and the project involves the installation of sensitive establishments**

«The project foresees the construction of a kindergarten/school/college/playground/other (see circular), while ... (explain the situation).

The NCDC recalls public health concerns relating to the establishment on polluted soils of establishments accommodating vulnerable populations: «the construction of these establishments must be avoided on polluted sites, particularly when they are former industrial sites. This principle must prevail regardless of the nature of the pollutants. »

- **If there is a suspicion of pollution of the site (outside of the planned sensitive establishment):**

«The historical study of the site revealed (description of the elements of the file). / The consultation of the pollution website of the MEPA/NEA (map.emoe.gov.ge) made it possible to identify ... (description).

However, no environmental diagnosis has been carried out to characterize the state of the soil and groundwater and the possible health risks that could be associated with it. The NCDC requests that such a diagnosis be carried out, or even a health risk assessment, if necessary, by a certified polluted sites and soils consultancy.»[1]

When the pollution is proven, the quality of the studies carried out and the measures proposed by the petitioner to ensure the sanitary compatibility of the site with the existing uses (Interpretation of the state of the environment) or in case of reconversion of a polluted site (Management plan) must be judged.

- **If the diagnosis has identified pollutants on the site and no risk assessment has been carried out:**

«Soil pollution has been identified in the soil diagnosis (cite pollutants), however compatibility with current/future uses has not been studied.

The NCDC requests that the compatibility of the soil with the uses be studied

- **If the diagnosis has identified pollutants on the site and a risk assessment has been carried out and submitted:**

A critical analysis is made of the pollutants selected, the transfer routes, the exposure routes and the assumptions made. The gaps identified in the diagnosis influencing the risk assessment will be recalled. Ask for additions and discuss recommendations if necessary. *(Call on a colleague trained/experienced in chemical issues if necessary).*

- **If studies have been carried out (even concluding that the site is compatible with the uses described) and the NCDC has not been informed of them:**

[1] There is no certification for health risk assessment yet nor for companies/services working on pollution sites and soils in Georgia.

«A certificate of completion of the soil study was produced by the XX consultancy firm, which concludes that the site is compatible with the planned activities, subject to the implementation of the mitigation measures. The consultancy firm also relied on the following documents: ... As the said documents were not communicated at the time of referral, the NCDC is not in a position to give an opinion on this dossier.

For any further consultation, the NCDC would like to have all the necessary documents and the time to study them in depth if necessary.

V. Outdoor air quality

1. Initial state

Ensure the completeness of emission source identification and air quality qualification.

- **If the studies are representative and well conducted: Emission sources + graphic representations + in-situ measurements**

«The impact study presents the sources of greenhouse gas (GHG) emissions and atmospheric pollutants. It specifies the distribution of the latter by sector of activity and the main sources (cite sources: residential, tertiary, road sectors, industries, etc.).

The outdoor air quality in the vicinity of the project is characterised by all urban background stations in (city) as well as the X roadside stations located in XXXX. In addition, measurements within the project/study area..., to characterise the air quality of the site have been carried out (dates).

The results show (description of the results)

- **If the studies are not very representative or incomplete: no emission sources or no graphical representation or no in-situ measurements**

«The impact study characterises the outdoor air quality in the vicinity of the project using all urban background stations in (city) as well as the X roadside proximity stations located in XXXX. In addition, measurements within the project/study area..., to characterise the air quality of the site have been carried out (dates).

However, the study does not describe the main sources of air pollutant emissions and their distribution by sector of activity (residential, tertiary, road, etc.).

The NCDC considers that the impact study should be completed by identifying the main sources of air pollutant emissions.

OR

«The impact study presents the sources of greenhouse gas (GHG) emissions and atmospheric pollutants. It specifies the distribution of the latter by sector of activity and the main sources (cite sources: residential, tertiary, road sectors, etc.).

The outdoor air quality in the vicinity of the project is characterised by all urban background stations in (city) as well as the X roadside proximity stations located in XXXX. However, measurements within the project/study area..., to characterise the initial air quality of the site have not been carried out.

The characterisation of the initial state at the site was not carried out by means of in situ measurements. The NCDC requests that measurement campaigns be carried out on the parameters benzene, NO2, PM 2.5, PM10 at different seasons.

2. Temporary impacts

The temporary impacts concern the construction phase, mainly dust and pollutant emissions from the construction machinery.

It is not enough to state that a clean worksite charter has been implemented; the inventory of pollution sources and the measures envisaged must be detailed.

- **If the impacts are well assessed**

«The impact of the construction site on air quality is taken into account in the impact study with regard to pollutants emitted by the construction machinery and dust emissions. Measures to reduce nuisance are planned (list measures).

- **If the impact assessment is incomplete**

«Construction vehicles are likely to degrade air quality through exhaust emissions and dust. The additional number of heavy goods vehicles «at peak times during the busiest period» is estimated at X. As for light vehicles, the traffic linked to the daily workforce present on the site represents X vehicles.

- **The dossier indicates that these impacts are considered negligible on outdoor air quality.**

«The study states that the risk of dust being blown up will be controlled by reduction measures such as tarpaulins on the lorries, cleaning of the wheels, cleaning of the roadways, etc.

However, the demolition of the XXX buildings is not addressed in the impact study, even though these phases of the construction site are likely to emit a significant amount of dust.

The NCDC requests that the demolition phases of the XXX buildings be analysed with regard to the quality of the outside air and that the ARC measures envisaged to limit the release of dust be described.

OR

«Construction vehicles are likely to degrade air quality through the emission of exhaust gases and dust.

The study foresees that the risk of dust being blown off will be controlled by reduction measures such as tarpaulins on the trucks, cleaning of the wheels, cleaning of the roadways, etc.

However, no traffic study has been carried out to estimate the additional number of vehicles generated by the site.

The NCDC requests that a traffic study be carried out to assess the number of additional vehicles (heavy goods vehicles and light vehicles) generated by the construction site and the impact on air quality.

- **The impact on air quality of construction equipment and increased heavy vehicle traffic is not assessed.**

«The NCDC is therefore requesting an assessment of the impact on air quality of the construction equipment and the increase in heavy goods traffic.

3. Permanent impacts[1]

Permanent impacts are assessed for future occupants of the project as well as for populations already living on the site. “Avoid-Reduce-Compensate” measures are to be presented.

- **If a traffic study is made according to the scenarios with and without the project**

«The permanent impacts of the project on outdoor air quality are mainly related to road traffic.

A traffic impact assessment was carried out which concluded that (quote key findings)

An estimate of traffic-related pollutant emissions (name the pollutants) has been carried out for the study area according to different scenarios: (name the scenarios)

Despite the increase in the flow of vehicles over the whole of the planned study area, the study concludes that air pollutant emissions will decrease in the future scenarios, compared to the «current» situation. This decrease would be due in part to changes in the road fleet (emergence and future widespread use of technological improvements in vehicle engines and purification systems, and development of electric vehicles, etc.).

To assess the impact of the project on air quality and the population, the consideration of the health effects of air pollution in road infrastructure impact studies can be taken as a concern. It recommends that emission and dispersion modeling be crossed with population data and that these results be presented in cartographic format.

- **If this crossing is made:**

«The impact on the population was studied by cross-referencing the calculated concentrations with the population data for the project area. The study office chose to use nitrogen dioxide (a compound released mainly by road traffic) as a tracer.»

- **If this crossing is not done:**

The impact on the population, by cross-referencing the calculated concentrations with the population data in the project area, has not been studied.

The NCDC requests that the pollutant dispersion data be cross-referenced with population data, according to the different scenarios and particularly at the level of establishments hosting sensitive populations. A cartographic representation of these results is recommended.

- **If no traffic study is carried out or if it is incomplete**

The permanent impacts of the project on outdoor air quality are mainly related to road traffic. Fine particle and nitrogen oxide pollution, which affects a majority of the population, is responsible for respiratory and cardiovascular diseases, premature deaths, and represents a cost to society.

A traffic impact assessment of the project has been carried out (brief description), it concludes that (detail main findings) however there is a lack of (detail further information required).

OR

[1] Traffic study with and without the project and pollutant dispersion modeling is an advance quantitative methodology for impact assessment. They are becoming widespread in many EU countries.

«An estimate of traffic-related pollutant emissions (name the pollutants) has been conducted for the study area under different scenarios: (name the scenarios) or no estimate of pollutant emissions has been made.

NCDC requests that the impact of the project on traffic be assessed or that pollutant emission modeling be carried out to assess the impact of the project on the area (future population and existing population).

ARC measures

- If ARC measures are foreseen: describe and possibly comment/critique them

- If no ARC measures are planned: *"The NCDC considers it regrettable that no air pollution reduction measures specific to the project are proposed."*

VI. Indoor air quality

If there is a risk of indoor air pollution from soil gas transfer, ensure that a monitoring plan is in place.

- **Presence of a chapter on indoor air**

«Concerning indoor air quality, avoidance measures are proposed, which consist of installing suitable filters on air renewal systems, ensuring the correct location of outside air intakes and choosing materials that emit the least amount of pollutants when fitting out the premises. However, the risks of transferring gases from the ground to the indoor air of buildings have not been taken into account.

Given that there is a risk of transferring pollutants from soil gasses to the indoor air of future buildings, the NCDC requests that sufficient ventilation be provided and that the indoor air quality of the new buildings be monitored during the operating phase, in winter and summer. - particularly for a targeted pollutant.

It should be noted that there is no obligation to monitor indoor air pollutants apart from specific facilities.[1]

- **No chapter on indoor air is developed**

«The indoor air quality of the buildings studied was not investigated.

In view of the various potential sources of indoor air pollution, the NCDC requests that the measures put in place ensure good indoor air quality. A post-construction assessment would make it possible to verify this.

The exploitation phase corresponds to the restoration of the site after exploitation. If it is a green space, the development will be rather positive for air quality and can be highlighted.

Particular attention should be paid to the possible presence of radon - a radioactive carcinogenic gas present in the region - in indoor air. This pollutant may require further work to limit its transfer pathways.

VII. Quality of the sound environment

Please note that Georgia does not have a transposed Environmental Noise Directive and does not have yet a supportive legislation for profound and quantitative examination of baseline, temporary impacts and permanent impacts. Therefore, this part is not usable in the Georgian context yet, but will be once Georgia complies with the Environmental Noise Directive.

[1] In France

1. Initial state

Ensure the completeness of the inventory of noise emission sources and the qualification of the noise environment.

- **If the studies are representative and well conducted: identification of all sources and their emission levels + graphic representations (noise map...) + In-situ measurements**

«The impact study presents the strategic noise maps for road, rail etc. (list results)

An acoustic study has been carried out (date, location, timetable, etc.)

The results highlight (description of results and comments)

In 2018, the World Health Organisation (WHO) published guidelines on environmental noise whose main objective is to provide recommendations to protect human health from exposure to noise from various environmental sources (road, rail and air traffic).

In order to protect human health, the NCDC therefore recommends that the WHO values be used as a basis for comparison for the measurements in the acoustic study.

- **If the studies are unrepresentative or incomplete: Absence of noise emission sources or graphic representation (noise map, etc.) or in situ measurements**

«The impact study presents the strategic noise maps for road, rail etc. (list results)

However, no in-situ acoustic study has been carried out to qualify the initial state of the site.

The NCDC requests that noise measurements be carried out to characterize the noise environment in the study area.

2. Temporary impacts

The temporary impacts concern the construction phase, noise related to the construction site itself and the increase in traffic.

It is not enough to state that a clean worksite charter will be implemented; the inventory of noise sources and the measures envisaged must be detailed.

- **If the impacts are well assessed**

«The impacts of the construction site on the noise environment are taken into account in the impact study. Construction noise is generated by (list noise sources).

Measures to limit noise are planned (list measures); check if the construction works are planned during the night and at weekends and comment if necessary.

- **If the impact assessment is incomplete**

«The sources of construction noise have been identified (list the main sources) and mitigation measures are planned (list the main measures).

However, no modelling of construction noise has been carried out.

In view of the scale of the worksite (arguments: duration of the worksite, demolitions, etc.) and the type of urbanization around it, in a high-stake noise environment (arguments: type of urbanization, sensitive establishments, etc.), the NCDC requests that a modelling of the noise from the worksite be carried out before the start of the works in order to qualify the noise levels during the noisiest phases and to anticipate the noise reduction measures.

In addition, the NCDC considers that a continuous monitoring of the noise environment, with a maximum level not to be exceeded in the vicinity of residential buildings and a system for alerting companies if this threshold is exceeded, could be put in place during the construction site.

3. Permanent impacts

Permanent impacts are assessed for future occupants of the project as well as for people already living on the site, through modeling of noise levels. Mitigation measures are to be presented.

The NCDC will always encourage reference to WHO values rather than regulatory values.

- **If the impacts are well assessed**

«Noise level modeling has been carried out to quantify the acoustic impact of the project (detail the results of the study).

Sensitive establishments have been identified.

Reduction measures are proposed (list these measures).

As the noise environment around the site is a major issue, the NCDC requests that a campaign to measure noise levels be carried out during the operational phase to confirm the modeling and ensure that the management measures are appropriate.

- **If the impact assessment is incomplete**

«Noise sources have been identified but no modeling of noise levels has been carried out to quantify the acoustic impact of the project.

OR

«Noise level modeling was carried out to quantify the acoustic impact of the project (detail the results of the study). However, some aspects of the project have not been taken into account (detail the gaps).

The NCDC requests that the noise impact of the project (detail the study requested, the impact on what) be studied to define appropriate mitigation measures. Noise level measurements will then be carried out in the operational phase to confirm the modeling and ensure that the management measures are appropriate.

- **If no ARC (AVOID REDUCE COMPENSATE) measures are proposed at source:**

«The NCDC stresses that the source reduction measures are insufficient. Indeed, the future occupants will suffer from noise each time they open their windows, whereas it is recommended to maintain good indoor air quality by regularly airing the premises by opening the windows. Furthermore, during the increasingly frequent heatwaves caused by climate change, it is recommended to circulate the air by opening the windows at night to cool the dwellings. Thus, in addition to the heat, residents will be exposed to noise.

VIII. Adaptation to climate change

1. Urban heat islands

The urban heat island (UHI) phenomenon is mainly caused by road traffic, the organization of the built environment (urban form and airflow) and the absence of green and blue spaces.

The project will be designed to mitigate the heat effect (describe the measures planned).

- **Lack of consideration of urban heat islands**

«The phenomenon of urban heat islands has not been characterized although the project is located in an area affected by this phenomenon (accentuated by dense traffic, high minerality, absence of water or vegetation).

The NCDC requests that this phenomenon be characterized and that appropriate reduction measures be put in place.

2. Invasive species

«The fight against the proliferation of Aedes albopictus (known as the tiger mosquito, a potential vector of diseases) and the risk of the appearance of indigenous diseases is a real public health issue that must be taken into account in regional planning.

The risk of vector-borne diseases (chikungunya, dengue, zika, etc.) is not addressed.. The laying of eggs and the development of mosquito larvae take place in areas of shallow stagnant water. The project involves the construction of new buildings with flat roofs and/or the development of green roofs including urban agriculture and/or green ditches, retention basins and/or rainwater harvesting devices; some of these developments may potentially be conducive to the development of breeding grounds.

The NCDC therefore requests that construction measures and facilities be planned to limit the risk of development of stagnant water zones (slope of roofs, drainage of artificial soils, evacuation of terraces, covering of rainwater collectors, etc.). Attention must also be paid to this risk during the construction phase to avoid the creation of stagnant water points (for example, the modular track dividers must be closed).

3. Allergenic essences

«Mugwort is an invasive and allergenic plant responsible for numerous allergies in the areas where it is present. It should be noted that this plant progresses with the help of human developments (roads, railways, canals, industrial wasteland); the context in NCDC favorable to its spread. Outbreaks of ragweed have already been identified in Georgia.

The first challenge is to anticipate the spread of ragweed in a densely populated environment that is already affected by other respiratory pathologies such as asthma, the effects of which may be aggravated. Indeed, asthma is a frequent chronic disease.

The establishment of ragweed can be favored during construction sites, due to its ability to colonize bare ground. It is therefore recommended that ragweed-free site management measures be implemented.

An inventory of the plant species present in the project has been carried out. However, the issue of allergenic species and/or the development of invasive plants is not addressed in the impact study, even though green spaces will be created (developing the project).

The NCDC asks that particular attention be paid to the presence of allergenic plant species and pollen levels in the ambient air. Indeed, although vegetation has a positive impact on many health determinants (air, water and soil quality, reduction of urban heat islands, etc.), the choice of species must be considered with regard to allergy problems. In this respect, the potentiating effect of particles and pollens is recalled: on the one hand, irritation of the respiratory tract by particles increases reactivity to pollens, and on the other hand, the increase in the number of allergens emitted by pollens interacts with the particles.

AND/OR

- **The issue of the spread of invasive and allergenic plants (e.g. ragweed, Japanese knotweed...) is not addressed in the dossier presented by the petitioner.**

IX. High and extra-high voltage lines

As a precautionary measure, the agency recommended that sensitive buildings (hospitals, maternity wards, establishments for children, etc.) should no longer be installed or fitted out within 100 meters of very high voltage power lines.

«A (very) high voltage line is present near the development project, which is likely to expose neighbouring populations to low frequency electromagnetic fields. However, distance allows for a reduction in exposure (the intensity decreases rapidly with distance). Scientific knowledge from WHO and EU Member States recommend …to no longer increase, as a precaution, the number of sensitive people exposed around very high voltage power lines and to limit exposure. The NCDC asks that no sensitive buildings or premises (health establishments, establishments for children, etc.) be installed or developed «less than 100 m from this line and recommends that other buildings be kept away.»

X. Other health issues and health promotion

XI. Monitoring suggestions

Summary

The summary includes the main remarks and requests by determinant.

Signature

«First name Last name

E5 - Monitoring

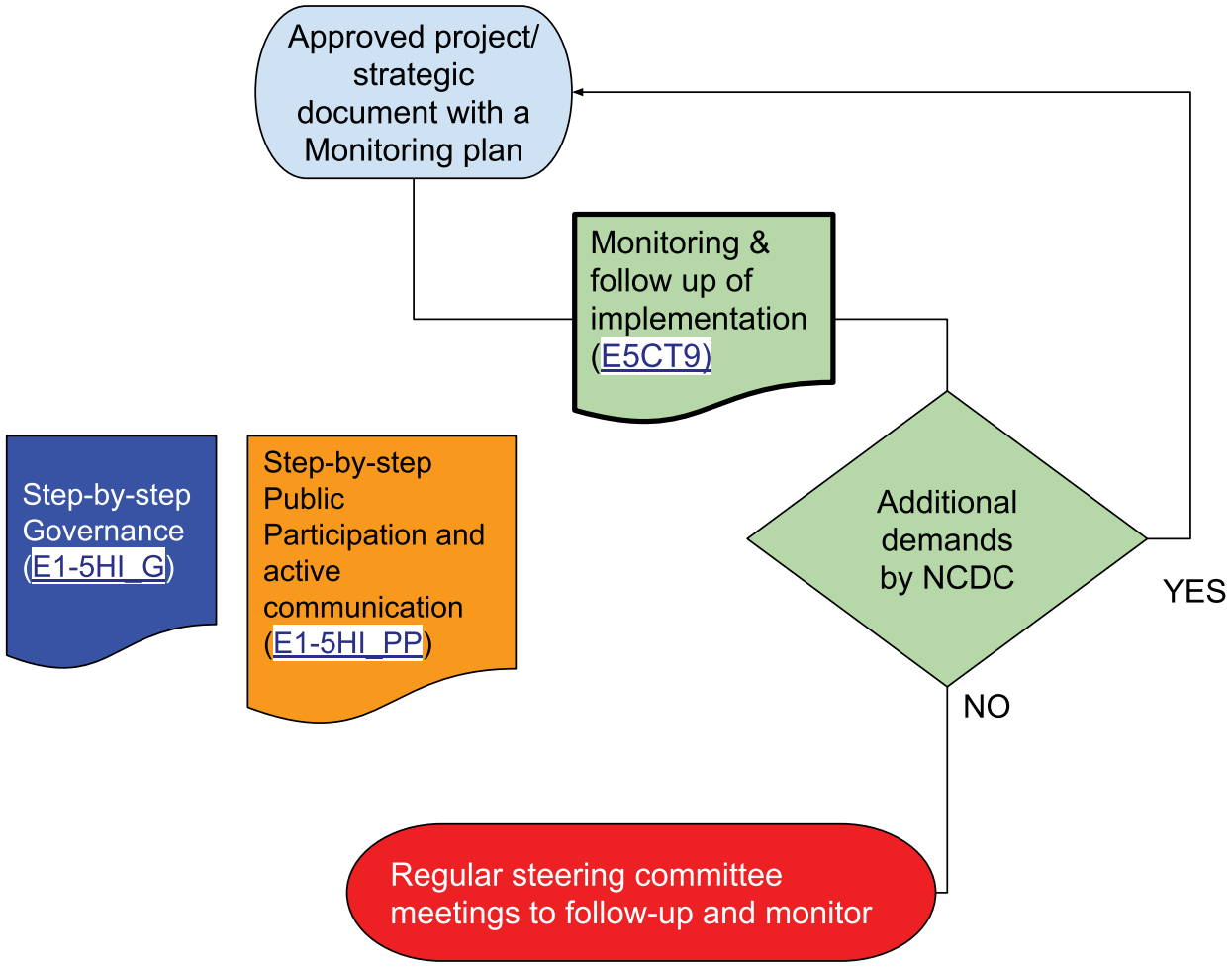
E5 - Monitoring

E5_MonitoringFollowUpFlowChart

Core tools

E5CT9 Monitoring & follow up of implementation

E5-Monitoring/follow up of the implementation of the project/strategic document



EHESP, April 2024.

Core tools

Tool of the guidelines to consider Health in Environmental Assessment			
Name:	Monitoring & follow up of implementation (E5CT9)	Numb:	**E5CT9**
Objective:	To give some general information to provide Monitoring & follow up of implementation of the project and the recommendations on it.		
User:	NCDC		
Step of use:	E5 Monitoring Follow Up		
Description:	Text with: ● Operational recommendations ● Detailed recommendations		
Composition:	Modifiable Word file		
Origin and references:	Adapted from: Other tools with similar objective: -		
Version of the tool:	Version 1_5 of the tool; last update: April 2024. Other further versions are possible based on the modifiable text document and inside management of NCDC.		

Operational recommendations:

1. **The design of monitoring and follow-up is carried out by the project's governance body at the beginning of its implementation.**

2. **Monitoring and follow-up should be designed according to:**

    a. The actual start of project implementation
    b. The consideration of all information provided during the main stages (E1 to E4) of the application review
    c. The need for data (environmental and/or health data), either new or collected from existing data
    d. The period of implementation (or works) and the period after implementation (or works), when the project is implemented

3. **Monitoring and follow-up should be financed and implemented with the level of expertise appropriate to the size and health issues of the project.**

Detailed recommendations:

According to the UNECE - GUIDELINES ON PRACTICAL APPLICATION OF STRATEGIC ENVIRONMENTAL ASSESSMENT IN GEORGIA _ Final_SEA_Guidelines_ENG.pdf (unece.org)

"Monitoring should be focused on the key environmental and health issues addressed in SEA, and the most significant effects, respectively. The purpose of the monitoring scheme in SEA is not to cover all possible environmental and health parameters, but focus monitoring on those environmental and health issues which may be significantly affected. For those issues relevant indicators should be proposed if e.g.

air quality is one of the key issues for transport, indicators should reflect the most important air pollutants related to transport (NOx, PM10/PM2.5, benzo(a)pyren etc.). With regard to public health impact the following indicators can be used: Annual mean levels of PM10 (µg/m3), annual mean levels of PM2.5 (µg/m3), annual ambient concentrations of lead in the atmosphere (µg/m3), lead level in blood, particularly children (µg/dl) etc. Also, existing monitoring schemes and data should be used to a maximum extent. **It needs to be emphasized that together with monitoring of environmental and health effects during implementation of the strategic document, also the scheme should be developed enabling it to control if and how SEA recommendations are followed and implemented. When designing the monitoring scheme it is important that the Planning Authority consults the proposals with the Ministry and the Ministry of Health to ensure the proposal is 'realistic' and utilizes existing monitoring schemes to the maximum possible extent.**

A list of relevant environmental health indicators can be found here (Part 2)

C3 - Environmental Data strategy for HIA - First draft recommandations.docx

The actions regarding monitoring to be conducted during SEA process can be summarized as follows:

- Consultants propose the initial draft of the monitoring scheme;
- The draft monitoring scheme should be consulted with planning team in order to link it to the overall monitoring scheme for the strategic document;
- The draft monitoring scheme are highly recommended to be consulted with the Ministry and the Ministry of Health to discuss their role in actual monitoring, data availability etc.;
- Following conclusions from the consultations, consultants finalize the monitoring scheme (and include it in the Report);
- Monitoring scheme is published after the strategic document is adopted. The Ministry will conduct monitoring of the effects during implementation of the strategic document. It is recommended to involve (or at least to consult) monitoring regarding the health aspects with the Ministry of Health. Based on the monitoring results, the Ministry prepares and publishes regular monitoring reports (which should be also publicly available).

Monitoring reports should provide information on:

- What is monitored (key environmental and health issues through relevant indicators);
- How the situation has changed i.e. what effects were recorded – this may be described in quantitative (e.g. air quality) as well as qualitative (if data are not available) terms;
- How the changes relate to the strategic document implementation;
- Conclusions i.e. if any actions are needed to be undertaken, if any adjustments of the monitoring scheme should be done"

Horizontal Issues

Horizontal Issues

E1-5HI_G Step-by-step Governance

E1-5 HIPP Step-by-step Public Participation and active communication

Tool of the guidelines to consider Health in Environmental Assessment			
Name:	Step-by-step Governance (E1-5HI_G)	Code:	E1-5HI_G
Objective:	The objective of the tool is to present step-by-step the tasks of governance involving the Governance body.		
User:	NCDC, specially the NCDC HIA coordinator		
Step of use:	E1-5, All the steps		
Description:	A table presents step-by-step the "Health Impact assessment Governance body (HIA-GB) philosophy"; "HIA-GB main activities" and the "Role & relation with stakeholders (EAuth, HAuth PA, Cons, …)" with a link to an operational resource Diallo et al. (2019).		
Composition:	Modifiable Word file		
Origin and references:	Adapted from: Twinning Project by EHESP & Experts work References: - Other tools with similar objective: Operational resource: Diallo, T. (2019). Preparing and conducting work meetings within the context of the health impact assessment process. Practical Guide. Montréal, Québec: National Collaborating Centre for Healthy Public Policy. Diallo et al. (2019)		
Version of the tool:	Version 1_5 of the tool; last update: April 2024. Other further versions are possible based on the modifiable text document and inside management of NCDC.		

Step	Health Impact assessment Governance body (HIA-GB) philosophy	HIA-GB main activities	Role & relations with stakeholders (EAuth, HAuth, PA, Cons, …)
E1-Screening / E2-Scoping	Ensure the involvement & efficient channel of communication between all the stakeholders Make sure that health concerns are a key decision	Settle the HIA-GB: Designate the HIA coordinator within the HAuth Identify &	The HIA coordinator: 1. propose a team to the head of the EH department of the NCDC 2. send invitation letters to external partners (Local health centers, Specific expertise body such as NFA, Radiation Agency, PA, …) 3. organize a meeting that officially launches the HIA-GB. This meeting aims at: a. identifying legislative requirements

	criteria in the implementation of the project/ strategic document	assemble the team (stakeholders inside & outside of the NCDC) to launch the HIA process	b. gathering and reviewing relevant project/strategic document information c. screening the strategic document The HIA coordinator ensures that all tasks at screening & scoping levels from the NCDC are realized in line with the guideline. During the scoping phase, the HIA-GB is part of the co-drafting the causal model led by the PA and identifies the main health determinants to investigate. The HIA coordinator, with the support of the HIA-GB, identifies expertise needed for the preparation of the EA report (such as risk assessment, quantitative impact assessment, hydrologist, WASH expert, health promotion, …). Operational resource: Diallo et al. (2019).
E3-Preparing EA report			HIA-GB organize a meeting prior to the finalization of the draft EA report to: ● exchange on the outlines of the EA report ● give support to the preparation of the EA report by the PA and ● to discuss the preparation of the public hearing & clarify the role of each partner Operational resource: Diallo et al. (2019).
E3-Public hearing			HIA coordinator ensures that representative of the HIA-GB is part of the public hearing and participate to the public hearing.
E4-Assessment of report			Any intervention of the HIA-GB
E4-Issuing EA recommendations	Propose example of recommendations to better consider health in the recommendations provides by MEPA		The HIA-GB agrees on recommendations and can propose a specific qualitative & quantitative monitoring plan to address health potential improvement (qualitative survey to the impacted population, …), potential risks identified (such as air noise pollution, water quality, …)
E5-Monitoring/ follow up of the implementation of the project/ strategic document	HAuth participates in the steering committee and keep public informed		PA approves the strategic document and starts its implementation. Few months after the beginning of the implementation of the project/strategic document, the HIA-GB can organize a follow-up meeting to discuss the way to engage the proposed monitoring plan in EA report.

Tool of the guidelines to consider Health in Environmental Assessment			
Name:	Step-by-step Public Participation and active communication (E1-5HI_PP)	Code:	E1-5HI_PP
Objective:	The objective of the tool is to present step-by-step the tasks to: - enhance dissemination and communication - foster public participation - foster consultation with civil society		
User:	NCDC, specially the NCDC HIA coordinator; Planning Authority and Consultant		
Step of use:	E1-5, All the steps		
Description:			
Composition:	A 3-page reminder about why public participation is important and how it can be done through the process A table presents step-by-step the role of the NCDC in order to foster public participation, consultation with civil society and relevant stakeholders and health sector in the process		
Origin and references:	Adapted from: Twinning Project by EHESP & Experts work References: - Other tools with similar objective: - United Nations Economic Commission for Europe - Practice Recommendations on Public Participation in Strategic Environmental Assessment 2,475 – ECE/MP.PP/10 - ECE/MP.EIA/SEA/5 1514364_E_Espoo_web_Goodpractice participation.pdf - Quick Guidelines for EIA and SEA public participation by Planning Authorities and Consultants guidance_publicparticipation.pdf - Topic 3 - Public involvement- EIA training center, International Association for Impact Assessment guidance_publicparticipation.pdf - Cave, B., Claßen, T., Fischer-Bonde, B., Humboldt-Dachroeden, S., Martín-Olmedo, P., Mekel, O., Pyper, R., Silva, F., Viliani, F., Xiao, Y. 2020. Human health: Ensuring a high level of protection. A reference paper on addressing Human Health in Environmental Impact Assessment.		

	As per EU Directive 2011/92/EU amended by 2014/52/EU. International Association for Impact Assessment and European Public Health Association Human Health Ensuring Protection Main and Appendices.pdf (eupha.org) - Commission Nationale du Débat Public | Catalogue of Tools - Methods for informing and involving the public, October 2023
Version of the tool:	Version 1_5 of the tool; last update: April 2024. Other further versions are possible based on the modifiable text document and inside management of NCDC.

Why is communication and public participation in the planning and assessment process important?

Transparency, public participation and communication are essential parts of planning, SEA and HIA. They **increase the credibility of decision-making**, help ensure that all **relevant issues are considered** during the plan- or programme-making process and allow the **early consideration of the public's opinions** in the plan- or programme-making process. In return, it **can mobilize public support** for the implementation of the plan/programme.

Legal requirements in terms of communication and public participation

Georgia has signed and ratified in 2000 the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters — or Aarhus Convention. Georgia has also signed (but not ratified) the Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention).

The current Georgian legislation on SEA and HIA has specific requirements made for stakeholders of the SEA and HIA process[1]; especially the following articles of the Resolution No. 420 of the 2 September 2019 on approval of the procedures rule of for evaluating human health impact assessments in the field of environmental assessment.

[1] LAW OF GEORGIA ENVIRONMENTAL ASSESSMENT CODE
Government of Georgia Resolution No. 420 of the 2 September 2019 on approval of the procedures rule of for evaluating human health impact assessments in the field of environmental assessment

Article 9. Ensuring public participation in the decision-making process
Article 10. Access to information
Article 11. Submission of opinions and remarks
Article 12. Consideration of the results of public participation
Article 13. Appeal of the decision

The Order of the Minister of Environmental Protection and Agriculture on Approval of the Procedure for Public Review on 23/02/2018 also details the role of the Planning Authority and MEPA/Ministry of Health in the EIA/SEA process in terms of public participation and consultation.[1]

Part 1: General information and tools on Health impact assessment and Health in Environmental Assessment

Stages of HIA within the process of decision-making and methods used for implementation

States	HIA methods used	Transparency, Active communication and public participation methods used
Screening stage	The aim is to look at proposals to identify signs of potential hazards which can, in certain times, lead to harm to the health status of a population. The result of the screening is a decision whether to conduct an HIA or not. Usually literature searching, documentation analysis, database searching, and interview processes are involved as methods to complete screening.	Openly engaging with the public is recommended in order to complement other methods of screening, in order to ensure all factors are taken into account. As stated in the Espoo Convention **"If a plan or programme is not expected to require SEA, then involving the public at the screening stage may avoid later accusations that the plan or programme was prepared without the full range of necessary information."**
Scoping stage	Scoping aims to define how the HIA should be conducted and to establish a steering group. Project management methodology is therefore the key method to be employed in this stage; in addition, various communication skills and methods, networking techniques and negotiating methods are used.	Once the decision of HIA is made, identifying and contacting potential stakeholder groups should be the first step. Related materials should be made public and disseminated widely in traditional media and digital channels. It is recommended to emphasize clarity of the information and tailor it for different stakeholders. It is important to announce beforehand how and when feedback can be given.
Appraisal stage	The appraisal of potential risks and benefits is "at the heart of HIA" and employs a variety of public health methods. Both qualitative and quantitative methods are used to identify exposures and health outcomes related to the proposal, measure strengths of their relation,	Depending on the project and its' target audiences, open and targeted engagement approaches should be implemented. Engagement of vulnerable groups is important for engagement and designing a project/plan that promotes equity.

[1] on approval of the procedure for public consideration | Skip to main content (matsne.gov.ge)

	assess their role in overall impact on health. Risk assessment techniques are often used to estimate risks related to defined exposures. Demographic methods are important to define age and gender specific characteristics of populations of interest.	One of the key approaches is a public hearing, that is well constructed and accessible for all or most of the populations affected. Consider complementing the public hearing with digital participation on various platforms and providing applicable information and feedback tools also in a local libraries etc, based on the needs of the affected populations. To complement the public hearing, interviews and surveys should be used to ensure that all target groups have been heard equally.
Reporting/ Decision-making stage	In order to support decision-making, a report needs to be written and submitted to decision makers with recommendations how to deal with the project or policy subjected to assessment. Consequently, the most relevant method in this stage is writing skills and communication methods. The Non-technical summary of the SEA report is a key element for disseminating the findings. Presentation skills are also very important as the recommendation can be transferred to decision-maker in format of a workshop or seminar. The timing of the report submission and presentation of the findings is important at this stage, and it can vary, depending on whether the HIA is retrospective, concurrent or prospective.	Once the decision is made, the report should be made available to the public without delay. Also in the name of transparency, the methods and the amount of feedback collected and how they were processed should be reported, and if these had any impact on the plan. It is also recommended to produce separate easy to understand documents of the key findings for the public based on the wider report.
Monitoring and evaluation stage	In this stage, HIA aims to monitor the real impact of the proposal implementation. Demographic, vital statistic, epidemiological follow or survey methods are most often used to conduct monitoring. Evaluation can focus on different aspects of the HIA, and mainly it can evaluate the process of conducting the HIA, the impact the HIA has on the decision-making process, and finally outcome evaluation assesses changes in health status and health determinants after implementation of the decision.	Disseminate the information regarding the report and the participation conducted using the same channels as in earlier stages. The aim is to provide continuity to the population that contributed in the assessment. Participate proactively in the conversation and evaluate, whether there are any issues or that require further dissemination of information.

Stakeholder engagement	Most guidelines consider stakeholder engagement as a component which should last as long as the HIA process. Some guidelines; do not single out this as an independent stage but mention that stakeholder participation should be encouraged at each stage.	

Source: WHO, Health in Impact Assessments Opportunities not to be missed, 2014. Available at http://www.euro.who.int/__data/assets/pdf_file/0011/261929/Health-in-Impact-Assessments-final-version.pdf?ua=1

Recommendations for the public hearing organizers

- Informing public in advance to ensure comprehensive participation: Press release containing the basic information on the development project with the details of the public hearing could be issued approximately two weeks before the event. Also advertising the event in social media is recommendable.
- The time and venue of the event should be considered:
  - Is the venue easily accessible also for the disabled persons and reachable with the public transportation?
  - Would it be possible to organize the event after business hours to make attendance possible also for the working population?
- Online attendance: is it possible to attend also by Teams/Zoom/webinar link?
- In addition to environmental assessment also the key findings of the health in SEA/health impact assessment should be included into presentations.
- Based on the feedback, the Q&A document could be drafted and published after the public hearing on municipality website as well in social media.

Catalogue of tools for public participation it is a **catalogue of participatory approaches/tools for engaging the public in environmental assessment.** It is organized with concrete examples around 5 main themes:

- Why ?
- Format meetings with the public
- Meeting facilitation techniques
- Contribution tools and media
- Mobilisation techniques

CNDP - Toolbox participatory approaches.pdf

Step-by-step recommendations for public participation

EA steps (source)	Philosophy public participation	Stakeholders main tasks (EAuth, HAuth, PA, Cons) in the public participation process and integration of health in the process	Tools	Output
Screening	Openly engaging with the public is recommended in order to complement other methods of screening, in order to ensure all factors are taken into account. As stated in the Espoo Convention **"If a plan or programme is not expected to require SEA, then involving the public at the screening stage may avoid later accusations that the plan or programme was prepared without the full range of necessary information."**	HAuth takes the screening decision and relays the information according to the law HAuth sends the decision to the mailing list/ subscriptions HAuth reviews comments and feedbacks from the public HAuth reminds that social media comments are not official public participation ways and need to be sent to the generic email address(es) of the EAuth, HAuth, PA	Generic email address Mailing list/subscriptions Website publication and social media Template for "Short-description of the project/ strategic documentation and the process" UpDate of the NCDC Project Card	Screening decision disseminated on the website and social media post and sent to the mailing list, using a structured way: Short-description of the project and the process on the website
Scoping		Reception of comments and analysis from the publication to the Scoping Opinion of the NCDC HAuth can suggest methodologies to consider health in the process (focus groups, consultations with specific population, consultation with CSOs, …)	Generic email address Mailing list/subscriptions Website publication and social media	Scoping statement by PA disseminated on the website, social media and shared to the mailing list/ subscribers

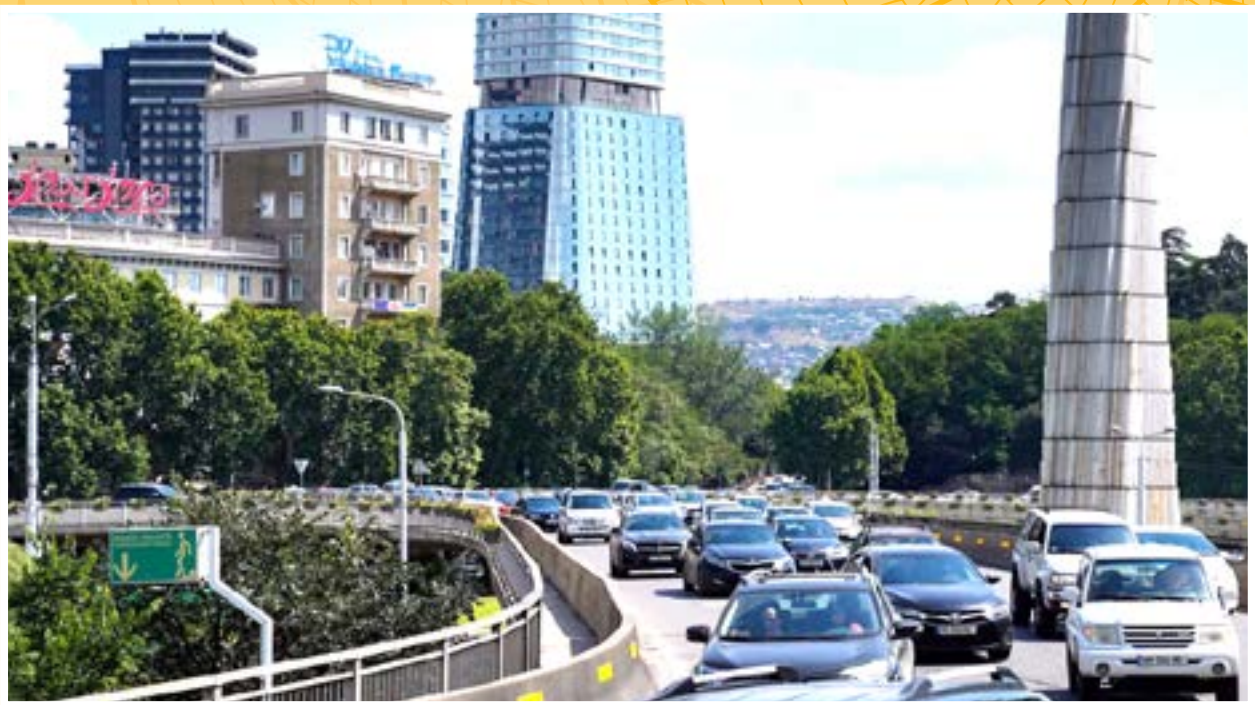
Scoping		PA could take the decision of raising awareness on a specific topic regarding the project/specific document and can ask support to the HAuth in organizing/participating HAuth takes the scoping decision and relays the information according to the law HAuth reminds that social media comments are not official public participation ways and need to be sent to the generic email address(es) of the EAuth, HAuth, PA	Surveys, Focus group, working group, diagnosis (see. Isadora) Template for "Causal model" UpDate of the NCDC Project Card	Comments processing Scoping opinion by EAuth and HAuth disseminated on the website and social media and shared to the mailing list The HAuth publishes the causal model on the website and a description of the main the health determinants affected and to the mailing list
Preparing EA report		HAuth receives the draft EA report and publishes it on the website HAuth receive the information about the public hearing from the PA HAuth reminds that social media comments are not official public participation ways and need to be sent to the generic email address(es) of the EAuth, HAuth, PA Based on the draft EA report, HAuth prepares for the public hearing and can use materials and presentation, in coordination with the PA and EAuth HAuth encourages the participation of the (local) health sector in the public hearing	Generic email address Mailing list/subscriptions Website publication and social media Surveys, Focus group, working group, diagnosis (see. Isadora) UpDate of the NCDC Project Card	Draft EA report compliant with EAC (Annex III Eap report) disseminating on the website and social media post and sent to the mailing list Dissemination, publication and mailing list about the upcoming date of the public hearing

Public hearing		HAuth ensures that health would be integrated in the presentation and discussion, for instance: ○ Presentation of the health baseline data ○ Health impacts ○ Alternatives ○ Monitoring plan	How to integrate health in the PA presentation of the project/strategic documents and its EA: ○ Highlighting key health determinants affected ○ Presentation of the final logic model ○ Presentation of the potential health impacts (results of modeling impacts for exemple) ○ Presentation of the scenarios and suggestions to avoid, reduce and compensate health impacts UpDate of the NCDC Project Card	Health integrated in the presentation of the PA Health concerns integrated in the minutes of the public hearing PA updates the draft project/strategic document and final EA report with the results of the public hearing
Assessment of report	Quality control of the final EA report (including the health concerns expressed during the public hearing and consultation) and provide relevant recommendations on the draft project/ strategic document	HAuth takes into account the minutes of the public hearing and their experience of the public hearing to produce their health statement	Generic email address Mailing list/subscriptions Website publication and social media UpDate of the NCDC Project Card	Final strategic document and its SEA report are disseminated on the website of the NCDC, social media post and sent to the mailing list

Issuing EA recommendations	Propose example of recommendations to better consider health in the recommendations			Final report by EAuth and HAuth published on the website and social media and shared to the mailing list Health statement (quality control and issuing of recommendations) published on the website and social media and shared to the mailing list Monitoring plan to be presented in a simple way and disseminated
Monitoring/ follow up of the implementation of the project/ strategic document	HAuth participates in the steering committee and keep public informed		(Website publication and social media when necessary like a significant change to the plan) UpDate of the NCDC Project Card	The NCDC disseminates information when necessary (significant change to the strategic document)

Support Sheet 1 - Outdoor air quality

Source: extracted and adapted from the French National guidelines "Agir pour un urbanisme favorable à la santé (EHESP & MoH, 2014)"



The main air pollutants, their origins and their impact on human health

Urban air pollution is a public health problem, given that the entire population is exposed and that health effects can appear for short (acute exposure) or long term (chronic exposure) exposures. Chronic exposure to certain pollutants such as particulate matter leads to higher health impacts than short-term exposure (during pollution peaks, for example); a reduction in these impacts can only be achieved if there is a sustainable improvement in air quality. Health effects are observed at concentrations typically found in European agglomerations, as well as at levels below the European regulatory values and the WHO guide values. Moreover, for some pollutants, including particulate matter, it is not possible to identify an exposure threshold below which no health effects are observed. Several studies show that a reduction in air pollution is associated with a reduction in health impacts.

Epidemiological and toxicological studies highlight the role of air pollutants in the genesis or aggravation of a large number of pathologies, in particular respiratory and cardiovascular diseases, asthma and certain cancers. These effects are generally described pollutant by pollutant because it is currently technically difficult to highlight the effects induced by exposure to the "cocktail" of pollutants present in the air. However, more and more studies are looking at interactions in air and data are becoming available (e.g. on potential interactions between pollutants and temperatures). **In October 2013, the International Agency for Research on Cancer (a specialised body of the WHO) classified outdoor air pollution and particles in outdoor air as carcinogenic to humans**.

In urban areas, the transport sector (roads) and the domestic and tertiary sector (heating and hot water production) are the main sources of air pollutant emissions. A large number of other sources exist, notably the industrial and agricultural sectors. The reduction of emissions is made difficult in particular because of the physico-chemical transformations occurring in the air (production of secondary pollutants) and the long-distance transport of pollutants.

The information in the table below is given for illustrative purposes only. It needs to be completed and/or updated with the help of reference documents or websites[1] .

The main pollutants		
Pollutants	Main sources of emissions	Impacts on health
Nitrogen oxides (NOx) (NOx = NO +NO2)	All high-temperature combustion of fossil fuels (coal, fuel oil, petrol, etc.); the main source is road transport	NO2: its own effects, both short and long term, are increasingly suggested by studies.
	Some diesel particulate filters lead to increased NO2 emissions	Respiratory effects, especially in asthmatics.
	Certain industrial processes and agricultural practices	NO: not toxic to humans at environmental concentrations

[1] See in particular the website of the World Health organization (WHO) and of HYPERLINK «https://www.santepubliquefrance.fr/determinants-de-sante/pollution-et-sante/air» Santé Publique France.

Particulate matter or suspended dust (PM10 and PM2.5)	Industrial and domestic combustion (e.g. wood burning) Road transport (especially diesel exhaust) Fertilizers, agricultural works Natural origin (re-suspension of soil, sand winds...) Classified according to size: **PM10**: particles smaller than 10 micrometres (µm) in diameter (enter the upper respiratory tract and lungs). **PM2.5:** fine particles with a diameter of less than 2.5 µm (penetrate deep into the respiratory tract to the lung alveoli). **PM10-2.5**: particles between 2.5 and 10 µm in size, known as coarse particles **PM0.1**: particles smaller than 0.1 µm, known as ultra-fine particles.	The toxicity of particles is linked to their size and chemical composition (heavy metals, hydrocarbons, etc.). The best known effects are respiratory and cardiovascular, but other effects are now increasingly being highlighted, such as effects on reproduction, foetal development, neurological development, cognitive function, atherosclerosis and diabetes.
Ozone (03)	Secondary pollutant, produced in the atmosphere under the effect of solar radiation by complex chemical reactions between certain primary pollutants (NOx, VOC,...), which is why it is generally measured in greater proportion far from the emission sources, such as in rural areas. Main indicator of photochemical pollution intensity.	Gas irritating to the respiratory system and eyes. Associated with increased mortality during pollution episodes. There is increasing evidence of long-term effects: mortality from respiratory diseases, deaths of susceptible individuals due to chronic conditions, impact on cognitive development and reproductive health, including premature births.
Carbon monoxide (CO)	Various combustions (vehicles,...)	Poisoning at high levels causing headaches and dizziness (even coma and death for prolonged exposure).
Ammonia (NH3)	Agricultural activities (organic waste from livestock) Use of cars with catalytic converters	Very irritating to the respiratory system, skin and eyes. In high concentrations, it can cause serious effects.

Heavy metals (lead (Pb), mercury (Hg), arsenic (As), cadmium (Cd), nickel (Ni))	Combustion of solid mineral fuels, heavy fuel oil, biomass, incineration of household, medical and industrial waste Industrial processes Agriculture Natural origin	Accumulate in the environment and organisms (bioaccumulation) Toxic effects in the long and short term. Various effects depending on the pollutant, including disorders of the nervous system, kidney function, liver function, respiratory function, etc.
Polycyclic aromatic hydrocarbons (PAHs) and **volatile organic compounds (VOCs)**	Vehicle Exhausts Filling of car tanks, cisterns, etc. Various industrial processes Use of solvents (paints, glues) Agriculture	Various effects depending on the pollutant, including irritation and reduced respiratory capacity. Frequent odour nuisance Cancers
Dioxins, furans, polychlorinated biphenyls (PCBs)	Natural emissions: forest fires... Industrial emissions: specific combustion conditions that can be encountered in all sectors, especially during waste incineration, in the steel industry.	Accumulate in the environment and organisms (bioaccumulation) Various toxic effects on reproduction, development, the immune system, the hormonal system, etc. Human carcinogenicity of 2,3,7,8-TCCD ("Seveso dioxin") recognised by WHO
Phytosanitary (pesticides...)	Agriculture Maintenance of green spaces Maintenance of transport routes (roadsides, railways, etc.)	Some accumulate in the environment and organisms (bioaccumulation) Various effects: on the nervous system, reproduction, nerve or hormone signalling, cells, child development, etc. Some molecules are said to have carcinogenic effects
Greenhouse gases including carbon dioxide (CO2)	CO2: Combustion of fossil fuels and biomass in the residential, tertiary, transport and industrial sectors. Some of these emissions are absorbed by natural or artificial reservoirs called "sinks", which consist mainly of the oceans, forests and soils.	CO2: low toxicity at low doses, but at high doses can cause discomfort, headaches and asphyxiation, can also affect heart rate and blood pressure. As one of the main greenhouse gases, CO2 contributes to the phenomenon of climate change and its impact on health in particular

Other air pollution and nuisances		
Pollens	Some anemophilous pollens (i.e. wind-dispersed such as grass, mugwort, ragweed, cypress and birch pollens) have an allergenic potential for humans.	Seasonal allergy to pollen from different plants (trees, shrubs, plants such as grasses): Would affect 10 to 30% of the population The most allergenic pollens are: birch, alder, hazelnut, plane tree, olive tree, ash, oak, grass, plantain, mugwort, ragweed, etc.
Smells	Substances of chemical and biological origin of very variable composition such as certain VOCs, sometimes only detectable by the human nose (the most sensitive tool but subjective as there is individual susceptibility).	Pleasant or unpleasant (subjective) Can be a threat to well-being Not necessarily related to health risk

Source: according to the summary table (origin, environmental and health impacts) of the main pollutants and other sources of pollution, Airparif, http://www.airparif.asso.fr/_pdf/tableau-polluants-origine-impacts.pdf, consulted on 18/02/2013.

Sensitive people to air pollution:

Some people are more sensitive to air pollution than others. These are in particular:

- children (immature respiratory system) and pregnant women

- the elderly (their hypersensitivity would be due to the reduction of their local antioxidant capacities and the reduction of the adaptation capacity of their defense system)

- children and adults with chronic respiratory or cardiovascular diseases.

Climate change and outdoor air quality interactions:

According to the scientific community, climate change could lead to significant changes in the environment, particularly in air quality, including increased ozone production.

Air pollutants, notably ozone and particulate matter, also have an impact on climate change: ozone is a greenhouse gas with a positive forcing effect on the climate. The effect of particulate matter is more complex: carbon-silk aerosols have a direct positive forcing effect on climate, while sulphates, produced by oxidation of SO2, have a negative forcing effect. On the other hand, strategies to reduce greenhouse gas emissions and improve air quality can have synergistic effects but their effects can also be contradictory.

Therefore, a well thought-out policy for reducing greenhouse gas emissions should favour actions that also improve air quality ("win-win" strategy), in order to benefit in the short term from the rapid response of pollutant formation processes in the troposphere, whereas the effects of greenhouse gas reduction measures on climate change will only be perceptible after several decades.

Climate change mitigation and adaptation policies should also take into account the potential collateral benefits for the health of the population; for example, urban planning policies that encourage active mobility (walking, cycling, etc.) can both reduce pollutant and greenhouse gas emissions from vehicles and reduce mortality and morbidity from various diseases by encouraging physical activity. Incentives to encourage the use of these active modes of transport, such as road design and the creation of green spaces, can also reduce the frequency of traffic accidents and mitigate urban heat island phenomena.

Current regulations and recommendations (WHO):

European level	Directive n°2008/50/EC of 21/05/08 on ambient air quality and cleaner air for Europe. The pollutants concerned are sulfur dioxide, nitrogen oxides, PM10 and PM2.5 particles, lead, benzene, carbon monoxide and ozone. Directive n°2004/107/EC of 15/12/04 relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air. The guidelines set different types of values, including: - limit values corresponding to concentration values that may only be exceeded for a limited period of time - target values which correspond to concentrations for which the health effects are negligible and towards which it would be necessary to aim at any point of the urbanised territory
National level	**-Law on Ambient Air Protection is a framework legislation for the protection of ambient air in Georgia.** **On Ambient Air Protection | სსიპ "საქართველოს საკანონმდებლო მაცნე" (matsne.gov.ge)** **- National air quality standard is established by Governmental Decree N383 of 27 July 2018 on Approval of Ambient Air Quality Standards (in force since 1 August 2018) which is fully in line with corresponding EU directives (Directive 2008/50/EC and Directive 2004/107/EC).** **Technical Regulations – On the Approval of Atmospheric Air Quality Standards | Skip to main content (matsne.gov.ge)** **On Approval of Technical Regulations for Self-monitoring and Reporting of Emissions of Harmful Substances from Stationary Sources of Pollution | სსიპ "საქართველოს საკანონმდებლო მაცნე" (matsne.gov.ge)** **On Approval of Technical Regulations for Calculating Threshold Limit Values of Emission of Harmful Substances into the Ambient Air | სსიპ "საქართველოს საკანონმდებლო მაცნე" (matsne.gov.ge)** **To ensure high reliability of air quality data and further develop the air quality monitoring network in accordance with European methodologies and standards, on December 1, 2021, the Government of Georgia adopted Decree No. 563 on the establishment of a technical regulation to set ambient air monitoring criteria.-**
WHO outdoor air quality guidelines and values	See 2021 **WHO Global Air Quality Guidelines**

Air portal in Georgia:

- Air.gov.ge: Air Quality

Inventory of stationary sources of harmful emissions in Georgia:

- Map of emissions of harmful substances from stationary sources in atmospheric air: map.emoe.gov.ge

- Electronic Air Pollution Reporting System from Point sources: emoe.gov.ge

The opposable and non-opposable framework documents existing on the territory:

Enforceable framework documents (in terms of compliance, compatibility or consideration)
➢ Ambient air quality management units: - Black Sea Zone (being elaborated as of 2023) - Western Zone (not elaborated yet in 2023) - High Zone (not elaborated yet in 2023) - Central Zone (Approved for 2023-2025 - mepa.gov.ge) - Eastern Zone (not elaborated yet in 2023) - Tbilisi Agglomeration (being elaborated as of 2023)

Source:.MINISTRY OF ENVIRONMENTAL PROTECTION AND AGRICULTURE

Elements and indicators on which to base the evaluation

1-1 Sources of air pollutant emissions (Mitigation)		*Elements relating to the sources of air pollutant emissions*	*List of indicators to quantify/qualify these elements*	*Where to find data?* *Which expertise is required?*
	Initial state	The most exhaustive and geolocated inventory possible of the main sources of air pollutant emissions (fixed, mobile, channeled, diffuse, etc.) and characterisation of their emissions in the area concerned by the future project and in its immediate surroundings: - Activities requiring environmental authorization/license/permit (thermal power stations, manufacturing industries, household waste incineration plant, etc.) - Residential and tertiary sectors (heating, etc.) - Roads - Agriculture (spreading of fertilizers, pesticides, etc.) - ...	- The most exhaustive qualitative and quantitative inventory possible of the air pollutants released by the various emission sources identified - Precise emissions of regulated air pollutants (NO2, PM10, PM2.5, SO2, metals, PAHs...) and of the main pollutants emitted (average and maximum emissions in recent years) - Comparison with available emission inventories and reminder of regulatory obligations (European, national, local) regarding the reduction of polluting emissions (Industrial Emission Directive)	NEA Environmental Pollution Department Environmental Inspection Airportal, municipality, collection of data, emissions by stationary sources: map.emoe.gov.ge Environmentalist / outdoor air specialist
	Construction phase	Identify as many sources of air pollutant emissions as possible and characterize their emissions during the construction phase of the development project	- Dust fumes - Air emissions from mobile and stationary construction equipment, ... - Air emissions from other vehicles on the site	

	Impact of the project / activity / strategic document	The most exhaustive and geolocated inventory possible of the sources of atmospheric pollutant emissions (fixed, mobile, channeled, diffuse, etc.) and characterisation of their emissions in the area concerned by the future project and in its immediate environment (see list above)	- The most exhaustive qualitative and quantitative inventory possible of the air pollutants released by the various emission sources identified - Precise emissions of regulated air pollutants (NO2, PM10, PM2.5, SO2, metals, PAHs,...) and of the main pollutants emitted (average and maximum emissions in recent years) - Estimated "cumulative" emissions (background + future project) - Comparison with available emission inventories and reminder of regulatory obligations to reduce polluting emissions - Comparison with the emissions identified in the initial state in the area concerned by the future project and in its immediate surroundings - Distance from the main emission sources to residential areas and public buildings (populations most sensitive to air pollution: young children, children and adults with chronic respiratory and cardiovascular diseases, etc.)	Environmentalist / outdoor air specialist

1-2 Ambient air quality (Preservation and improvement)		*Elements of air quality characterisation*	*List of indicators to quantify/qualify these elements*	***Where to find data? Which expertise is required?***
	Initial state	Ambient air quality in the project area and its immediate surroundings Health monitoring of air pollution Are there any exceedances of air quality guidelines in the study area?	- Analysis of variations in air quality monitoring data (annual average and maximum values) over the last three years: concentrations measured by fixed stations, specifying the type of sensors (traffic, urban, rural, etc.) - Analysis of data from spot measurement campaigns and/or modeling, - Comparison with WHO guide values and regulatory values (limit values,...) - Other maps showing ambient air quality - Data from air pollution health monitoring (air pollution health impact assessments, air and health monitoring programme,...) -> burden of disease of ambient air using AirQ+	NEA Environmental Pollution Department Environmental Inspection Airportal Air Quality municipality, collection of data, emissions by stationary sources: map.emoe.gov.ge Environmentalist / outdoor air specialist
	Construction phase	Ambient air quality during the construction phase in the project area and its immediate surroundings	- Analysis of air quality monitoring data variations (annual average and maximum values) during the construction phase: concentrations measured by the fixed stations, specifying the type of sensors (traffic, urban, rural, etc.)	NEA Environmental Pollution Department Airportal Air Quality municipality,

			- Analysis of data from spot measurement campaigns and/or modeling - Comparison with WHO guide values and regulatory values (limit values,...), and with values measured in the initial state - Maps showing the ambient air quality during the construction phase	collection of data, emissions by stationary sources: map.emoe.gov.ge
	Impact of the project / activity / strategic document	Estimation of the ambient air quality in the area of the future project and its immediate surroundings Quantitative assessment of health risks linked to exposure to atmospheric pollutant emissions from the future project, with simultaneous exposure to background noise taken into account in a second phase	- Estimation by modeling of the concentrations (annual average and maximum values) of pollutants resulting from the emissions planned in the future project and comparison with the WHO guide values and regulatory values (limit values, etc.) - Estimation of "cumulative" concentrations (background + future project) and comparison with WHO guide values and regulatory values (limit values,...) and with values measured in the initial state - Other maps showing ambient air quality - QHIA following the recommended methodologies (QHIA of an intervention using AirQ+, methodological note on the air and health component of impact studies for road projects, etc.)	ჰაერის დაბინძურების ხარისხი | საქართველოს გარემოს დაცვისა და სოფლის მეურნეობის სამინისტრო (mepa.gov.ge) NEA Environmental Pollution Department Airportal Air Quality municipality, collection of data, emissions by stationary sources: map.emoe.gov.ge Epidemiologist/biostatistician for using AirQ+ (entry of demographic data, health data and environmental data) and interpretation of results

		Elements of air quality characterisation	*List of indicators to quantify/qualify these elements*	*Where to find data? Which expertise is required?*
1-2 Ambient air quality (Preservation and improvement)	*Impact of the project / activity / strategic document*	For areas where the air quality guidelines are exceeded: - Integrate into the urban development project the need to limit the exposure of the population to exceedances of the air quality guide values - Measures taken to limit/avoid exposure of populations - Measures taken to limit the impact of the project on air pollution	If the study area is subject to exceedances of air quality guide values: estimate of the number of additional people who will be affected by these exceedances as a result of the project If the sector is already open to urbanization and subject to exceedances of the air quality guide values, the project must also consider how to minimize the exposure of the populations introduced into the area and those already living there, in particular the most sensitive. The project developer must provide this analysis as part of the project's impact assessment The impact assessment should: - Justify the reasons for the development choices with regard to air pollution and population exposure. - Detail the urban planning or construction management measures envisaged to avoid/limit the exposure of populations to atmospheric pollution: development plan, construction provisions, choice of location for establishments receiving sensitive people (children, elderly people, etc.), facilities receiving people practicing sports activities, location of buildings for	ჰაერის დაბინძურების ხარისხი | საქართველოს გარემოს დაცვისა და სოფლის მეურნეობის სამინისტრო (mepa.gov.ge) NEA Environmental Pollution Department Airportal Air Quality municipality, collection of data, emissions by stationary sources: map.emoe.gov.ge Environmentalist / outdoor air specialist

			housing, offices or activities, etc. - Detail the measures taken to limit/ avoid the impact of the project on air pollution (contributions of the project to the air quality objectives): reduction of traffic (public transport, active mobility, modes of supply for goods, parking,...), and of emissions linked to the building (energy performance of the building, use of low-polluting modes of heating, heat networks,...) in the sense of the principle of "best available techniques at an economically acceptable cost". - The choice of the best available techniques should, in most cases, allow the residual emissions of the project to be very limited.	

1-3 Odor nuisance (Mitigation)		*Elements that cause odor nuisance*	*List of indicators to quantify/qualify these elements*	*Where to find data? Which expertise is required?*
	Initial state	As exhaustive as possible, geo-located inventory of the sources of odor nuisance emissions in the area concerned by the implementation of the future project and in its immediate surroundings: - industrial or agricultural activities - waste or water treatment activities - ...	- Estimation of the degree of olfactory nuisance through olfactory diagnostics of the site - Equipping odor-emitting companies with appropriate equipment	municipality, collection of data, emissions by stationary sources: map.emoe.gov.ge Environmentalist / outdoor air specialist

	Impact of the project / activity / strategic document	As exhaustive as possible, geo-located inventory of the sources of odor nuisance emissions in the future and its immediate environment (see list above)	- Estimation of the degree of olfactory nuisance through olfactory diagnostics of the site - Estimation of "cumulative" odor nuisance (background noise + future project)	municipality, collection of data, emissions by stationary sources: map.emoe.gov.ge Environmentalist / outdoor air specialist

1-4 Allergenic species (Control and reduction)		*Elements that cause allergies*	*List of indicators to quantify/qualify these elements*	*Where to find data? Which expertise is required?*
	Initial state	Presence or significant levels of allergens (pollens, etc.) in the ambient air of the area concerned by the future project and in its immediate surroundings	- Monitoring of pollen and mold concentrations in ambient air over the last few years - Identification of areas where allergenic species may be present	municipality, Environmentalist / biodiversity and plant species specialist
	Impact of the project / activity / strategic document	Measures planned to limit the presence of allergenic plant species	- Replacement of potentially allergenic ornamental species with non-allergenic or low allergenic species - Access to pollen concentration forecasting data, access to the start and end dates of the pollen season for the main allergenic species in the area (via sentinel pollinarium-type gardens, etc.)	municipality, Environmentalist / biodiversity and plant species specialist

Support sheet 2 - Water management and quality

Source: extracted and adapted from the French National guidelines "Agir pour un urbanisme favorable à la santé (EHESP & MoH, 2014)"

Water and health

The quality of water intended for human consumption (HWCs) remains a major health concern. Non-conformities of HWCs are still found in some European water distribution units. In addition, other potential risks of water origin are tending to emerge: they are linked to the identification of new or previously unresearched pollutants: pesticides and pesticide metabolites, perchlorates, drug residues, etc. at levels of the order of micro or nanograms per litre.

The poor quality of natural waters can also lead to other types of impacts with immediate and dangerous effects on health: microbial contamination of recreational waters, chemical and microbial contamination of fish, shellfish and crustaceans, production of green algae emitting toxic gases, development of toxinogenic micro-organisms (cyanobacteria in fresh water, planktonic algae in sea water, etc.).

Within the framework of a development or territorial project, the risk of flooding must imperatively be evaluated. The causes and aggravating factors must be highlighted (floods, rising water tables, urbanisation in flood-prone areas, etc.) and the existing prevention and management plans applied (Flood Risk Prevention Plan).

EU acquis, Georgian legislation and WHO recommendations

Main EU Acquis	Water intended for human consumption and natural mineral water	Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption Revised by the Directive (EU) 2020/2184 of the European Parliament and of the Council of 16 December 2020 on the quality of water intended for human consumption (recast) (Text with EEA relevance) - Reinforced water quality standards which are more stringent than WHO recommendations. - Tackling emerging pollutants, such as endocrine disruptors and PFA's, as well as microplastics - for which harmonized analytical methods will be developed in 2021. - A preventive approach favouring actions to reduce pollution at source by introducing the "risk based approach". This is based on an in-depth analysis of the whole water cycle, from source to distribution. - Measures to ensure better access to water, particularly for vulnerable and marginalised groups. - Measures to promote tap water, including in public spaces and restaurants, to reduce (plastic) bottle consumption. - Harmonisation of the quality standards for materials and products in contact with water, including a reinforcement of the limit values for lead. This will be regulated at EU level with the support of the European Chemicals Agency (ECHA). - Measures to reduce water leakages and to increase transparency of the sector. Directive review - Drinking water - Environment - European Commission (europa.eu)

	Flood risk management	Directive 2007/60/EC on the assessment and management of flood risks entered into force on 26 November 2007. This Directive now requires Member States to assess if all water courses and coast lines are at risk from flooding, to map the flood extent and assets and humans at risk in these areas and to take adequate and coordinated measures to reduce this flood risk. With this Directive also reinforces the rights of the public to access this information and to have a say in the planning process. Flood risk management - Water - Environment - European Commission (europa.eu)
	Water reuse	The Regulation on minimum requirements for water reuse for agricultural irrigation entered into force in June 2020. The new rules, enforced since 26 June 2023, are expected to encourage and facilitate water reuse in the EU. Water Reuse - Environment - European Commission (europa.eu) The Regulation sets out: - Harmonised minimum water quality requirements for the safe reuse of treated urban wastewaters in agricultural irrigation; - Harmonised minimum monitoring requirements, notably the frequency of monitoring for each quality parameter, and validation monitoring requirements; - Risk management provisions to assess and address potential additional health risks and possible environmental risks; - Permitting requirements; - Provisions on transparency, whereby key information on every water reuse project is made available to the public. Regulation 2020/741 on minimum requirements for water reuse and its guidelines: Publications Office (europa.eu)
	Urban waste water	- Directive 91/271/EEC on Urban Waste Water Treatment - Directive 98/15/EEC amending Directive 91/271/EEC - Commission Implementing Decision 2014/431/EU of 26 June 2014 concerning formats for reporting on the national programmes for the implementation of Council Directive 91/271/EEC - Commission Implementing Decision 2014/431/EEC excel templates (EIONET) **The Directive requires:** - The collection and treatment of waste water in all agglomerations of >2000 population equivalents (p.e.); - Secondary treatment of all discharges from agglomerations of > 2000 p.e., and more advanced treatment for agglomerations >

		10 000 population equivalents in designated sensitive areas and their catchments; - A requirement for pre-authorisation of all discharges of urban wastewater, of discharges from the food-processing industry and of industrial discharges into urban wastewater collection systems; - Monitoring of the performance of treatment plants and receiving waters; and - Controls of sewage sludge disposal and re-use, and treated waste water re-use whenever it is appropriate
WHO drinking water guidelines		4th edition of WHO Guidelines for drinking-water quality (March 2022) Guidelines for drinking-water quality: Fourth edition incorporating the first and second addenda (who.int) • Microbial fact sheets • Chemical fact sheets • Annex 3 – Chemical summary tale

Approximation of Georgian legislation with EU legislation:

The following document shows the level of approximation and requirements in Georgia (as of 2024): GE water outlook_2021-24_fin_Engl.docx - Google Docs

Further legislation on water can be found here: **Georgian legislation - Final Catalogue 2022.xlsx - Google Sheets**

The changes in table 2.1. are highlighted demonstrating the status of implementation (legend: done, draft / in process, to do) and in other tables are written in **green**.

The opposable and non-opposable framework documents that may exist on the territory

Those are the enforceable framework documents (in terms of compliance, compatibility or consideration)

River Basin Management Plans

Newly adopted (30th of June, 2023) law on water resources management covers these issues. The draft Government resolution on the procedures for development, discussion and approval of river basin management plans and related draft minister orders has already been prepared. Three river basin management draft plans (Chorokhi-Adjaristskali, Alazani-Iori, Khrami-Debeda) have been developed, while two (Enguri and Rioni river basins) are currently under development, several consultation meetings were conducted on them. There is a need to create 2 additional RBMPs (the Bzipi-Kodori and the Kura) to encompass all 7 river basins however, it is challenging at the moment due to the existing political and security circumstances in Abkhazia.

Activities	Indicators*	Implementing agency (and partner organisations) **	Timeframes*** 1) Initial 2) Revised 3) Revised after Law Adoption
Adoption of the existing river basin management plans (RBMPs), taken from the WFD	Three (Alazani-Iori, Khrami-Debeda, and Chorokhi-Adjaristskali) RBMPs are adopted.	MEPA (with ministries, municipalities and NGOs as partner organisations)	1) N/A 2) 2022 3) 2 026, 01 Sept
Development of the remaining RBMPs (taken from the WFD)	The remaining two (Mtkvari (Kura) and Rioni-Enguri) river basin plans are developed.	MEPA (with ministries, municipalities and NGOs as partner organisations)	1) 2024 2) 2024 3) 2026, 01 Sept

Food risk management plans

Undertaking preliminary flood risk assessment	Within five years (i.e. 2021)	The methodology, in line with FD has been introduced and tested tested for the pilot catchments. The draft normative act "On the assessment of areas at risk of potential floods" has not been developed.
Preparation of flood hazard maps and risk maps	Within seven years (i.e. 2023)	The flood hazard and risk mapping methodology has been developed. Based on this methodology, hazard and risk maps have been created for the entire country for the period of 2018-2023.
Introduction of flood risk management plans	Within nine years (i.e. 2025)	Development of the MHRMPs (including management plans for floods) for 4 pilot river basins are underway, will be finalized in March 2024. The MHRMPs of remaining 7 river basins will be developed in 2024-2025.

Action plans and codes of good agricultural practices for nitrate vulnerable zones

Identification of polluted waters or waters at risk and designation of nitrate vulnerable zones	Within five years (i.e. 2021) for surface water Within eight years (i.e. 2024) for groundwater	New law on water resources management covers these issues. Nitrate Vulnerable Zones have been delineated within the EU project.
Establishment of action plans and codes of good agricultural practices for nitrate vulnerable zones	Within seven years (i.e. 2023)	Draft of action plan and codes of good agricultural practice for NVZ has been prepared. Currently EU funded project is working and will be finalized in 2024.

Elements and indicators on which to base the evaluation of the assessor

		Elements relating to water resources	*List of indicators to quantify/qualify these elements*	*Where to find data? What expertise is required?*
2-1 Water resource (Preservation)	*Initial state*	Vulnerability status (very low, low, medium, high, very high) of the water resource (surface and groundwater) on the site of the future project Exhaustive and geo-located census of water catchment points and their uses Inventory of past uses: sites and soils polluted by the chronic release of pollutants State of vulnerability of soils to past uses	Mapping tools to assess the vulnerability status of the water resource on the site: ● hydrogeological (groundwater) and hydrological (surface water) maps, ● publicly accessible websites: Mapping of water catchment points and their uses: public and private drinking water supply systems, domestic, agricultural, industrial and food wells and their nature: wells, boreholes, river intakes, etc. Identification of polluted sites and soils	Basic and open data: - NEA: გარემოს ეროვნული სააგენტო | Nea - Integrated Water Information System Home Page - WisGeorgia - Water provider, - municipality Consultant, municipality, water provider Consultant, municipality, water provider

	Construction phase	Estimation of the risks of accidental pollution by accidental infiltration of polluting substances	- The most exhaustive qualitative and quantitative inventory possible of possible sources of water pollution: suspended solids, hydrocarbons linked to the use of machinery and their maintenance (leaks, accidents, etc.), bituminous-type pollutants, various types of effluents from storage products, ...	Planning Authority, consultant, construction company
	Impact of the project	Estimation of the risks of chronic, seasonal or accidental pollution by: Chronic infiltration of oil-polluted road runoff Chronic release of pollutants from polluted sites and soils outside or within the project perimeter and seepage into groundwater Infiltration of plant protection products during seasonal maintenance work Proposed buried hydrocarbon tanks, wells, abandoned or active boreholes Estimated daily water consumption requirements (domestic, agricultural and industrial activities) following the project	Exhaustive qualitative and quantitative inventory of possible sources of pollution of surface and groundwater within the project perimeter and its immediate environment Modeling estimates of the increase in road traffic Measures taken by municipal maintenance services to limit the use of phytosanitary products: upstream design of green spaces requiring little maintenance, adoption of differentiated management of green spaces, adoption of alternative techniques (manual or thermal weeding, etc.) Modeling of water requirements for domestic use and activities	Consultant, hydrologist specialist

		The elements of HWC protection	*List of indicators to quantify/qualify these elements*	*Where to find data? What expertise is required?*
2-2 Waters intended for human consumption [EDCH] and natural mineral waters (EMN) (Protection and distribution)	*Initial state*	Presence of water catchments and protection perimeters of water supply catchments (immediate, close, remote) on the site of the future project or in its close environment Presence of a water catchment used for conditioning purposes on the site of the future project or in its immediate surroundings Presence of a sanitary emergence perimeter for an NMW catchment, and a protection perimeter for an NMW catchment declared to be of public interest on the site of the future project or in its immediate environment Water quality in the area of the future project	Refer to the decrees taken for the establishment of the protection perimeters of the catchments, these include updated maps. A report from a hydreologist/ WASH specialist should define in particular the vulnerability of a catchment, and if it is protectable... Refer to the orders providing for specific protection measures for the natural mineral water resource or the water resource used for thermal or mineral/packaging purposes	Consultant, hydrologist and WASH specialist

	Impact of the project	Planned project: - within or near the protection area of a water supply system, - in the vicinity of a water catchment used for conditioning purposes, - in the vicinity of a sanitary emergence perimeter for a natural mineral water catchment or a protection perimeter for an NMW catchment declared to be of public interest Ability of the network to deliver sufficient quality and quantity of HWCs in the future project	Consultation of a hydrogeologist approved in matters of public hygiene as necessary for an opinion This opinion can be used as a basis for a decision to refuse the project. Environmental monitoring of the site can be envisaged with piezometer networks and laboratory analyses. Area served or not by the public drinking water network: - if yes, mandatory connection; - if no, modeling of daily requirements (L/capita/day) following the project and comparison with the network distribution capacities	Consultant, hydrologist and WASH specialist

		The elements of wastewater management	***List of indicators to quantify/qualify these elements***	***Where to find data? What expertise is required?***
2-3 Wastewater. (Quality of sanitation systems)	*Initial state*	Presence of a sewerage system (collective, non-collective) on the site of the future project or in its immediate environment	Methods of connection to the collective sewerage system If autonomous sanitation is planned: approved system.	Consultant,sanitation and WASH specialist Wastewater specialist

		Presence of a wastewater treatment plant (WWTP) on the territory	Average hydraulic and organic load rate of the wastewater treatment plan	
	Impact of the project	Capacity of the network to absorb the waste generated by the project Capacity of the WWTP to treat the wastewater generated by the project	Modeling of the average hydraulic and organic load rate generated by the project Compliance of discharges to the natural environment Compliance of discharges with current sanitation regulations	Consultant,sanitation and WASH specialist Wastewater specialist

2-4 Rainwater [W] (Management and reuse precautions)		***The elements of rainwater management***	***List of indicators to quantify/qualify these elements***	***Where to find data? What expertise is required?***
	Initial state	Diagnosis of the sensitivity of the site to the risks of flooding, pollution of resources and natural environments, erosion or silting Management of rainwater	**Identification of hazard factors**: slope, soil and subsoil characteristics, various possible sources of pollution (agriculture, etc.) **Identification of vulnerability factors**: human density, depth of aquifers: sensitivity to pollution, risk of flooding by rising water tables in low-slope areas (plateau), sensitive bathing areas, shellfish farming areas, drinking water catchment areas, etc.	Sanitation specialist

			Identification of mitigation factors: wetlands, natural flood expansion areas, etc. Existence of a combined sewerage system (Wastewater + Rainwater) or separate sewerage system	
	Impact of the project	Planned measures for the management of rainwater (runoff + roofing) Measures planned to limit the risk of flooding from run-off water and to treat its pollution (chronic or accidental) Measures planned for the recovery of roof water in accordance with the regulations in force	If there is no separate network initially, whether or not to provide a separate network Flood calculation assumption Reduction of the rate of soil sealing Installation of storage and infiltration systems for run-off water (*ditches, valleys, drainage trenches, storm water basins, porous and non-waterproof materials, roof terraces, etc.*) Installation of run-off water treatment systems (by decantation or filter beds) Implementation of roof water harvesting systems on a plot scale for public buildings / and incentives for individual houses	

		Aquatic environments	***List of indicators to quantify/qualify these elements***	***Where to find data? What expertise is required?***
2-5 Recreational waters (Protection)	*Initial state*	Survey of recreational waters (natural and artificial bathing) on the site of the future project	Inventory of recreational waters on the future project site + vulnerability profile of bathing areas	- NEA: გარემოს ეროვნული სააგენტო | Nea - Integrated Water Information System Home Page - WisGeorgia WASH specialist
	Impact of the project	Measures taken to limit the impact of the project on bathing areas	The impact assessment should identify the sources of pollution likely to have an impact on the quality of bathing water and to affect the health of bathers and define, where a risk of pollution is identified, the management measures to be implemented to ensure the health protection of the population and actions to eliminate these sources of pollution	WASH specialist

Support sheet 3 - Soil quality and use

Source: extracted and adapted from the French National guidelines "Agir pour un urbanisme favorable à la santé (EHESP & MoH, 2014)"

Photo of Civil Movement Gavigudet (We are Suffocating)

Health impact of polluted sites and soils

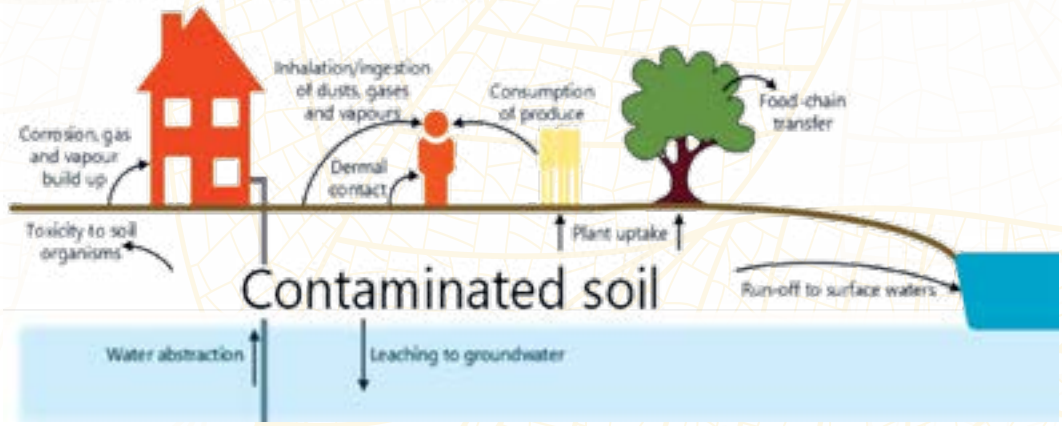
Soil pollution is not only linked to the presence of an industrial site: it can also be the result of artisanal activities, the presence of old dumps where polluting waste of all kinds was stored, the leakage or spreading of chemical products (accidental or not), backfilling or past atmospheric fallout accumulated over the years.

Polluted soil can have significant health consequences for humans. They depend on the nature of the pollutants, the exposure routes (inhalation, ingestion, etc.), the exposure time, the concentrations, the characteristics of the population, etc. It should be noted that, due to the possible mixing of pollutants, there is a possibility of cumulative effects.

In a context of reducing the consumption of agro-natural spaces and urban renewal, the change of use of these soils must question their compatibility with the planned use. Research into the quality of the soil and subsoil must therefore be carried out and, in the event of proven pollution, management measures (decontamination, excavation, construction measures, public utility easements imposing restrictions on use) must be implemented. In the context of a development project, the impact of pollution (whether residual or not) on the future occupants of the site must be assessed, in accordance with the methodology in force applicable to polluted sites and soils, and included in the impact study file. It is important that the entire diagnostic study (and not just the conclusions) is appended to the environmental assessment report (for critical analysis of the methodology applied) and that the impact assessment demonstrates the absence of risk to future occupants.

General conceptual model of human exposure routes to soil pollution

Fig. 1. Health impact pathways of contaminated sites



Source: *Protecting health through urban redevelopment of contaminated sites: planning brief. Copenhagen: WHO Regional Office for Europe; 2021. Licence: CC BY-NC-SA 3.0 IGO. Protecting health through urban redevelopment of contaminated sites: planning brief. Защита здоровья человека посредством восстановления загрязненных участков: краткий документ по планированию. (who.int)*

Former military site in Boeblingen, Germany – before, during and after redevelopment
© Zweckverband Flugfeld Boeblingen / Sindelfingen

Nature of the main pollutants found on polluted sites and associated health effects
HC (hydrocarbons) have known or suspected carcinogenic effects.
Lead has effects on the nervous system and the digestive system in the case of high levels of lead poisoning. It causes irreversible kidney damage, anaemia. In children, lead poisoning can lead to cognitive deficiencies, intellectual disability.
PAHs (polycyclic aromatic hydrocarbons) have known and suspected carcinogenic effects depending on the molecule.
Halogenated solvents cause irritation to the eyes and mucous membranes and have effects on the nervous system. Some of them are known or suspected carcinogens depending on the molecule (vinyl chloride, PCE, TCE, etc).
Chromium VI is carcinogenic but **not chromium III**.
Arsenic causes liver damage, heart disease, neuropathy and is a known carcinogen (classified as carcinogenic by IARC).
Cadmium causes kidney, joint and bone damage, lung cancer.

Source: *Urbanisme et santé «La prise en compte des sites et sols pollués dans vos projets d'aménagement» - Based on BASOL (2012); https://www.normandie.ars.sante.fr/media/39281/download?inline*

Existing legislation in Georgia
On approval of the state program for soil protection and fertility enhancement
On approval of the technical regulation - On determining the level of soil fertility and of provisions On soil conservation and fertility monitoring
On approval of the technical regulation - On the removal, storage, use and recultivation of the fertile soil layer
On approval of Recommendations on complex measures of protection of soil from erosion
On soil conservation and restoration-improvement of its fertility
On first order measures of protection against erosion of the soil cover
On soil protection
On approval of norms of the qualitative state of the environment
On Subsoil

Elements and indicators on which to base the evaluation

		Elements relating to the management of polluted soils	*List of indicators to quantify/qualify these elements*	*Where to find the data? Which expertise is required?*
3-1 Pollution of sites and soils (Management)	*Initial state*	The first analyses must be carried out to determine whether the soil and/or groundwater of the future project is polluted If pollution is suspected, a more in-depth environmental diagnosis must be carried out by a consultancy specializing in polluted sites and soils	- Documentary and historical research, industrial liabilities, environmental situation - Websites: map.emoe.gov.ge - Quantitative and qualitative inventory of the main pollutants identified on the site - Comparison of the concentration data with the values usually encountered («background noise»), with the regulatory values and with the values likely to affect future users of the site (TRV)	Soil pollution and decontamination specialist (Ecogeologist, Polluted Sites and Soils Project Manager, Remediation Engineer, Depolluted Sites and Soils Engineer, Environmental Geology Technologist) Collection of soil and water sampling in piezometers (the installation of boreholes or piezometers is carried out under our supervision with the help of a drilling partner)
			> The content of the environmental assessment must be included in the «initial state» section of the impact study, or failing that, if only the conclusions are included, the assessment must be appended to the impact study	Laboratory tests Techno-economic feasibility study of decontamination and/or containment

3-1 Pollution of sites and soils (Management)	*Impact of the project*	Measures proposed to ensure the health compatibility of the site with existing uses Proposed measures for the conversion of a polluted site	**What should be included in the interpretation of the state of the environment?** A distinction of areas that: • do not require any particular action, i.e. sites or environments that allow the free enjoyment of environmental uses without exposing populations to excessive levels of theoretical risk, • can be subject to simple management actions, • require the implementation of a management plan. **What should a management plan include?** - Quantitative and qualitative inventory of the main pollutants identified on the site and comparison with background noise and regulatory values - Inventory of planned uses on the future project site - Quantitative health risk assessment following the recommended methodology of predictive or post-construction residual risk analysis (RRA) - The content of the RRAs should be included in the "impact of the project on health" section of the environmental assessment report,	Soil pollution and decontamination specialist Techno-economic feasibility study of decontamination and/or containment

3-1 Pollution of sites and soils (Management)	*Impact of the project*		in particular the pollutants selected, their concentrations in the various environments (measured or modeled), as well as the details of the risk calculations, including the dose-response relationships, the hypotheses and the exposure routes used. This point is important in order to be able to verify what is stated in the dossier. - Assessment of the measures taken to reduce or eliminate pollution or exposure with regard to the planned uses (decontamination, construction measures, etc.), which condition the compatibility of the site with the planned uses and the acceptability of the residual health risks. - Evaluation of the monitoring programme for the evolution of the remaining pollution formulated by the project owner (elaboration of documents on the memory of the pollution, implementation and enforcement of restrictions on land use, etc.) - Evaluation of the information given to future occupants concerning soil pollution.	

For example, on a former industrial site, if the planned use is for housing or ERP establishments, establishments receiving sensitive populations (such as nurseries, schools, retirement homes, hospitals, etc.), the pollutants must be listed and the toxicity reference values or guide values used to calculate the risk assessment must be assigned.

List of ANSES toxicity reference values (TRVs) | Anses - Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail

Exposure conditions should be considered, such as direct and dermal contact with bare soil, inhalation risks (effluents, gas emissions), and ingestion of particles.

Information sources:

WHO human health risk assessment toolkit: chemical hazards, second edition. Geneva: World Health Organization; 2021 (IPCS harmonization project document, no. 8). Licence: CC BY-NC-SA 3.0 IGO

Industrially contaminated sites (who.int)

Progress in management of contaminated sites — European Environment Agency (europa.eu)

Protecting health through urban redevelopment of contaminated sites: planning brief iris.who.int/bitstream/handle/10665/349922/9789289056342-eng.pdf?sequence=1

WHO Human Health Risk Assessment Toolkit: Chemical Hazards, second edition

Bonn School on Environment and Health, Georgia edition – Contaminated sites and health course

1. Environmental health issues and contaminated sites: framing the problem L 1_Braubach 2023_ENG_final.pptx
1. The need for site investigationL 2_Williamson 2023_ENG_final.pptx
2. The regulatory framework and contaminated site redevelopment L4_Wille 2023_ENG_final.pptx
3. Steps in redevelopment of contaminated sites L5_Wille 2023_ENG_final.pptx
4. Epidemiological approaches and surveillance L6_Iavarone 2023_ENG_final.pptx
5. Objectives and principles of HBM and how it can support decision-making on contaminated sites L7_Schoeters_2023_ENG_final.pptx
6. Risk assessment / Human health risk assessment and contaminated sites L8_Mason 2023_ENG_final updated.pptx
7. Risk assessment interpretation: Use of Human health risk assessment to inform decision- making for the management of contaminated sites L9_Mason 2023_ENG_final animation.pptx
8. Risk assessment interpretation: Use of Human health risk assessment to inform decision- making for the management of contaminated sites L9_Mason 2023_ENG_final animation.pptx

Support sheet 4 - Quality of the sound environment

Source: extracted and adapted from the French National guidelines "Agir pour un urbanisme favorable à la santé (EHESP & MoH, 2014)"

The main sources of noise in urban areas and their impact on human health

Each person perceives noise differently depending on his or her social and cultural environment and health situation. However, noise pollution has a significant impact on health.

Noise is an important public health issue. It has negative impacts on human health and well-being and is a growing concern. Exposure to noise can lead to auditory and non-auditory effects on health. Through direct injury to the auditory system, noise leads to auditory effects such as hearing loss and tinnitus. Noise is also a nonspecific stressor that has been shown to have an adverse effect on human health, especially following long-term exposure. These effects are the result of psychological and physiological distress, as well as a disturbance of the organism's homeostasis and increasing allostatic load (Basner et al., 2014). This is further outlined in the WHO narrative review of the biological mechanisms of non-auditory effects (Eriksson et al., 2018).

In urban areas and in the case of a development project, it is necessary to limit daytime and night-time noise levels as far as possible at the design stage of the project, as the impacts are essentially extra-auditory.[1]

Noise sources in the context of a development project	*The extra-auditory consequences of noise*
- Transport infrastructure (road, rail, air) **- Activities submitted to environmental licensing/ permit** **- Neighborhood activities:** • **Industrial, craft, commercial or agricultural establishments** (laundromat, carpentry, poultry farm,...), including equipment noise such as air extractors and other air conditioners, • **Establishments open to the public** (bars, discotheques, etc.) • **Cultural, leisure or sports activities** (festival hall, concert hall, ball-trap, karting, etc.) • **Public and private worksite activities** • **Construction works**	**- Discomfort and inconvenience** **- Sleep disorders** leading to chronic fatigue, drowsiness, reduced motivation at work, reduced alertness, etc. **- Stress** that can lead to serious pathologies. **Somatically**: cardiovascular diseases, endocrine disorders **On the psychological level**: anxiety and depression, aggressiveness, communication problems and, in particular, learning difficulties at school

Noise in the city should not be systematically associated with discomfort insofar as it also allows us to find our way around, to warn of certain dangers and is an integral part of the identity of places. Thus, the quality of the sound environment is an essential element of appreciation of the living environment.

Noise is characterized primarily by its sound level and intensity. It is expressed in decibels and varies **between 15 dB(A) which is the audibility threshold and 120 dB(A) which is the pain threshold**.

[1] Indeed, we will not discuss here the auditory effects of noise which are related to sound exposures greater than or equal to 85 dB(A) and which lead to hearing fatigue, temporary deafness or, in extreme cases, traumatic and definitive deafness due to a short exposure to a very high sound level (e.g. an explosion).

Quantitative indicators of the noise environment expressed in dB (A)	*Qualitative indicators of the noise environment*
The noise level emitted by transport infrastructures is represented by noise indicators. The two regulatory indicators are "Ln" (Level night) and "Lden" (Level day-evening-night). **A 24-hour day is divided into three periods: daytime between 6am and 6pm, evening between 6pm and 10pm and nighttime between 10pm and 6am.** The sound levels are calculated for: **-Ln: this is** the average noise level for the night period (10pm-6am) **-Lden: this is** the average noise level for the day (over 24 hours) These indicators reflect a notion of overall (albeit averaged) noise annoyance or health risk. **Other indicators:** **-The LAeq: this is** the average noise level over a given period of time and gives a single value for the energy carried by a fluctuating noise. **-LAmax: this is** the maximum sound level reached for a fluctuating noise over a given period. **-Emergence: this is** the difference between the ambient noise level (including the particular noise in question) and the residual noise level (consisting of all the usual noise, both exterior and interior, corresponding to the normal occupation of the premises and the usual operation of the equipment, in the absence of the particular noise in question).	The various quantitative indicators put in place must be put into perspective because they do not take into account the psycho-affective dimension of the phenomenon. Indeed, the discomfort caused by noise is not solely a function of the sound level. Two noises that are identical in duration and intensity can be perceived differently by different people. And what is sound for one person may be noise for another. The perception of noise is also dependent on[1]: -the **nature of the sound** (sounds of birds, rustling leaves, different traffic, etc.) -the **type of uses and practices of the place** (bench or lawn available for sitting or lying down, possibility of eating, practising sports, etc.) **-accessibility and legibility of the site** (accessible by soft, active and individual transport, possibility of parking, functional signage, etc.) **-the aesthetics of the place** (a very subjective element)

Current regulations: georgian legislation, EU legislation and WHO recommendations

FR: The legal framework and regulations for noise control are set out in Law n°92-1444 of 31 December 1992. The aim of this law is to "prevent, suppress or limit the emission or propagation of unnecessary noise or noise caused by a lack of precautions that is likely to present a danger, cause an excessive disturbance to people, harm their health or damage their environment". This law sets out the various areas and guidelines to be taken into account in the fight against noise.

[1] Indicators extracted from the "National guide for the definition and creation of quiet zones" and used by the Rennes urban planning and inter-communal development agency (AUDIAR).

EU Directives	The European directive on the management of environmental noise (directive 2002/49/EC) makes it compulsory for urban communities with more than 100,000 inhabitants to draw up noise maps and an Environmental Noise Prevention Plan. Noise maps do not have a prescriptive character for urban planning. They exist for information purposes. The noise level indicators are expressed in Ln and Lden. **Type A noise maps:** they present the noise levels from transport (road, air, rail) and industry, as well as a cumulative total of all these noises. They are used as a reference for maps of threshold exceedances and maps of foreseeable changes. **Type B noise maps:** these show the sectors affected by noise resulting from the noise classification of land transport infrastructures. **Type C noise maps:** these show the areas where limit values are exceeded for the various types of transport (roads, railways, airports) and ICPEs. They will be analyzed as part of the Environmental Noise Prevention Plan. **Type D noise maps:** they show the known or predicted changes in noise levels with respect to the reference situation
Georgian Legislation	Government of Georgia, Resolution No.338 August 15,2017; Technical regulation-"on acoustic noise norms in the premises and territories of residential houses and public/public institutions buildings":https://www.matsne.gov.ge/ka/document/view/3779710?publication=0 Minister of internal affairs of Georgia, Order No.422,August 14,2017; On the approval of the procedure for responding to administrative offenses related to exceeding the permissible norms of acoustic noise and the use of pyrotechnic products: https://www.matsne.gov.ge/ka/document/view/3775230?publication=0 Order No.236 December 8,2019 of the Director of the Civil Aviation Agency; On the approval of "the rule of limiting the right to use the airspace of Georgia for civil aircraft of a foreign country, depending on the noise level": https://www.matsne.gov.ge/ka/document/view/4728826?publication=0 Order No.209 October 15, 2013 of the director of the Civil Aviation Agency; On approval of the procedure for issuing airworthiness and noise certificates for civil aircrafts of Georgia: https://www.matsne.gov.ge/ka/document/view/2045438?publication=0 Activities under environmental licensing/permits (such as roads, industries, factories, dry-cleaning, …) have specific noise norms.

	The Environmental Noise Prevention Plan must: 1. to draw up an inventory of the noise environment (thanks to the noise maps produced) 2. identify the measures planned to deal with the sensitive areas affected (residential buildings, hospitals, schools, etc.) and the preservation of so-called "quiet" areas 3. make an assessment of the number of people exposed to excessive noise 4. propose measures to reduce the number of people exposed to excessive noise within 5 years.
WHO recommendations	**WHO Environmental Noise Guidelines for the European Region, 2019** Complete guidelines here: Environmental noise guidelines for the European Region (who.int)

Elements and indicators on which to base the evaluation

4-1 Noise sources (reduction)		*Elements that cause noise emissions*	*List of indicators to quantify/qualify these elements*	*Where to find the data?*
	Initial state	Exhaustive, geo-located inventory of noise emission sources (fixed, mobile, channeled, diffuse, etc.) in the area concerned by the future project and in its immediate surroundings: - Road traffic - Rail traffic - Air traffic - Activities submitted to environmental licensing / permit - Neighbourhood noise	- Comprehensive qualitative and quantitative inventory of the various noise emissions [1] - Spot noise measurements (to verify and support the noise map). - Calculation of emergence for neighborhood noise - Comparison of all these data with regulatory and WHO guideline values	PA/Consultant makes the measurements

[1] Two leisure facilities will not have the same noise impact, both in terms of perimeter and loudness (e.g. ball-trap and village hall)

	Construction phase	Exhaustive, geolocated inventory of noise and vibration sources during the construction phases	- Exhaustive qualitative and quantitative inventory of the various sources of noise and vibration emissions: acoustic power, age of the equipment, frequency of circulation (internal and external) of the construction equipment, etc. - Calculation of the noise emission of the construction site - Noise and vibration measurements - Comparison of all these data with regulatory and WHO guideline values - Distance between the main sources of noise emissions and residential and public buildings (so-called "sensitive" buildings: schools and health establishments, homes, etc.)	PA/Consultant makes the measurements
	Impact of the project / activity / strategic document	Exhaustive, geo-located inventory of noise emission sources (fixed, mobile, channeled, diffuse, etc.) in the future project and its immediate environment (see list above)	- Exhaustive qualitative and quantitative inventory of the various noise emissions - Modeling estimates of the noise level with the new project and comparison with the regulatory values and the WHO guideline values. - Estimated cumulative noise (project + non-project) - Distance between the main sources of noise emissions and residential and public buildings (so-called "sensitive" buildings: schools and health establishments, homes, etc.)	

		The elements of sound quality	*List of indicators to quantify/qualify these elements*	*Where to find the data?*
4-2 Quality of the sound environment (Preservation and improvement)	*Initial state*	Noise environment in the area of the future project and its immediate surroundings	(Subjective) assessment of the sound quality of the site according to 4 indices: - Physical environment of the place (visual perception), - Sound environment of the place - Practices and uses of the place - Accessibility and legibility of the site	
	Construction phase	Noise environment in the area during the construction phase	-Assessment of the risk of noise and vibration disturbance for local residents prior to the construction phase - Definition of objectives to reduce noise pollution (between the project owner and the project manager) before the start of the construction phases - Verification of compliance with these objectives during the construction phases - Informing, listening and taking into account any complaints from local residents during the construction period - Measures envisaged to remove, isolate or protect	
		Measures envisaged to preserve and improve the sound environment in the future project	orientate so-called "sensitive" buildings (schools, health establishments, homes, etc.) away from sources of noise - Protective measures such as acoustic screens	

	Impact of the project / activity / strategic document		to protect people exposed to noise pollution - Measures envisaged to reduce road traffic noise (road design and surfacing, diversion of HGV traffic, development of alternative modes of transport to the private car, etc.) - Estimation of the impact of the project on existing quiet areas (avoidance of conflict areas, i.e. location of noise sources near existing quiet areas) - Creation of new quiet areas - Indication of where improvements are expected, where the acoustic environment will be improved as a result of the project - …	

Sensitive people:

As regards the extra-auditory effects of noise in the context of a development project, it is preferable to speak of "exposure at risk" rather than "sensitive people" since everyone suffers from noise (to varying degrees, depending on individual sensitivities) without being aware of it.

All buildings occupied by people who may be sensitive to noise should be protected as a priority: these are health care, educational and social establishments and homes. These places must be protected from noise according to the doctrine of "distance, orientation, protection, isolation" developed in the guide "PLU et Bruit - La boîte à outils de l'aménageur" (PLU et Bruit – La boîte à outils de l'aménageur (Ministère de la transition écologique et AURG, 2004)).

With regard to children, recent studies show a drop in the performance of children exposed to noise compared to unexposed children, particularly delays in memorization, reading and vocabulary acquisition in areas exposed to transport noise: http://www.bruit.fr/images/stories/pdf/guide-bruit-sante-cidb-2013.pdf.

References:

WHO Environmental Noise Guidelines for the European Region, 2019

Complete guidelines here: Environmental noise guidelines for the European Region (who.int)

WHO guiding values:

Road traffic noise

Recommendation	Strength
For average noise exposure, the GDG strongly recommends reducing noise levels produced by road traffic below **53 decibels (dB)** L_{den}, as road traffic noise above this level is associated with adverse health effects.	Strong
For night noise exposure, the GDG strongly recommends reducing noise levels produced by road traffic during night time below **45 dB** L_{night}, as night-time road traffic noise above this level is associated with adverse effects on sleep.	Strong
To reduce health effects, the GDG strongly recommends that policy-makers implement suitable measures to reduce noise exposure from road traffic in the population exposed to levels above the guideline values for average and night noise exposure. For specific interventions, the GDG recommends reducing noise both at the source and on the route between the source and the affected population by changes in infrastructure.	Strong

Railway noise

Recommendation	Strength
For average noise exposure, the GDG strongly recommends reducing noise levels produced by railway traffic below **54 dB** L_{den}, as railway noise above this level is associated with adverse health effects.	Strong
For night noise exposure, the GDG strongly recommends reducing noise levels produced by railway traffic during night time below **44 dB** L_{night}, as night-time railway noise above this level is associated with adverse effects on sleep.	Strong
To reduce health effects, the GDG strongly recommends that policy-makers implement suitable measures to reduce noise exposure from railways in the population exposed to levels above the guideline values for average and night noise exposure. There is, however, insufficient evidence to recommend one type of intervention over another.	Strong

Aircraft noise

Recommendation	Strength
For average noise exposure, the GDG strongly recommends reducing noise levels produced by aircraft below **45 dB** L_{den}, as aircraft noise above this level is associated with adverse health effects.	Strong
For night noise exposure, the GDG strongly recommends reducing noise levels produced by aircraft during night time below **40 dB** L_{night}, as night-time aircraft noise above this level is associated with adverse effects on sleep.	Strong
To reduce health effects, the GDG strongly recommends that policy-makers implement suitable measures to reduce noise exposure from aircraft in the population exposed to levels above the guideline values for average and night noise exposure. For specific interventions the GDG recommends implementing suitable changes in infrastructure.	Strong

Wind turbine noise

Recommendation	Strength
For average noise exposure, the GDG conditionally recommends reducing noise levels produced by wind turbines below **45 dB** L_{den}, as wind turbine noise above this level is associated with adverse health effects.	Conditional
No recommendation is made for average night noise exposure L_{night} of wind turbines. The quality of evidence of night-time exposure to wind turbine noise is too low to allow a recommendation.	
To reduce health effects, the GDG conditionally recommends that policy-makers implement suitable measures to reduce noise exposure from wind turbines in the population exposed to levels above the guideline values for average noise exposure. No evidence is available, however, to facilitate the recommendation of one particular type of intervention over another.	Conditional

Support Sheet 5 - Waste management

Source: extracted and adapted from the French National guidelines "Agir pour un urbanisme favorable à la santé (EHESP & MoH, 2014)"

Waste and public health

The health risk associated with waste can be analyzed by putting different information into perspective. These are:

- the detailed knowledge of waste,
- management techniques and associated discharges (if non-compliant or poorly operated),
- knowledge of the behavior and fate of the various substances and emissions of the various wastes, whether in the environment (water, air, soil), the food chain, etc.,
- the toxicity of the various substances, alone or in mixtures, and the mechanisms leading to a possible health impact,
- knowledge of the different populations that may be impacted. Indeed, the exposure of individuals to pollution and the severity or nature of the impacts are influenced by numerous criteria such as place of residence, lifestyle (eating habits, etc.), type of employment, age, predisposition, etc.
    - ❖ **Waste can be classified according to its nature**: hazardous, non-hazardous or inert (waste that does not decompose, burn or produce any other physical or chemical reaction with the environment. The latter is essentially waste from the construction and public works sector).
    - ❖ **It can also be classified according to its origin**: municipal waste, which includes community waste and household and similar waste, and waste from economic activities.

Current regulations in Georgia

Law of Georgia - Waste Management Code

Resolution No. 159 of Georgian Government on Rules for Collection and Processing of Municipal Waste

Resolution No. 144 of Georgian Government on Rules for Collecting, Transporting, Initial Processing and Temporary Storage Registration of Waste

Resolution No. 89 of Georgian Government on Rules for Transporting Dangerous Goods

Resolution No. 421 of Georgian Government on Organisation, Operation, Closure and After-Maintenance of Landfills

Resolution No 294 of Georgian Government on Medical Waste Management

Resolution No 422 of Georgian Government on Forms and Rules for Taking Inventory of and Accounting Waste

Further legislation can be found here: Georgian legislation - Final Catalogue 2022.xlsx - Google Sheets

Enforceable and non-enforceable framework documents

Enforceable framework documents (in terms of compliance, compatibility or consideration)
Waste management plans of municipalities

Elements and indicators on which to base the evaluation

		Waste management elements	*List of indicators to quantify/qualify these elements*
5-1 Waste (household, business an construction) (Reduction and management)	*Initial state*	Identification of possible types of existing activities on the current site: - Craft, agricultural, industrial, tertiary and care activities, etc. - Housing -...	- Quantitative and qualitative inventory of the different types of waste produced (hazardous, non-hazardous, inert) and the associated management methods (from collection to treatment) -For homes and businesses, remove all clutter or cover it with a tarpaulin to prevent water from accumulating and causing mosquitoes to breed.
	Construction phase	Measures planned to limit the effects of construction waste on the environment and human health	- Quantitative and qualitative inventory of the different construction wastes that will be generated on the scale of the future project and their associated management method

	Impact of the project	Identification of the types and number of companies that will be hosted on the future site (see details above) Measures planned to limit waste production and promote waste recycling Capacity of the treatment system to handle the waste generated by new inhabitants and activities	- Inventory of activities not subject to declaration (size below the threshold): number of companies, nature and quantity of waste produced, method of managing their waste, etc. - Awareness-raising campaign for residents and businesses on waste prevention, production and sorting - Provision of and access to selective sorting bins (glass, cardboard, plastic, etc.), composters for individual composting, a waste collection centre for specific waste (bulky, toxic, etc.) - Estimation by modeling of the amount of additional waste generated and comparison with the capacity of the management system

50 Hz electricity transmission and distribution networks and Radio Frequency Emitters (10 kHz to 10 GHz)

Support sheet 6 - Non-ionising radiation management

Source: extracted and adapted from the French National guidelines "Agir pour un urbanisme favorable à la santé (EHESP & MoH, 2014)"

Electromagnetic fields and health

The effects of electromagnetic fields are frequency dependent. Two frequency ranges are considered in the assessment:

- low frequency electromagnetic fields linked to the presence of high voltage lines (50 Hz) and other installations necessary for the transmission and distribution of electricity (transformers, busbars, etc.)
- Radio frequencies (from 10 kHz to 10 GHz) used for various applications including mobile telephony (900 MHz, 1800 MHz...)

The regulations are based on the observation of proven short-term health effects and distinguish 3 frequency zones:

- Between 1 Hz and 100 kHz: effects on central nervous system functions
- Between 100 kHz and 10 MHz: effects on central nervous system functions and thermal effects
- Above 10 MHz: thermal effects

Regarding possible long-term effects:

A statistical association between exposure to extremely low frequency magnetic fields and childhood leukaemia has been observed in various epidemiological studies. The International Agency for Research on Cancer has classified the 50-60 Hz magnetic field as «possibly carcinogenic» (category 2B). This classification is based mainly on epidemiological data, in the absence of an identified biochemical mechanism.

With regard to the risks associated with individual exposure to the electromagnetic fields emitted by mobile phones, biological, clinical and epidemiological studies show that the hypothesis of a risk cannot be totally excluded for intensive users of mobile phones. Questions remain about possible long-term effects for these uses, which lead to exposure levels that are much higher than those observed in the vicinity of relay antennas. For this reason, radio frequency electromagnetic fields were also classified by IARC in May 2011 as «possibly carcinogenic» (category 2B), due to a very limited amount of data suggesting a carcinogenic effect in humans and insufficient results in laboratory animals.

Example: Electricity transmission and distribution networks in France

High voltage lines

The order of 17 May 2001 **fixing the technical conditions with which the distribution of electrical energy must comply covers** three voltage ranges:

- **Low voltage (LV)**: works for which the nominal value of the voltage exceeds 50 Volts without exceeding 1,000 Volts in alternating current or exceeds 120 Volts without exceeding 1,500 Volts in direct current;
- **High Voltage A (HTA)**: works where the nominal value of the voltage exceeds the above limits but does not exceed 50,000 Volts in alternating current or 75,000 Volts in smooth direct current;
- **High Voltage B (HVB)**: works for which the nominal value of the voltage exceeds the above limits.

The term «extra high voltage» is a common name for 225 and 400 kV lines.

According to **the law of 15 June 1906** on the transport of electricity and the **decree n°2004-835 of 19 August 2004** relating to easements in relation to high voltage lines and their support, distance rules in relation to high voltage line installations are imposed on the project owner.

The distance rules only concern existing or future overhead lines with a voltage of 130,000 volts or more and are not based on risks linked to electromagnetic fields but on safety considerations (breaking of supports, falling cables, etc.). Within the defined safety perimeters (30 to 40m around the pylons depending on the voltage, 10 or 15m on either side of the line corridor depending on the voltage), the construction or development is prohibited:

- Buildings for residential use or for the accommodation of travellers;
- Establishments receiving the public within the meaning of the Construction and Housing Code, falling into the following categories: reception facilities for the elderly and disabled, hotels and accommodation facilities, educational establishments, holiday camps, health establishments, prisons, open-air establishments;
- In addition, the construction or development of other projects submitted to EIA (manufacturing, storage of oxidising, explosive, flammable or combustible substances, etc.) may be prohibited or subject to special requirements.

As regards the health aspect, the results of scientific assessments and the conclusions of several reports on risk management have led to recommendations to limit the population's exposure to extremely low frequency electromagnetic fields, particularly around high and very high voltage lines.

In particular, on 8 April 2010, the AFSSET (now ANSES) published an opinion on the health effects of extremely low frequency electromagnetic fields. As a precautionary measure, the agency recommended that sensitive buildings (hospitals, maternity wards, establishments for children, etc.) should no longer be installed or developed within 100 metres of high-voltage power lines.

At the same time, it recommended that future sites for extra-high-voltage power lines should be set back the same distance from these settlements.

Other installations necessary for the transmission and distribution of electricity

Other network installations are likely to emit extremely low frequency electromagnetic fields: transformers, busbars, etc.

Radio frequency transmitters

Mobile phone masts

The presence of base stations raises many concerns in relation to the electromagnetic fields (of the radio frequency type) that they emit. To date, health assessments have not revealed any health risks associated with exposure levels in the vicinity of mobile phone masts. As the energy of electromagnetic fields decreases with distance, public exposure is very low, and always well below the regulatory limit values established on the basis of short-term effects.

Other issuers

Other transmitters (broadcasting antennas, radars, etc.) emit in the radio frequency range

The regulation

The Council of Europe's recommendation of 12 July 1999 sets the limit values for public exposure to electromagnetic fields (from 0 Hz to 300 GHz)

The opposable and non-opposable framework documents that may exist on the territory

Georgian legislation - Final Catalogue 2022

Framework documents with incentive value
There are no binding framework documents concerning the consideration of electromagnetic fields.

Elements and indicators on which to base the evaluation

6-1 Exposure to electromagnetic fields emitted by electricity transmission and distribution networks (Protection)		***Elements relating to the management of the electricity transmission and distribution networks***	***List of indicators to quantify/ qualify these elements***
	Initial state	Presence or absence of high voltage lines, transformers, or busbars on the site of the future project	- Voltage of the high voltage line
	Impact of the project	**If there is an HVL on the site**: measures taken to limit the construction of sensitive establishments near high voltage lines **If construction of an LHT is planned on the site**: measures taken to locate it away from existing sensitive establishments	- Removal of HVLs from sensitive establishments: areas exposed to a magnetic field > 1 µT

6-2 Exposure to waves emitted by base stations (Protection)		***Elements of wave management of radio frequency transmitters***	***List of indicators to quantify/ qualify these elements***
	Initial state	The most exhaustive and geolocated inventory possible of the sources of electromagnetic waves in the future project site and in its immediate environment: - mobile phone relay antennas - Broadcasting antennas (radio, TV)	- Quantitative assessment of the electromagnetic field value and comparison with the regulatory limit values A request to carry out measurements can be addressed to the Nuclear Safety and Radiation Agency who can ask the operators concerned to carry them out
	Impact of the project	Measures taken for the location of future relay antennas within the project	application of consultation measures with regard to the population and upstream reflection on landscape integration, on the orientation of the beams in relation to sensitive sites and populations

References:

http://www.anses.fr/fr/content/champs-%C3%A9lectromagn%C3%A9tiques-un-dispositif-global-d%E2%80%99expertise

Ministerial information site:

http://www.radiofrequences.gouv.fr/

Website of the French National Frequency Agency (ANFR) dedicated to measurements on mobile phone relay antennas

http://www.cartoradio.fr/cartoradio/web/#

International Commission on Non-Ionizing Radiation Protection

ICNIRP | Publications

2014 Practical guide by the French Ministry of Health: Champs_electromagnetiques_extrememen t_basse_frequence_DGS_2014 en-GB.pdf (in english)

Georgian legislation - Final Catalogue 2022.xlsx - Google Sheets

Support sheet 7 - Adaptation to climate change and energy management

Source: extracted and adapted from the French National guidelines "Agir pour un urbanisme favorable à la santé (EHESP & MoH, 2014)"

Climate, energy and health

Adaptation to climate change refers to measures taken to cope with expected changes and limit potential damage. The work of the Intergovernmental Panel on Climate Change (IPCC) concludes that "Each of the last three decades has been successively warmer at the Earth's surface than any preceding decade since 1850. In the Northern Hemisphere, 1983-2012 was likely the warmest 30-year period of the last 1400 years". This climate change could lead to significant health impacts, according. These include.:

- An increase in the intensity and duration of extreme weather events: heat and cold waves, storms and floods, wildfires, landslides .... with physiological repercussions on the population;
- The emergence or re-emergence of infectious risks, due to environmental changes, in certain geographical areas (vector-borne diseases such as dengue, chikungunya or malaria; water contamination; etc.);
- Environmental change which, together with lifestyle change, could lead to new exposures, e.g. sun exposure and UV risks, … .

As described in the Fourth National Communication of Georgia under the UNFCCC (United Nations Framework Convention on Climate Change)[1] in 2020, foreseen health impacts of climate change for Georgia include:

- more **frequent, stronger and longer heatwaves**, especially in urban settings (Telavi, Tbilisi and Zugdidi) and affecting primary vulnerable populations;
- **more regular and stronger natural disasters** like floods;
- **change of infectious patterns**: higher incidence of foodborne and waterborne infections, but also a higher incidence of infections transmitted by vectors (transmitting insects).

Health-friendly urban planning will therefore focus on:

- Reduce environmental vulnerability (implementation of rainwater management so as not to increase the vulnerability of soil that is already not very permeable; fight against urban sprawl, which increases the use of individual motorized transport, a source of greenhouse gas emissions, etc.);
- Adapting infrastructure and buildings to climate change;
- Protecting and raising awareness of populations facing climate change.

The impact of climate change on human exposure to chemicals has also be proven in many countries (such as in the UK[2]):

- Changes in temperature, precipitation, humidity, wind conditions, erosion and extreme events due to climate change will affect the fate and behaviour of chemicals in the environment (atmosphere, water, soil, sediment and biota). Climate change is likely to increase the release of chemicals, including contaminant discharge from polar ice and high-altitude glaciers (which act as sinks to harmful chemicals),
- increased use of agriculture-related chemicals such as pesticides and fertilizers to account for declines in crop productivity, longer crop growing seasons, introduction of new crops and increases

[1] 4 Final Report - English 2020 30.03.pdf (unfccc.int) From p. 309

[2] HECC report 2023. Chapter 12: Impact of climate change on human exposure to chemicals in the UK (publishing.service.gov.uk)

in suitable agricultural land. Climate change may also benefit pest populations, with reduced overwintering mortality, increased population growth rate and introduction of new pest species. Individuals may be exposed to different pesticides, particularly for those living close to agricultural areas. Climate change may also increase the release of contaminants from land deposited waste driven by changes in soil and groundwater conditions, for example, and increased release of chemicals from industrial sites (such as fires, explosions, leakages and overflows) following extreme weather events.

- Temperature changes may increase the volatilisation and atmospheric transport of some chemicals such as pesticides. After volatilisation, chemical compounds can be transported over wide areas at low concentrations in the air. Temperature increases in water can lower the pH and increase the solubility of ionic compounds (such as heavy metals), resulting in enhanced distribution and uptake of such pollutants. More frequent, severe and longer heatwaves are likely to increase the frequency and size of wildfires, which will release significant amounts of air pollutants into the atmosphere and potentially lead to elevated levels of pyrogenic by-products, such as polycyclic aromatic hydrocarbons (PAHs).
- Precipitation (particularly excessive precipitation following drought, which leads to flooding) can cause runoff and contaminant leaching, as well as affecting soil and groundwater conditions, microbiological communities and their processes and thus impact on chemical transport and fate in the environment. Longer and drier summer periods in future may lead to very dry soils, decreasing the ability of soil to absorb water and causing increased runoff during heavy rainfall. Changes in precipitation patterns may also alter the distribution of contaminants such as POPs and PAHs. Areas with decreased rainfall may experience increased volatilization and dust transport of contaminants, while regions with increased rainfall are likely to have greater surface deposition of airborne POPs and increased pesticide run-off. In addition, studies have found that more frequent and heavy storms result in increased chemicals in water bodies. Sea-level rise, increased winter precipitation and drier summers could also alter the risk level to contaminants in situ, such as those in landfills.

We can highlight 3 key insights for public health. First, **measures should be taken to reduce exposure to harmful chemicals including pesticides**. Second, the **management of chemical stockpiles and landfills and the remediation of contaminated sites, should incorporate consideration of vulnerability to extreme weather events such as flooding**. Finally, the potential implications of increased frequency and intensity of flooding and storms should be considered in relation to the risk of remobilization of chemicals such as POP into the environment from waste disposal sites, soils and sediments.

HECC report 2023. Chapter 12: Impact of climate change on human exposure to chemicals in the UK (publishing.service.gov.uk)

Current regulations

Georgian legislation - Final Catalogue for HIA by HD V2 .xlsx - Google Sheets

The opposable and non-opposable framework documents that may exist on the territory

Enforceable framework documents *(in terms of compliance, compatibility or consideration)*
Georgia's Long-Term Low Emission Development Strategy 2050 (Lt-LEDS) - it was officially adopted on 24 April 2023, setting the stage for the country's carbon-neutral future, and outlining a clear roadmap towards sustainable, low-emission growth. Georgia's Long-Term Low Emission Development Strategy 2050 | United Nations Development Programme (undp.org) *Georgia's 2030 Climate change strategy - 50123 (mepa.gov.ge)* *Climate change Action Plan - 2024-2025: Public discussion | Ministry of Environmental Protection and Agriculture of Georgia (mepa.gov.ge)* *Heat-health Action Plan* - Order N94/n of the Minister of IDPs, Labor, Health and Social Affair of Georgia - Management of Public Health Risks Related to Heat Waves on Approval of the 2024-2030 Action Plan თბურ ტალღებთან დაკავშირებული საზოგადოებრივი ჯანმრთელობის რისკების მართვის 2024-2030 წლების სამოქმედო გეგმის დამტკიცების შესახებ | სსიპ "საქართველოს საკანონმდებლო მაცნე" (matsne.gov.ge)

Elements and indicators on which to base the evaluation

7-1 Urban heat island risk & flooding (Prevention)				
	Initial state	Diagnosis of the territory's vulnerability to climate change (based on past data): - Identification of the various climatic hazards affecting the site (cold and heat waves, floods, droughts, fires, etc.). - Cross analysis of exposure and sensitivity of the site to these hazards.	- Maps of the vulnerability analysis of the region or the department carried out for the diagnostic parts of the documents -Areas at risk of flooding indicated in the zoning regulations - Areas at risk of run-off following major rainfall events	Data to be collected Environmentalist/ climate / Risk experts

	Impact of the project	Estimation of the impacts of climate change on the territory (based on prospective data) Measures envisaged to adapt to the consequences of rising temperatures, heavy rainfall, etc.	- Modeling estimates of different scenarios of vulnerability to climate change - Prevention of urban heat islands: urban forms favoring micro-climates (shade, air circulation, presence of water and vegetation, etc.); discussion on the choice of color by developers for buildings (pastel absorbs less heat),.... - Compliance with the provisions set out in the literal and zoning regulations (cf. if constructibility is possible), the flood risk plan if it exists - Adaptation to heavy rainfall: - Rainwater management - Mitigation works - Protection and awareness raising	

7-2 Risk of vector-borne diseases (Prevention)			
	Initial state	Diagnosis of the area's vulnerability to the risk of vector-borne diseases As complete a survey as possible of the various possible sources of breeding sites	Classification of areas at risk Inventory of arthropod vectors on the sites Project located at a point of entry to the territory and/or within a band of at least 400m around this point Practices and uses likely to create breeding grounds (if the area is concerned by the presence of vector-borne diseases such as dengue, chikungunya or malaria)
	Impact of the project	Measures envisaged to limit the presence of breeding sites	Information campaigns aimed at the population to control/destroy breeding sites Establishment of maintenance procedures for equipment at risk (gutters, settling tanks, ditches, etc.)

References:

Fourth National Communication of Georgia under the UNFCCC: **4 Final Report - English 2020 30.03.pdf (unfccc.int)**

http://www.euro.who.int/fr/what-we-publish/abstracts/regional-framework-for-surveillance-and-control-of-invasive-mosquito-vectors-and-re-emerging-vector-borne-diseases,-20142020http://www.sante.gouv.fr/moustiques-vecteurs-de-maladies.html

Georgian legislation - Final Catalogue for HIA by HD V2 .xlsx - Google Sheets

IPCC, 2023: Summary for Policymakers

Support sheet 8 - Active lifestyle, transport and access to facilities/services

Source: extracted and adapted from the French National guidelines "Agir pour un urbanisme favorable à la santé (EHESP & MoH, 2014)"

Mobility, health and well-being

Key facts

- Physical activity has significant health benefits for hearts, bodies and minds
- Physical activity contributes to preventing and managing noncommunicable diseases such as cardiovascular diseases, cancer and diabetes
- Physical activity reduces symptoms of depression and anxiety
- Physical activity enhances thinking, learning, and judgment skills
- Physical activity ensures healthy growth and development in young people
- Physical activity improves overall well-being
- Globally, 1 in 4 adults do not meet the global recommended levels of physical activity
- People who are insufficiently active have a 20% to 30% increased risk of death compared to people who are sufficiently active
- More than 80% of the world's adolescent population is insufficiently physically active

The objective of enabling people to adopt healthier lifestyles in urban areas requires the provision of appropriate infrastructure and financial incentives to walk, cycle and use public or shared transport (rather than private cars). It also means encouraging physical activity and sports and providing residents with quality green and recreational spaces[1]. A healthy lifestyle helps to prevent the onset or aggravation of certain chronic diseases (cardiovascular diseases, obesity, type 2 diabetes, certain cancers, etc.), and to improve physical condition and psychological and social well-being. Moreover, physical activity and sport have a positive role in the secondary prevention of chronic diseases.

More information: Physical activity (who.int); 2020 WHO guidelines on physical activity and sedentary behavior

WHO guidelines physical activity.pdf

The last STEPS survey carried out in Georgia in 2016 by WHO and the NCDC on more than 5,000 respondents[2] showed different results that are worth taking into account when planning on tobacco consumption, alcohol consumption, diet, physical activity, screening.

Physical activity level among 17.4% of the population does not comply with WHO recommendations of at least 30 min of active mobility; 64.6% of the Georgian population is overweight and 33.2% is obese.

Results for adults aged 18-69 years (incl. 95% CI) *(adjust if necessary)*	Both Sexes	Males	Females
Step 1 Physical Activity			
Percentage with insufficient physical activity (defined as < 150 minutes of moderate-intensity activity per week, or equivalent)*	17.4% (15.6 - 19.2)	16.2% (13.6 - 18.9)	18.4% (16.3 - 20.4)
Median time spent in physical activity on average per day (minutes) (presented with inter-quartile range)	137.1 (40.0 - 300.0)	158.6 (55.7 - 342.9)	173.8 (30.0 - 270.0)
Percentage not engaging in vigorous activity	82.4% (80.3 - 84.6)	72.2% (68.5 - 75.9)	91.8% (90.1 - 93.4)

Results for adults aged 18-69 years (incl. 95% CI) *(adjust if necessary)*	Both Sexes	Males	Females
Step 2 Physical Measurements			
Mean body mass index - BMI (kg/m^2)	28.1 (27.8 - 28.4)	27.9 (27.5 -28.3)	28.3 (28.0 - 28.6)
Percentage who are overweight (BMI ≥ 25 kg/m^2)	64.6% (62.3 - 67.0)	65.5% (61.4 - 69.7)	63.8% (61.4 - 66.3)
Percentage who are obese (BMI ≥ 30 kg/m^2)	33.2% (31.3 - 35.2)	30.2% (26.9 - 33.6)	36.0% (33.7 - 38.2)
Average waist circumference (cm)		95.7 (94.3 - 97.2)	89.6 (88.7 - 90.5)

[1] See Sheet No. 9 "Housing and living environment

[2] WHO's STEPwise approach to noncommunicable diseases (NCDs) risk factors surveillance is the most common instrument for the surveillance of Non-Communicable Diseases risk-factors.

Summary of combined risk factors • current daily smokers • less than 5 servings of fruits & vegetables per day • insufficient physical activity • overweight (BMI ≥ 25 kg/m²) • raised BP (SBP ≥ 140 and/or DBP ≥ 90 mmHg or currently on medication for raised BP)			
Percentage with none of the above risk factors	7.6% (6.0 - 9.2)	5.7% (3.4 - 8.0)	9.3% (7.7 - 11.0)
Percentage with three or more of the above risk factors, aged 18 to 44 years	25.2% (22.1 - 28.3)	37.9% (32.5 - 43.3)	12.5% (10.2 - 14.8)
Percentage with three or more of the above risk factors, aged 45 to 69 years	48.6% (45.7 - 51.5)	55.1% (50.4 - 59.8)	43.4% (40.2 - 46.5)
Percentage with three or more of the above risk factors, aged 18 to 69 years	36.1% (33.8 - 38.4)	45.4% (41.7 - 49.2)	27.6% (25.5 - 29.8)

Planning authorities can modify the physical and living environment to induce a better diet and increased physical activity through different solutions at planning level and EA level: supporting agricultural practice and limitation of industrial processed food for instance; making cities and urban development less car-centric are more pedestrian experience, involving amenities for sport and green areas.

Accessibility to services and facilities, health and well-being

In the context of a development project, accessibility to the various services, facilities, shops and workplaces is essentially considered in terms of geographical accessibility and people with limited mobility: it is therefore the existing or future modes of transport that are studied, as well as their adaptability to the needs of people with reduced mobility. However, in the context of health-friendly urban planning, it is also important to study the supply of services and facilities available within or near the development project in relation to demand.

disability.geostat.ge/shshm/index.php?lang=en

Road safety

According to data from the Ministry of Interior and Geostat, the number of accidents, injuries and deaths because of driving is still high: as a result of traffic accidents 442 people died and 7,310 were injured in Georgia in 2023.

Data on Road Traffic Accidents (unit)	012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total number of road traffic accidents	5 359	5 510	5 992	6 432	6 939	6 079	6 452	5 839	4 999	5 863	5 469	5 594
of which caused by intoxication	256	228	262	229	260	160	170	152	137	170	189	158
Persons injured	7 734	8 045	8 536	9 187	9 951	8 461	9 047	7 921	6 640	7 705	7 517	7 310
Persons killed	605	514	511	602	581	517	459	481	450	449	430	442
Source: Ministry of Internal Affairs of Georgia.												

According to the Ministry of Internal Affairs, last year, 5,594 traffic accidents occurred in the country, most of them occurred in the capital. Probable causes of car accidents include speeding, driving under the influence of alcohol, crossing the oncoming traffic lane, violation of pedestrian crossing rules, distance insecurity and other traffic rule violations.

As for the types of traffic accidents - according to the statistical data of the Ministry of Internal Affairs, the most - 1,855 accidents involved vehicles, during which 104 people died and 2,898 were injured. In addition, in the same period, 1,638 incidents of collisions with pedestrians occurred, as a result of which 95 people died and 1,665 were injured.

Most cars take a lot of space for parking while not being used for most of their time. They pollute the air as well as the sound environment adding to stress and can be a danger close to sensitive buildings or where children go. Reduction of the speed and of the use of cars in the public space and switching to public transport as well as soft mobility (walking, cycling) has proven health benefits in dense urban settlements.

The opposable and non-opposable framework documents that may exist on the territory

Enforceable framework documents (in terms of compliance, compatibility or consideration)
Physical Activity Strategy 2024 - 2030 **Transport plans of municipalities**

Incentives and indicators on which to base the evaluation

8-2 Safety of soft mobility		***Urban travel safety***	***List of indicators to quantify/ qualify these elements***
	Initial state	Diagnosis to identify possible conflicts/ black spots between the different traffic flows (walking, cycling, car, etc.) already existing on the site	- Pedestrian/cyclist accident data
	Construction phase	Measures taken to ensure the safety of local residents with regard to construction machinery	- Information for residents before and during the construction phase (letter, website, appropriate signage, etc.) - Installation of security devices (fences, etc.)
	Impact of the project	Measures envisaged to adapt urban development and improve safety for soft mobility	- Prioritization of roads according to traffic intensity and associated collision risks (from lane sharing to lane separation for different flows) - Raising awareness of safety measures among road users

8-3 Access to services and facilities (health care facilities, and early childhood education, (e.g. leisure, cultural, work,		***Access to services and facilities***	***List of indicators to quantify/ qualify these elements***
	Initial state	The most exhaustive and geolocated inventory possible of the various services and facilities present on the current site and its immediate surroundings Identification and accessibility of the different modes of transport available on the current site	- Comparison of available services and facilities in relation to the number of inhabitants - The most exhaustive quantitative and qualitative inventory possible of the modes of transport available on the current site: - Public transport, self-service bicycles, car-sharing, etc. - Accessibility (geographical, social, people with reduced mobility) to public transport and soft paths

shopping and public services)	*Construction phase*	Measures taken to maintain/palance access to services/equipments and transport during the construction phase	- Information for residents before and during the construction phase (letter, website, appropriate signage, etc.)
	Impact of the project	Measures taken to develop the offer and facilitate access (geographical, social, people with reduced mobility) to the various services and facilities in the future project and its immediate surroundings	- Development of transport modes and services/equipments in line with expected demographic changes - Improved accessibility (geographical, social, people with reduced mobility) to these transports and facilities/services

disability.geostat.ge/shshm/healthcare.php?lang=en#x

References:

PRAZNOCZY, C., Les bénéfices et les risques de la pratique du vélo. Évaluation en Île-de-France, ORS Ile-de-France, 2012. http://www.thepep.org/ClearingHouse/docfiles/RapportVeloBeneficesRisques.pdf

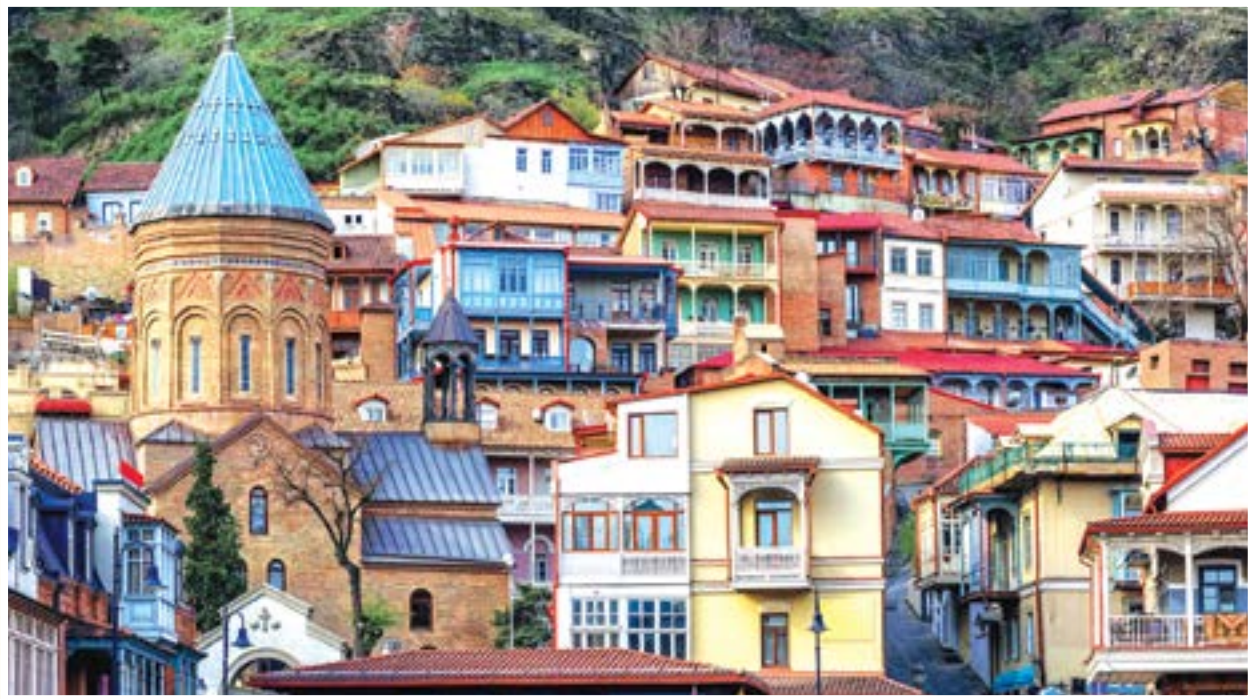
2008 INSERM, Physical activity: context and effects on health;

STEPS survey steps_georgia_2016_eng_summary_2016_final.pdf (who.int);

2020 WHO guidelines on physical activity and sedentary behavior: WHO guidelines physical activity.pdf.

Support sheet 9 - Housing and Living Environment

Source: extracted and adapted from the French National guidelines "Agir pour un urbanisme favorable à la santé (EHESP & MoH, 2014)"



For housing and living environments that promote health and well-being

Enclosed spaces and outdoor spaces (public and private) and their interfaces have important impacts (positive and negative) on health, and cover a physical or psycho-social dimension.

Thus, an enclosed space may involve health risks due to the environment in which it is located (area exposed to natural and/or technological risks) or due to its very characteristics (exposure of users to asbestos, lead, humidity, linked to poorly adapted ventilation, thermal and/or acoustic insulation, lack of luminosity or because it is not adapted to ageing or disabled people, etc.). At a time when the population of developed countries spends more than 80% of its time in a closed environment, having a healthy and suitable living environment is an important determinant of health. It is no longer just a question of reducing the risk of disease but also of improving the quality of life and well-being of users.

Furthermore, the design of outdoor spaces, thanks to their functionality and their well thought-out vegetation (because vegetation can also be an obstacle to light penetration in certain cases), also plays a key role in promoting good health and well-being for the population. By creating quiet zones away from transit flows, these outdoor spaces become a possible medium for meetings and relaxation.

For housing accessible to all

Urban planning, through housing policy, is able to promote social and generational diversity in housing. Thus, by providing a housing offer accessible to all according to their financial resources and of various types (ranging from collective housing to free lots) within the same neighbourhood, social classes and generations can better cohabit. The aim of a policy of social mix in housing is to reduce social segregation both in its 'rich version' (gated communities) and in its 'poor version' (housing estates). The latter can lead to the formation of ghettos based on socio-economic status, age and ethnic origin, and is likely to lead to isolation and insecurity among the populations living there.

WHO recommendations	**«The WHO estimates that about 12m² of local green space (within 300m of the dwelling) per inhabitant in built-up areas is needed.** **WHO rule of thumb for location of housing: 3- 30 - 300** - **3 trees visible from your window** - **30% canopy in your area** - **300 m from a green space**

Elements and indicators on which to base the evaluation

		Elements relating to the quality of enclosed spaces	*List of indicators to quantify/qualify these elements*
9-1 Design and construction of quality enclosed spaces (Promotion)	*Initial state*	Diagnosis of the environment in which the enclosed spaces are located (current and future) Diagnosis of the interior characteristics of enclosed spaces	- Areas exposed to natural and technological risks such as (but not limited to): radon, polluted soil and groundwater, flooding, mudslides, fire, located near an activity regulated under environmental assessment code .... - Presence inside enclosed spaces of components harmful to health (non-exhaustive): lead, asbestos, certain construction materials, combustion appliances (CO), pollution linked to the lifestyle of users (smoking, house dust, allergens from mites and cats, etc.), but also the transfer of pollutants from the outside air (dust, pollen, etc.) - Quality of ventilation, thermal and acoustic insulation, natural light (orientation of buildings to optimise natural light, orientation favourable to thermal comfort, etc.) - Verification of whether there are any outstanding hazard and insalubrity orders on the site -....
	Construction phase	If demolition or rehabilitation of old housing Measures envisaged to support rehoused persons during the construction phase	- Asbestos removal in accordance with current regulations - Information and awareness-raising for the population as early as possible in the implementation of rehabilitation and/or demolition operations. - Rehousing offer that corresponds to the expectations and needs (individual, family, economic, etc.) of the rehoused persons
	Impact of the project	Measures envisaged to make new buildings health-friendly	- Use of materials with a low level of impact on the health of craftsmen and inhabitants - Quality of ventilation, thermal and acoustic insulation,...

9-2 Design of quality outdoor facilities (Promotion)		***Elements relating to the exterior design***	***List of indicators to quantify/ qualify these elements***
	Initial state	Diagnosis of the site's environment	- Areas exposed to natural and technological risks, such as (but not limited to): polluted soil and groundwater, flooding, mudslides, fire, located near an an activity regulated under environmental assessment, ... - Identification of the site's assets on which the development project can be based: quiet area, land available to create green spaces, vegetable gardens, water features, landscape views, etc.
	Construction phase	Measures envisaged to facilitate access to the outdoor facilities during the construction phase	- As far as possible, allow access to green spaces, water bodies, vegetable gardens, etc. during the construction phase
	Impact of the project	Measures envisaged to create or improve outdoor spaces to make them health-friendly	- Creation of and access to vegetable gardens, water features, etc., taking care to avoid the proliferation of insects and rodents, and ensuring the rational use of synthetic inputs. - Creation of green spaces. If there is no possibility of creation and the sector is considered to be deficient, or if possible, networking of the green spaces of the municipality by means of soft links (pedestrian and/or bicycle) from the development project - Creation of a functional mix (services, local shops, housing, etc.) and the possibility of reaching them by soft modes or public transport. - /!\ to noise and light pollution that marks the quality of these outdoor spaces.

9-3 Social and generational mix in housing (Promotion)		***Elements of social and generational diversity in housing***	***List of indicators to quantify/qualify these elements***
	Initial state	Diagnosis allowing the elaboration of a socio-demographic profile of the current and expected population on the site, on the satisfaction of the people to live in the district	– data per neighbourhood within the municipality - Prospects for the number of inhabitants and expected socio-professional categories (surveys) - Rate of social rented housing and rate of private rented housing -Rate of owner occupiers -Turnover rate of the housing stock and of vacant dwellings - Supply of housing products (rental/ ownership, typology, adaptability of housing for the elderly, the disabled, etc.)
	Impact of the project	Measures to ensure: - a rebalancing (if necessary, depending on the initial diagnosis) between the supply of social and free housing - a supply of housing products adapted to the socio-demographic profile of the expected population	- Supply of rented housing (private and social), home ownership (free and assisted) according to the criteria of the national and local housing policies and to be adapted according to the initial diagnosis - Supply of housing of various sizes and urban forms (collective, semi-collective, intermediate, open-plan) - Supply of housing adapted to populations with specific needs: housing for students and young workers, for the elderly, for the disabled (all disabilities), for the most deprived people, a reception area for travelers, etc.

Bibliography

PRESSES de l'EHESP, Pour un habitat favorable à la santé. Contributions from cities, WHO Healthy Cities Network, 2011. https://villes-sante.com/wp-content/uploads/2023/02/Pour-un-habitat-favorable-a-la-sante.pdf

GUIDE «Construire sain», Ministère de l'Écologie, du Développement durable, des Transports et du Logement, 2013. https://www.ecologie.gouv.fr/sites/default/files/Guides_construire_sain_2015.pdf