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Environmental quality objective of A Non-Toxic Environment

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The Swedish Chemicals Agency is supervisory authority under the Government. We work in Sweden, the EU and internationally to develop legislation and other incentives to promote good health and improved environment. We monitor compliance of applicable rules on chemical products, pesticides and substances in articles and carry out inspections. We review and authorise pesticides before they can be used. Our environmental quality objective is A Non-toxic Environment.

The illustrations belonging to each specification for the environmental quality objective A Non-toxic Environment are made by Maja Modén.

The Swedish Chemicals Agency.

Article number: 361 467

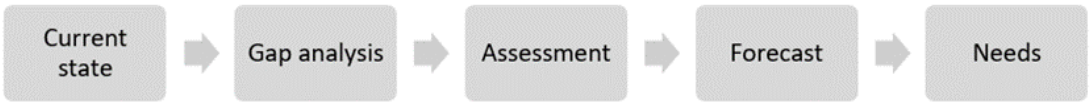
Preface

Sweden's Environmental Objectives System was adopted by the Riksdag in 1999 and has since been governing for Swedish environmental work. The environmental objectives are followed up annually and an in-depth evaluation of the conditions for reaching the goals is performed at least every four years.

The 2023 in-depth evaluation of the environmental objectives is the seventh of its type and will serve as decision support for the Government's policies and prioritisations, but also for the planning and prioritisations of public authorities and other actors in their environmental work.

The 2023 in-depth evaluation consists of several parts. The Swedish Environmental Protection Agency submits a cumulative report that includes a follow-up of the generational goal and the 16 environmental quality objectives. This cumulative report includes a brief summary of the evaluations of each environmental quality objective. In addition to this, the responsible authorities present separate reports with in-depth evaluations of each environmental quality objective. In this report, the Swedish Chemicals Agency presents the in-depth evaluation of the environmental quality objective of A Non-Toxic Environment.

This document is an English translation of the section *Report in brief* (Rapporten i korthet) which is a summary of the Swedish report "Rapport 3/22: Fördjupad utvärdering av Miljökvalitetsmålet Giftfri miljö".



This figure recurs throughout the report to facilitate navigation for readers. The figure shows the five parts included in the in-depth evaluation of the environmental quality objective of A Non-Toxic Environment (current state, gap analysis, assessment, forecast and needed measures).

The Swedish Environmental Protection Agency has contributed to the report in the areas of unintentionally arisen substances and contaminated sites. Several authorities and organisations have also contributed with comments on the draft of the report. Helena Bergström was Project Manager for the Swedish Chemicals Agency's work. Other participants in the project group were Anette Andersson, Anne-Marie Johansson, Erik Gravenfors, Maria Linderoth, Stefan Gabring and Teija Reini Åman.

The Unit Manager for the report was Annie Stålberg from the Strategies and Assigned Projects unit.

Content

Environmental quality objective of A Non-Toxic Environment

A Non-Toxic Environment means:

The occurrence of man-made or extracted substances in the environment must not represent a threat to human health or biological diversity. Concentrations of non-naturally occurring substances will be close to zero and their impacts on human health and on ecosystems will be negligible. Concentrations of naturally occurring substances will be close to background levels.

The Government has established six specifications for A Non-Toxic Environment:

- **Total exposure to chemical substances**
  The total exposure to chemical substances via all sources of exposure is not harmful to people or biodiversity.
- **Use of particularly hazardous substances**
  As far as possible, particularly hazardous substances are no longer used.
- **Unintentionally produced substances with hazardous properties**
  There is very little spread of unintentionally produced substances with hazardous properties, and information is available concerning the formation, sources, emissions and spread of the most significant of these substances and their degradation products.
- **Contaminated sites**
  Contaminated sites are remediated to such an extent that they do not represent a threat to human health or the environment.
- **Knowledge about the environmental and health properties of chemical substances**
  Knowledge about the environmental and health properties of chemical substances is available and sufficient for the purposes of risk assessment.
- **Information about substances hazardous to the environment and health in materials and products**
  Information is available about substances hazardous to the environment and health in materials, chemical products and articles.

Summary

CLOSE: The environmental quality objective is partially achieved or will be possible to partially achieve.

NEUTRAL: It is not possible to see any clear developments in the state of the environment now or by 2030.

The conditions for achieving the environmental quality objective of A Non-Toxic Environment have improved in recent years.

We assume in the assessment that the measures in the EU's Chemicals Strategy and other strategies covered by the European Green Deal will largely be implemented by 2030. The assessment is that conditions will then, eventually, be in place to partially achieve the environmental state pursued in the environmental quality objective. The assessment Close thus in this case means Partially. However, these measures are not expected to have enough impact for a clear positive development in the state of the environment to be seen by 2030. There is also a risk that the legislation will not manage to prevent chemical risks at the same rate as increases in consumption and production create new risks.

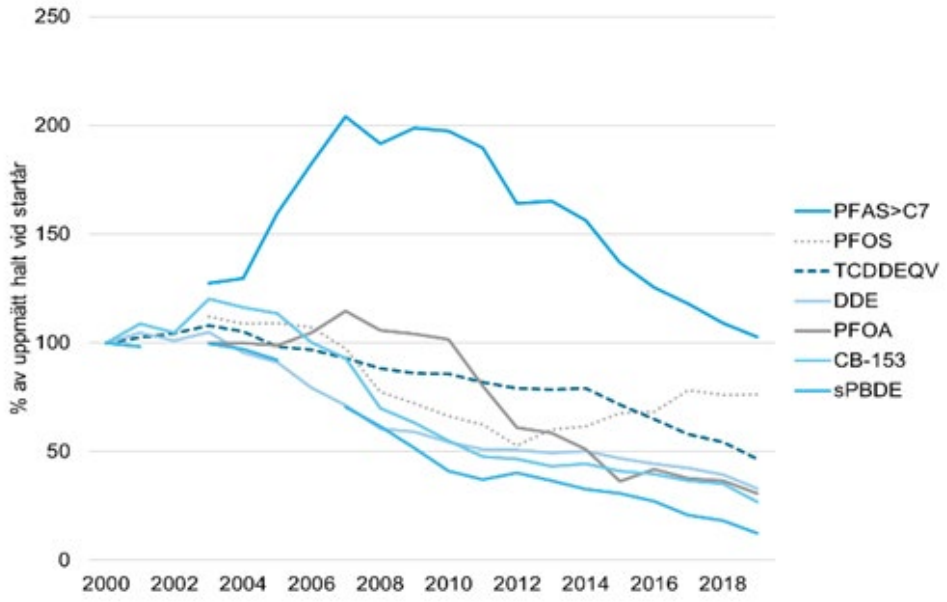
Conditions for reaching the goal by 2030

There is a unique opportunity right now for Sweden and the EU to considerably strengthen chemicals management. The EU's Chemicals Strategy contains proposals for more than 80 concrete actions to, e.g., reduce the risks of endocrine disrupting substances and combination effects. It also contains proposals for group-wise restrictions of the most harmful substances in order to broadly protect consumers and vulnerable groups, such as children. The EU's pharmaceutical strategies are other examples of strategies that are significant in this context.

The use of chemicals, including pharmaceuticals, is generally on the rise in society and a growing part of the increasing production is taking place outside of the EU, often in countries with less stringent legislative requirements. Global rules and agreements are thus crucial to reducing the spread of, and exposure to, hazardous substances. The Stockholm Convention, which regulates the phase-out of persistent organic pollutants, is of particular significance. Negotiations for a new global chemicals and waste framework are also central to contributing to better conditions to reach the environmental quality objective. The decision meeting is planned for 2023.

The development of instruments and measures promoting preventative chemicals management has been successful. The concentrations of several well-known, very hazardous and long forbidden or restricted environmental pollutants are gradually decreasing. This can be seen, for instance, in measured concentrations in eggs from the common guillemot (Figure 1).

Figure 1. Concentrations of certain persistent organic pollutants in common guillemot eggs have decreased over the past two decades. Source: Swedish Museum of Natural History



Yet there is a lack of knowledge about concentrations in the environment and trends over time for most substances, as well as about which substances are relevant to look for. It is therefore not possible at present to see any clear trends concerning developments in the state of the environment.

Developments after 2030

Even if the instruments and actions assumed by the assessment of the objective are in place by 2030, it will take a long time to achieve the environmental state sought in A Non-Toxic Environment. There are, for example, a great number of contaminated sites in Sweden, and many of these are classified as risk class 2, high risk. When decisions have been made concerning risk-reducing measures for hazardous substances, it has taken some time before the measures have an impact in the form of reduced societal exposure. At the same time, consumption is expected to increase, as is global trade with countries whose legislation sets lower requirements than within the EU. The transition to the development of products to be non-toxic and resource-efficient is expected to have at least a partial breakthrough by 2030, but these developments need to continue for a long time afterwards. Leakage into the environment of hazardous substances that have been used and are still used in society, and from contaminated sites, will continue. Some substances break down very slowly or not at all in the environment and can be hazardous to people and the environment for decades or centuries, or even longer, after the substances have stopped being spread.

Changes in initiatives

Support the implementation of the EU's chemicals and pharmaceuticals strategies

Intensive work is under way within the EU based on these strategies and it is urgent that Sweden takes an active role in this work. To succeed, capacity must be strengthened in the relevant authorities within the EU, but also in Sweden and in other EU countries. One example of a measure that has already started is group regulations, in which hazardous chemical substances that are structurally similar, or which have certain common properties are banned or restricted at the same time. Such an approach reduces the risk of a substance being exchanged or replaced by another substance with a similar risk.

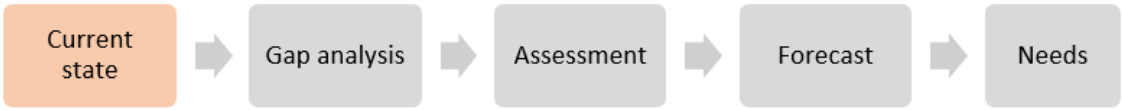
Need for investment in innovation and substitution

The most important instruments for achieving A Non-Toxic Environment are directed at manufacturers of chemicals and articles because they have responsibility for the products they release on the market. Right from the design stage, it should be considered how dependence on hazardous chemical substances could be reduced. This is needed to create efficient reuse and recycling of materials and a non-toxic circular economy. A self-evident component in society's innovation and development investments should be to use safe chemicals and alternative technical solutions without hazardous substances. For pharmaceuticals, such an investment could stimulate the development of less environmentally hazardous pharmaceutical substances and production processes. Similar measures may also be needed to implement the new milestone targets to reduce the use of plant protection products and biocidal products that are candidates for substitution.

Risks associated with chemicals need to be managed at the international level

Sweden should continue to actively work for a new global chemicals framework and to build up capacity in countries with less-developed chemicals management to reduce the spread of hazardous substances both globally and locally. Focus should be placed on ensuring that knowledge about the health and environmental properties of the substances is produced regardless of which land they are manufactured in, and that information about the contents of materials and articles is passed on throughout the supplier chain, including in the waste stage. More hazardous substances should be subject to global restrictions.

Report in brief



A Non-Toxic Environment – current state of the environment, instruments and measures

The problems surrounding the environmental quality objective of A Non-Toxic Environment are complex. While the EU is tightening measures to reduce risks associated with hazardous substances, a great deal of the increase in production is taking place outside the EU, most often in countries with less stringent legislation.

The measures carried out so far to reduce the spread of many well-known environmental pollutants have been successful. The concentrations of such substances have decreased, both in the environment and in people. Yet at the same time, new substances are being found in the environment, including as-yet unregulated substances that have replaced the banned substances. There are also challenges involved in reducing the spread of inter alia pharmaceuticals and plant protection products to the environment, and in identifying, investigating, and remediating a large number of contaminated sites.

Through the ongoing work with chemical regulations, knowledge has increased concerning which substances are hazardous. However, knowledge is still lacking about the properties of many substances and data on concentrations in people and the environment are not available for most of the chemical substances placed on the market. As purchasing power has increased, so too has the demand and turnover of both chemicals and articles, particularly in textiles, in electronics and in the construction sector.

Climate change can also affect the exposure to hazardous chemical substances. For example, the need for pesticides may increase in a warmer climate and the leakage of hazardous substances from agricultural land, wastewater treatment plants and contaminated sites could increase in conjunction with greater amounts of precipitation. The occurrence of new and old diseases could change among both animals and humans, leading to a changed use of pharmaceuticals.

In all, it’s difficult to make a clear assessment of developments in the state of the environment.

The outlook is more positive concerning the development of measures and instruments that improve the possibilities of eventually achieving the environmental quality objective of A Non-Toxic Environment, but there are also counterforces.

The EU is now tightening measures to reduce the risks of hazardous substances. But a great deal of the increased chemical production, including the production of plant protection products and pharmaceuticals, is taking place outside the EU in

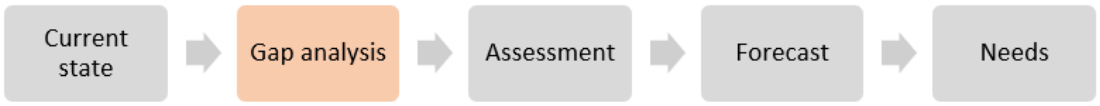
countries with less stringent environmental and health legislation. The EU's existing instruments and measures are directed more towards preventative chemicals management, but resources and capacity are also needed for the purification of emissions and measures for already contaminated sites.

At the EU level, risks associated with industrial and consumer chemicals are primarily handled in the REACH Regulation[1] and the CLP Regulation.[2] Several important advances have been made in these laws since the latest in-depth evaluation in 2019. One example of an advance is the group restriction of certain hazardous substances in consumer products and other areas, including 33 very hazardous substances in textiles and harmful plasticisers[3] in plastics. Through the latest registration batch of substances between 1 and 10 tonnes in the REACH Regulation, data now also exists for significantly more substances, even if the information for low-volume substances is not sufficient to identify substances with critically hazardous properties. This is a requirement for being able to implement risk-reducing measures. The EU has also developed several comprehensive strategies in connection with the European Green Deal. Particular mention can be made here of the EU's Chemicals Strategy for Sustainability *Towards a Toxic-Free Environment,* the EU's *Farm to Fork Strategy* and the EU's *Strategic Approach to Pharmaceuticals in the Environment*. These strategies contribute to improved conditions to achieve the environmental quality objective of A Non-Toxic Environment and its specifications.

On a global level, it is the Stockholm Convention that regulates the phase-out of persistent organic pollutants. The Convention currently comprises 31 substances or substance groups. The Convention is updated regularly, which means that the number of substances that will be phased out on a global level is increasing. Several central problems remain to be addressed in order to achieve the environmental quality objective of A Non-Toxic Environment:

- Too little consideration of environmental and health risks in the development of new chemical substances, materials and articles, and in companies' business models.
- The regulations are not sufficient and the phase-out of particularly hazardous substances is too slow.
- There is still a lack of knowledge and information about chemical substances.
- Production is increasing in countries with weaker chemical legislation and global trade patterns pose chemical risks.
- Hazardous chemical substances present in the environment or built into society pose risks.

[1] The EU's chemical legislation, the REACH Regulation, contains rules for the registration, evaluation, authorisation and restriction of chemicals.
[2] The EU's CLP Regulation contains rules for the classification, labelling and packaging of chemical products.
[3] In this case, phthalates.



Gap analysis – analysis of conditions and effects

The conditions for achieving the environmental quality objective of A Non-Toxic Environment are dependent on the continued introduction and development of more EU regulations. Global agreements are also important. Furthermore, there is still a lack of knowledge about the most important point sources of unintentionally arisen substances and sufficient resources for identifying, investigating and remediating the large number of contaminated sites.

Manufacturers of chemicals and articles affect the environmental quality objective of A Non-Toxic Environment because they are responsible for the products they release on the market. The manufacturers can thereby affect the content of hazardous chemical substances. Companies and public organisations that use chemicals are important actors because they have a great influence on how hazardous chemical substances are used and released into the environment. The most important instruments are targeted at these actors.

But consumer behaviour is also important. There is a lack of awareness of chemical risks among both consumers and developers of chemicals, materials and articles, but also among those who set requirements on how articles and products should be designed. Yet it is also neither reasonable nor possible to possess all knowledge. Products and articles that contain hazardous substances also make it more difficult to work for a circular economy. There needs to be a change based on caution and a preventative approach that ensures that articles and products are non-toxic from the start. Measures for such a change are included in the EU's new chemicals strategy.

The prerequisites for eventually achieving the desired environmental state are dependent on the continued introduction and development of more EU regulations. Some of the most important EU legislation dealing with preventing chemical risks are:

- The REACH Regulation on the registration, evaluation, authorisation and restriction of chemicals.
- The CLP Regulation on the classification, labelling and packaging of substances and mixtures.
- The Regulation on the placing of plant protection products on the market.
- The Regulation on the making available on the market and use of biocidal products.
- The Directive on the sustainable use of pesticides.
- The RoHS Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
- The Directive on industrial emissions (integrated pollution prevention and control).

- The EU's Human Medicines Directive on, e.g., environmental risk assessment requirements for new medicines.
- The EU Regulation on veterinary medicinal products on, e.g., environmental risk assessments for new medicines for use in animals.

Conventions such as the Stockholm Convention on Persistent Organic Pollutants and the Minamata Convention on Mercury are two important global agreements in this area.

The Taxonomy Regulation is a new EU law requiring companies to describe the extent to which their operations are environmentally sustainable. The intention is to enable investments to be directed towards more sustainable companies. The taxonomy can thus also eventually contribute to reducing the use of hazardous substances.

Below are examples of development areas for existing instruments for each specification of A Non-Toxic Environment.

Specification: Total exposure to chemical substances

To further reduce the total exposure to hazardous chemical substances, several types of measures are needed because different legislation addresses different uses and sources of exposure. The risk of exposure needs to decrease. This is true regardless of whether the substances occur in, for example, toys, food or construction products. Coordination between legislation in terms of level of protection and effectiveness is therefore important.

To increase the pace of risk-reduction work, group restrictions of substances are being used more and more in the REACH Regulation, such as for allergenic substances in textiles and for per- and polyfluoroalkyl substances. One aim of the EU's Chemicals Strategy is to continue to strengthen and develop this approach.

Specification: Use of particularly hazardous substances

To phase out particularly hazardous substances, it is important that different legislation in the EU shares common criteria and grounds for assessment. Work is under way to introduce criteria for additional hazard classes in the CLP Regulation. Examples of two such hazard classes are endocrine-disrupting substances and substances that are persistently toxic and can accumulate in living organisms.

There are EU requirements to assess whether it is possible to replace substances with particularly hazardous properties in both the plant protection products and biocide regulations. The lack of alternatives means that there are still authorised products containing such substances on the Swedish market. As a basis for continued work, the Swedish Government decided in 2021 to introduce milestone targets to significantly reduce the use of plant protection products and biocidal products with particularly hazardous properties.

The work to identify particularly hazardous substances is under way on a global level within the Stockholm Convention. But the work to phase out more particularly hazardous substances needs to continue. Within the EU, particularly

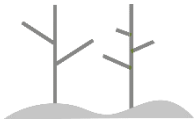
hazardous substances have been phased out through the authorisation system and restrictions in various EU chemicals legislation. However, the phase-out rate needs to increase because the production and consumption of substances, materials and articles is expected to rise on the global market. If phase-out is not speeded up, the spread of particularly hazardous substances will likely increase.

Specification: Unintentionally produced substances with hazardous properties

Knowledge about dioxin emissions to air and about dioxin-contaminated sediments in Sweden is increasing but needs to be further strengthened both qualitatively and quantitatively. There is also a need for increased consensus concerning the significance of different dioxin sources and how the continued work to address these issues should be prioritised so that efforts are chiefly focused on the most polluting primary and secondary dioxin sources.

Continued research and investigation is needed to better survey and quantify significant point sources of emissions of dioxin and other unintentionally produced substances. Depending on the nature of the emission source, the conditions for effective measures likely vary and it is currently difficult to assess where, how and to what extent the emission can be further decreased. New measures to achieve further reductions are expected to be more difficult and costly than measures taken to date.

Specification: Contaminated sites



Continued investment in support, supervisory guidance and increased knowledge is needed to address the large number of contaminated sites deemed to pose the greatest risk to human health and the environment. Conducting large remediation projects requires, for example, competence and resources within supervisory authorities. This can be a challenge, especially for a smaller municipality. There is therefore a need to provide further guidance to the municipalities to facilitate their work.

In cases where there is a responsible operator, but the operator lacks the ability to pay, there are still gaps in the financing system. This means that the polluter-pays principle is currently difficult to apply.

There is also a lack of knowledge in several areas, such as how many contaminated sediment sites there are in Sweden and to what degree industrial premises and other buildings are contaminated. It is not always known which contaminants may be present in sediment and in some cases, there is also a lack of methods and techniques for remediating contaminated sediment sites. There is therefore a great need for continued studies and development of new techniques for more effective handling of contaminated sediment.

The supervision of environmentally hazardous activities must be sufficient to ensure that new contaminated sites do not occur. Supervisory authorities do not always have the resources for this.

Specification: Knowledge about the environmental and health properties of chemical substances

It is the responsibility of companies to produce and provide knowledge and access to information about the health and environmental properties of chemical substances. Knowledge and information are basic prerequisites for preventative chemicals management and for being able to 'do right from the start' in innovations, manufacturing, technology and material selection, etc. The conditions for the work with chemicals management have improved as increased knowledge requirements for chemical substances have been introduced. The requirements need to be further strengthened, which is also highlighted in the EU's Chemicals Strategy. In the REACH Regulation, the registration requirements stipulate that manufacturers and importers must provide information about the properties of the substances and information about how the substance can be used safely. However, the European Chemicals Agency (ECHA) has shown that such data is missing in many cases and that only one-third of registration documents meet the requirements. The EU's Chemicals Strategy therefore intends to introduce zero tolerance for registration documents that do not comply with the information requirements. If the requirements are not met, the registration can be withdrawn, the registration number revoked, and it will become illegal to manufacture and release the substance on the market.

It can take a long time to develop and reach consensus on testing methods to produce knowledge on the environmental and health properties of substances. There is also a great lack of available knowledge and information about things such as the substances' functions, use, flows, exposure, waste management, reuse and recycling. Research efforts, among other things, are needed to address these shortcomings. The newly started European Partnership for the Assessment of Risks from Chemicals (PARC) is an example of a major cooperative venture between EU Member States and research institutes. PARC aims to stimulate research on methods for risk assessment and environmental monitoring of hazardous substances. PARC will also further the cooperation between public authorities and researchers regarding chemicals. However, long-term financing is lacking in several areas.

Specification: Information about hazardous substances in materials, articles and products

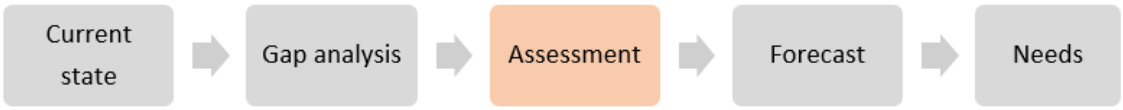
The conditions have improved. All suppliers of articles containing over 0.1 per cent of the substances on the Candidate List[4] must now register these articles in a database (SCIP) at ECHA. But important information about hazardous substances in articles is still lacking. The EU's Sustainable Products Initiative (SPI) contains proposals to develop product passports that will provide information about sustainability, including information about substances in the articles that are hazardous to the environment and health.

[4] The Candidate List is a list of more than 240 very hazardous substances and substance groups. It is part of the European chemicals legislation, the REACH Regulation.

On a global level, there are still far too few countries that have implemented the UN's Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Advances have been made, but the system remains to be introduced in more than 100 countries.

Unique opportunity to strengthen chemicals management needs more resources

Many of the measures decided, for example, in the Green Deal are in a phase where it is too early to evaluate their effectiveness. Future developments in the area of chemicals, as a whole will, be determined by factors such as the capacity that exists to implement planned measures, and there are great uncertainties here globally, in the EU and in Sweden.



Assessment of goal fulfilment – will we achieve the environmental quality objective?

The conditions for achieving the environmental quality objective of A Non-Toxic Environment have improved since the previous in-depth evaluation in 2019. Important measures regarding chemicals have commenced through the European Green Deal, which is aimed at combining growth with sustainability. Our evaluations assume that these measures will be largely implemented by 2030 and that the environmental quality objective will therefore be partially achieved. Once the measures have been introduced, the concentrations of hazardous substances spread in society and the environment will gradually decrease. But even in the future, both old and new environmental problems will need to be addressed in a continued effort to achieve the environmental state intended in A Non-Toxic Environment.

The conditions for eventually achieving the environmental state sought in A Non-Toxic Environment have improved since the previous in-depth evaluation in 2019. This means that the Swedish Chemicals Agency's evaluations are more positive than before. We see that many important administrative instruments have been in place long enough to have an effect and that extensive legislative overhauls have resulted not only in improvements, but also in proposals for future measures.

Important measures in the area of chemicals have been initiated within the EU's European Green Deal strategy, which is aimed at combining growth with sustainability. Assessments made now assume that these measures will be largely implemented by 2030. The measures are mainly preventative and forward-looking and primarily improve the conditions to achieve the specifications concerning particularly hazardous substances, knowledge and information, and eventually the specification on total exposure to chemical substances. As the measures begin to

take effect, the concentrations of hazardous substances spread in society and the environment can gradually decrease. But it will take a long time to achieve the desired environmental state. Revisions to legislation and other measures are still needed to address pharmaceutical residues in the environment. The measures in the Green Deal also have a smaller and more indirect impact on the specifications concerning contaminated sites and unintentionally arisen substances. There are many contaminated sites in Sweden and a large proportion of these have not been inventoried, investigated or remediated. Some substances break down very slowly. For some substances, decomposition can take decades and for others, centuries or even longer. This is reflected in the assessments of the specifications for A Non-Toxic Environment in Table 1.

Table 2: This table summarises the assessments of the different specifications of the objective

Explanations of Yes, Close and No in the table below.
Yes: The conditions will be largely/predominantly in place by 2030.
Close: The conditions will be partially in place by 2030.
No: The conditions will be marginally in place by 2030.

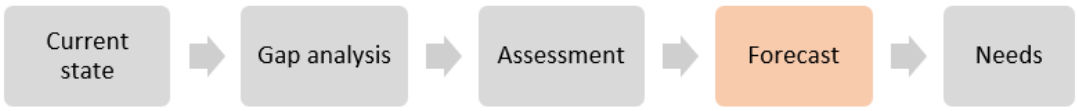
Specifications for A Non-Toxic Environment. Expresses the environmental quality or the state that needs to be achieved	**Will the environmental quality/state be achieved by 2030?**	**Will sufficient conditions be in place by 2030 to eventually achieve the state?**
The total exposure to chemical substances is not harmful to people or biodiversity	No	Close
As far as possible, particularly hazardous substances are no longer used	No	Close
There is very little spread of unintentionally produced substances with hazardous properties, and information is available concerning the formation, sources, emissions and spread of the most significant of these substances and their degradation products	No	No
Contaminated sites are remediated so that they do not represent a threat to humans or the environment	No	No
Sufficient knowledge about the environmental and health properties of substances is available and sufficient for the purposes of risk assessment	Close	Yes
Information is available about substances hazardous to the environment and health in materials, products and articles	No	Close

To summarise – provided that the planned instruments are implemented according to plan – the Swedish Chemicals Agency assesses that important measures will

have been implemented by 2030 that are sufficient for the environmental quality objective to eventually be *partially* achieved. When the objective can be partially achieved according to the instructions for in-depth evaluation, it is to be assessed as CLOSE.

Our overall assessment of the objective is thus as follows:

CLOSE: The environmental quality objective is *partially* achieved or will be possible to *partially* achieve.



A prognosis for current development – is the work with measurements enough?

At present, it is not possible to see any clear trend for the overall state of the environment. A number of measures in the EU's Chemicals Strategy and other strategies and action plans that fall under the Green Deal can lead developments in the right direction, while other circumstances more adversely affect the state of the environment. Production, consumption and global trade in articles are increasing. This also means that the use of chemicals and the spread of hazardous substances are on the rise. People and the environment are thereby more exposed to these substances.

At present, it is not possible to see any clear trend concerning the overall state of the environment based on the limited measurements of concentrations of chemical substances in the environment that have been performed.

Preventative chemicals management generally has a positive impact on the state of the environment as the presence of hazardous substances decreases after some time due to restrictions. The development of the regulations for chemicals in the EU is causing the use of many chemical products and articles to become safer for people and the environment. Restricting substances by group is speeding up the work with new legislation, particularly in terms of the phasing out of very hazardous substances. A number of measures proposed in the EU can lead developments in the right direction. Examples of important strategies are the EU's Chemicals Strategy, the EU's Strategic Approach to Pharmaceuticals in the Environment, and the EU's Pharmaceutical Strategy. Remediation measures and soil decontamination of contaminated sites also reduce the spread of hazardous substances. The work with international conventions is also progressing.

Other circumstances affect the state of the environment in a more negative direction. It often takes a long time to decide on risk-reducing measures. It then takes even more time before the restrictions have an impact in the form of reduced occurrence in society and in the environment. The extent of remediation measures and soil decontamination at known contaminated sites would also need to increase.

The global production, consumption and trade of articles, pharmaceuticals and chemical products are furthermore continuing to increase. This means that the use of hazardous substances, as well as the spread and exposure of humans and the environment, are also increasing. When an ever-growing proportion of the production of chemicals and articles takes place in countries with weaker legislation and controls, the risks for health and environmental problems further increase, both in the countries of production and globally.

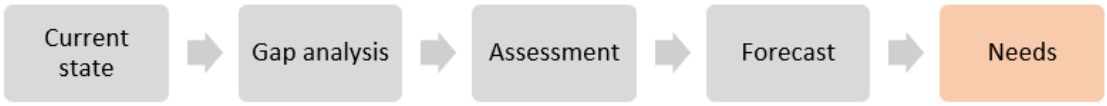
The overall trend concerning the state of the environment is uncertain for many reasons: Environmental measurements are only performed for a small portion of all the substances that are used. There is also little knowledge concerning how humans and the environment are affected by chemicals. Because there is a lack of sufficient knowledge or opportunity to act where it is really needed, there is a risk that environmental developments could go in the wrong direction.

A warmer climate could also trigger many changes in the environment. This could, for example, lead to an increased need for pesticides. If precipitation increases, hazardous substances could also leak out from agricultural land, wastewater treatment plants and contaminated sites. The occurrence of new and old diseases could increase among both animals and humans, leading to a changed use of pharmaceuticals.

Developments in the state of the environment over the longer term, after 2030, currently look more positive because the EU now has a Chemicals Strategy with over 80 concrete measures for sustainability. The EU's Pharmaceutical Strategy and Strategic Approach to Pharmaceuticals in the Environment raise ambitions in efforts to combat the environmental impact of pharmaceuticals. The conditions are thereby better than previously to eventually manage chemical substances so that they do not harm people or the environment. However, this requires that chemicals management is prioritised within the EU and that improvements are made in countries that currently have weaker legislation and controls. The EU needs to prepare regulations and other instruments to handle new problem areas and new substances causing problems. As society transitions to more sustainable and circular economies, increasing requirements will be set for safe solutions in line with the environmental quality objective of A Non-Toxic Environment.

Overall, we assess the forecast for the state of the environment by 2030 to be as follows:

NEUTRAL. It is not possible to see any clear direction for developments in the environment.



Needs for instruments and measures – what is required for the objective to be achieved?

The EU's Chemicals Strategy is an important prerequisite for the state of the environment to improve over time. For the strategy to be implemented, it is urgent that Sweden takes an active role and that all other EU countries prioritise chemicals management. The transition to a safer and more sustainable design of articles and chemicals, including pharmaceuticals, is required. To succeed in this, capacity must also be strengthened within relevant authorities in the EU, but also in Sweden and in other EU countries. In those countries outside the EU where chemicals management currently is inadequate this needs to be developed.

Many important measures have been implemented in Sweden, in the EU and globally, but there are still great challenges associated with the growing spread of hazardous substances in society. There is too little knowledge about the substances' properties, use, spread and exposure. This complicates the work to achieve A Non-Toxic Environment as well as a circular economy. The EU's Chemicals Strategy presents an opportunity here. It is ambitious and offers a unique chance to reduce the spread and the risks associated with chemicals, provided that the measures are implemented. However, for it to become possible over time to achieve the desired environmental state in A Non-Toxic Environment, resources need to be allocated and the work needs to continue even after the implementation of the Chemicals Strategy.

Trade in chemicals, including pharmaceuticals, and articles is global. Restrictions must therefore apply as far as possible regardless of where these are manufactured. Legislation at the EU level is important but should be followed up by corresponding regulations at the global level. The voluntary work of companies, as well as the knowledge and demands of customers, employees and consumers, are also important drivers to reduce the risks associated with hazardous substances.

Against this backdrop, we summarise the needs for measures to achieve the environmental quality objective of A Non-Toxic Environment and its specifications within five areas. These areas concern the sustainable design of chemicals and articles, more stringent EU legislation, developed information requirements, handling of global chemical risks, and risks associated with hazardous substances that remain in the environment.

In these areas, we propose, among other things, that:

- Sweden takes an active role in implementing the EU's Chemicals Strategy by the Swedish Chemicals Agency and other relevant authorities contributing to the work, at both the national and EU level.

- Sweden takes an active role in the implementation of the EU's Pharmaceutical Strategy and the EU's Strategic Approach to Pharmaceuticals in the Environment by the Swedish Medical Products Agency and other relevant authorities working to contribute to prioritised measures, both nationally and within EU.
- Sweden continues to work actively on a new global framework for chemicals.
- The Government and authorities integrate chemical aspects into national innovation and development efforts. In new ventures, an obvious part of business development work should be to use safe chemicals and alternative technical solutions without hazardous substances. For pharmaceuticals, such an investment could stimulate the development of less environmentally hazardous pharmaceutical substances and production processes.
- The Government ensures national co-funding for Swedish researchers' participation in the EU's partnership programme PARC.
- The Government and relevant authorities support investments for cleaner waste flows and increased material recycling of good quality.
- The Government commissions the Swedish Chemicals Agency, in consultation with the Swedish Environmental Protection Agency and other relevant actors, to develop a strategy with measures to reduce the use of active substances in biocidal products that are candidates for substitution.
- The Government commissions the Swedish Board of Agriculture, in consultation with the Swedish Chemicals Agency, the Swedish Environmental Protection Agency and other relevant actors, to develop a strategy with measures to reduce the use of plant protection products containing active substances that are candidates for substitution.
- The Government, authorities and municipalities implement measures that speed up the reduction of dioxin and dioxin-like PCBs in all fish in Swedish waters, with the aim that the fish can eventually be eaten without restrictive dietary advice. In these efforts, further identification of the sources is central to being able to take effective measures.
- The Government ensures that the work to identify, investigate and remediate contaminated sites continues, and at a faster pace.
- The Government and relevant authorities work to ensure that information about the content of chemical substances in articles is made available. This can, for example, be done through expanded information requirements in the REACH Regulation and access to product passports under the upcoming regulation on eco-design for sustainable products.

The Swedish Chemicals Agency
PO-Box 2, SE-172 13 Sundbyberg
+46 8 519 41 100

Visiting and delivery address
Vasagatan 12 D, SE-172 67 Sundbyberg

kemi@kemi.se
www.kemikalieinspektionen.se

KEMI
Kemikalieinspektionen