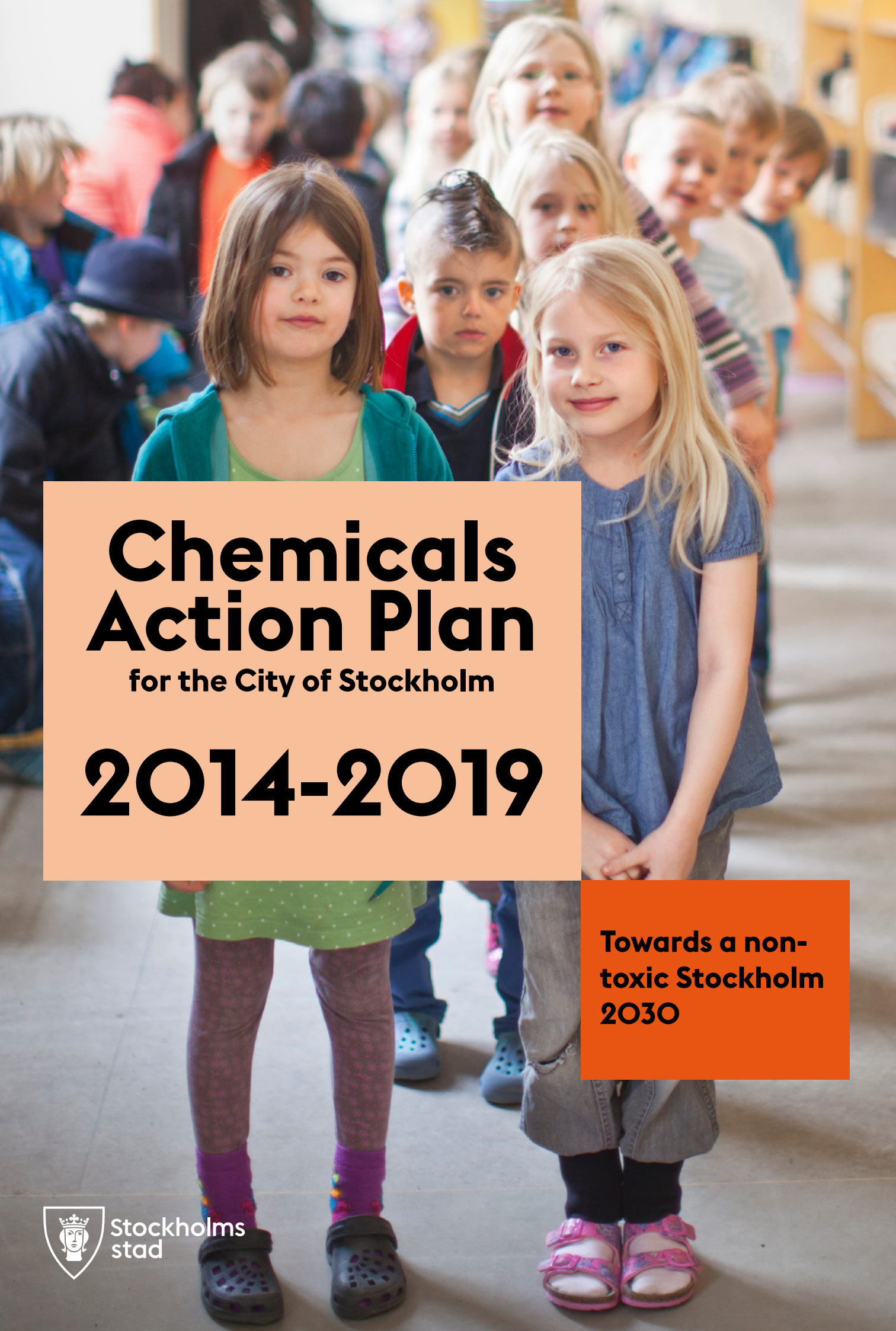

Chemicals Action Plan

for the City of Stockholm

2014-2019

Towards a non-toxic Stockholm 2030

Stockholms stad

ChemicalsAction Plan for the City of Stockholm 2014-2019
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Project Manager: Arne Jamtrot
Management team of Swedish version: Maria Svanholm, Pia Winbladh-Högfors, Christer Edvardsson (all from the Environment and Health Administration), Monika Hallberg (Stockholm Vatten AB, adj.)
Additional participants: Lena Embertsén, Maria Oldén, Tonie Wickman, Maria Pettersson, Helena Schmidt (all from the Environment and Health Administration), Cajsa Wahlberg (Stockholm Vatten AB)
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Preface

Chemicals have an important role in today's society. The annual production of chemicals worldwide has increased drastically in the last 50 years, from less than 10 million tons to more than 400 million tons. Chemical products are used in many contexts, for example in pharmaceuticals, cosmetics, detergents, pesticides and paints. Chemical substances are also present in articles and goods such as clothes, furniture, computers and building materials. More than 100,000 chemical substances are used in Europe, according to the European Chemicals Agency (ECHA). While having contributed to our high living standard, chemicals have, in several cases, caused environmental and health problems. It is important that we do not burden our environment with substances that have been created or extracted by society in quantities that may threaten our health or environment.

The Swedish Parliament has adopted an environmental quality objective termed A Non-Toxic Environment (Giftfri miljö), which has the following definition:

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.

Since the harmful substances mentioned above exist in our everyday life, the Swedish Chemicals Agency has developed an action plan with the aim to achieve a toxic-free everyday environment. The plan states that protecting children and adolescents from exposure to harmful substances should be prioritized. The action plan also highlights the role of local authorities within the field of enforcement of the chemiclas regulation and strategies used in procurement as well as conveyors of information to consumers and businesses.

The City of Stockholm wants to contribute to the work towards a non-toxic environment, a striving that needs to involve many of the City's operations. The City's comprehensive vision of A World-Class Stockholm also means a non-toxic Stockholm. Through its Chemicals Action Plan, the City aims to stake out the path toward realising that vision.

Per Ankersjö
Vice Mayor for the Environment

Introduction

The Chemicals Action Plan presents a vision for the city's chemical strategy: A non-toxic Stockholm in 2030 – world-class chemicals management. The vision expresses both what is to be accomplished – an environment free of toxic substances – and the efforts needed to fulfil the requirements.

In order to fulfil the vision of a non-toxic Stockholm, all the City's operations must strive to eliminate chemicals with hazardous properties by substitution to better alternatives. When hazardous substances need to be used in products and articles, routines to ensure safe use should be implemented.

The Chemicals Action Plan presents a total of 43 actions divided into seven activity areas. These activities contribute to the accomplishment of the goals in the City's environmental programme and the vision of a non-toxic city. The target audience for the plan and its actions are operational units within the city's administrations and companies.

Each of the seven activity areas has its own vision that links to the vision of a non-toxic Stockholm. Furthermore, each chapter lists a number of actions, which part of the City that is responsible and when the particular action should be performed. Since the Chemicals Action Plan focuses on the exposure to hazardous chemicals of children and adolescents, actions with this focus have been highlighted throughout the plan.

The Chemicals Action Plan has an implementation period of five years. The implementation period was set as a balance between allowing a sufficient amount of time to carry out the ambitious work, and relatively soon be able to consider new knowledge in a forthcoming update.

Prioritised chemicals

The guidelines concerning hazardous chemicals need a clear basis that directs and prioritises which substances and groups of substances the efforts should focus on. A precondition for accomplishing the visions is knowledge regarding which substances that compose risks. Therefore, this section describes how this issue should be handled.

Indication of substances which should be avoided can either be done based on property criteria or by a list of specific substances. For operative areas such as procurement, construction and handling of chemicals, using a selection based on property criteria is preferred, rather than having a specific substance list. A list of specific substances needs to be continuously updated, which requires time and resources. The use of property criteria also prevents an undesired substance being substituted with a different substance with the same hazardous properties. On the other hand, when monitoring environmental toxins in the environment, as well as in supervision, dialogue and information, a list of substances is often more adequate than property criteria. Therefore, the Chemicals Action Plan also contains a list of local focus substances.

Selection based on properties
The Swedish Chemicals Agency's priority guide PRIO, www.kemi.se/prio, lists hazardous substances on two levels, based on their properties – phase-out substances and priority risk-reduction substances. The Chemicals Action Plan for Stockholm is coordinated to this terminology. The properties of phase-out substances are of such concern that they need to be phased out and not used at all. The selection criteria for these substances have been determined by the Swedish Chemicals Agency. These criteria largely reflect those which constitute the base for the authorization procedure within the EU chemicals legislation REACH. Priority risk reduction substances have properties that warrant special attention. They must always be judged according to their current use and handled according to the risks that may arise. The properties that indicate if a chemical is a phase-out or a priority risk-reduction substance are described in the PRIO database.

Examples of phase-out substances:
• DEHP and several other phthalates may exert harmful effects on reproduction and can occur in PVC plastic and other materials.
• Anthracene is a PBT substance (persistent, bioaccumulative, toxic) found in tar paper, rubber (such as tyres), creosote-impregnated wood and pyrotechnical products.

Examples of priority risk-reduction substances:
• Allergens include for example nickel, preservatives in paint and hygiene products, perfume substances, etc.
• Copper ions released from unprotected copper are environmentally hazardous and can cause long-term effects in the aquatic environment.

Principles for priorities
The basic principle should be to avoid the existence of phase-out substances in products that are used in the City, and to limit the use of priority risk-reduction substances to situations where the use is safe. These prioritizations form, to a large extent, the basis used for the construction of the criteria of the Swedish Competition Agency, Byggvarubedömningen (the Building Material Assessment), BASTA, and others.

For different reasons, these tools do not always give sufficient support to avoid substances that the City deems undesirable. More effort is needed to investigate where the particular chemicals exist, which the available alternatives are, etc. When there is significant reason based on the risks that these substances involve this work should be carried out to avoid phase-out and risk reduction substances. The criteria are then set on a case-by-case basis, beginning with an assessment of the risks involved and to what degree it is possible to avoid the use of the substance or successfully substitute it. This additional work should be carried out in these cases:

• When sensitive population groups are exposed, in particular children and adolescents.

• When the use has a direct environmental impact and hazardous substances from products are spread to the environment or the sewage network.

Local focus substances
Local focus substances are substances and substance groups that are particularly important in Stockholm. These substances will be prioritized within the area of supervision and control, environmental monitoring and information. In these operational areas, it is generally more worthwhile to discuss specific substances rather than properties, and also to indicate uses, sources and paths of exposure.

Within each group of chemicals, there can exist different substances with different degrees of concern. The fact that focus is placed on the whole group does not mean that all the substances are equally prioritised, but that attention will be given to the group as such.

Local focus substances for Stockholm

Substance/Substance group	Example	Incidence, example
Alkylphenols and Alkylphenolethoxylates	Nonylphenol-ethoxylate	Textiles
Anti-bacterial agents	Silver	Appliances and sporting clothes
Brominated flame retardants	Deca-BDE	Furniture and textiles
Phthalates	DEHP	PVC floors and textile printing
Perfluorinated compounds	PFOA, PFBS, Fluorinated telomeres	Fire extinguisher foam and textile waterproofing
Bisphenols	Bisphenol A	Thermal paper, food contact material, relining of water conduits and sewers, and in couplings for conduits
Cadmium (Cd)		Artist paints and as a contaminant in food
Lead (Pb)		Jewellery, electronics and as a food contaminant
Copper (Cu)		Roofs, façades and water conduits
Zinc (Zn)		Tyres, roofs, façades, and other galvanised surfaces such as lampposts, etc.
Tributyltin (TBT)		Previously used in antifouling agents, remains on older boats and in soil and sediment

Prioritised area: Childen´s everyday lives

Children and adolescents are especially important groups to protect from exposure to hazardous chemical substances. This priority is based on the fact that children and adolescents are more sensitive to such exposure compared to adults. The development from fetus to puberty is guided by chemical substances in the body. There are studies showing that chemicals which are foreign to the human body can interfere with this development.

Children eat, drink and breathe more than adults in relation to their body weight which makes their exposure to contaminants in the environment larger than for adults. Furthermore, children present different behaviour patterns, they typically spend their time close to floors and put their hands and other things in their mouths. As a consequence, children are exposed to contaminants that for example are bound to dust particles.

1. Support for the implementation of the Chemicals Action Plan

Actions

		When	Responsible
1.1	Offer the City's operations support concerning chemicals management by starting a Chemicals Centre.	Continuously from 2014	Environment and Health Administration
1.2	Introduce and inform about the Chemicals Action Plan.	Continuously from 2014	Chemicals Centre
1.3	Create networks and meeting points where the operative units of the City can exchange experiences concerning issues related to chemicals.	Continuously from 2015	Chemicals Centre
1.4	Establish and keep contact with leading scientists in a scientific council.	Continuously from 2015	Chemicals Centre

Competence support through the Chemicals Centre

As described in the introduction, issues concerning chemicals are very complex. There is also a continuous increase in knowledge which includes identification of previously unknown hazards. It is not reasonable to expect that all operations within the City can handle these issues. Therefore, there is a need for a special function that can support other units within the City. For several of the operational areas, a need for competent support within the area of chemical issues, has been identified.

A Chemicals Centre has been established at the Environment and Health Administration, with the purpose of supporting the activities which involve chemicals in the City's operational units. Among other things, this means giving advice and guidance in formulating and follow-up of chemical requirements in procurement, coordinating issues regarding chemicals in construction materials, as well as acting as competent support in supervision and enforcement of the law. This supports the City's operative units in decisions concerning use and substitution of chemicals. In addition, the Chemicals Centre is also responsible for, through dialogue and information, helping the inhabitants and operators in the city to contribute to a non-toxic Stockholm.

Making the Chemicals Action Plan known in the City

In order for the Chemicals Action Plan and the Chemicals Centre to have an impact on the City's operations, information concerning the Action Plan and the support needs to be spread to all operations.

The Chemicals Centre will develop a plan for information activities and production of written material which aims to make the employees of the City aware of the responsibility they have and where to turn for support on the topic.

Experience exchange within the City

Much of the work suggested in the Chemicals Action Plan involves many parts of the city. It is therefore crucial that meeting places are provided, where officials from different administrations and companies can exchange experiences. There is already a working group of environmental coordinators from construction companies, where participants, among other things, can discuss deviations from the material requirements. The Chemicals Centre is assigned to assess the needs of new areas for such efforts and to initialize similar networks within the identified areas.

National and international cooperation

During the development of the plan, cooperation was initiated with other municipalities that are working with similar plans – Göteborg, Malmö, Helsingborg, Västerås and Jönköping. This cooperation should be advanced and possibly expanded to cover more municipalities during the implementation phase. Such a network can for example provide a good basis for joint projects.

Furthermore, the City has international contacts gained through participation in EU projects on the topic of chemical regulation and monitoring. These networks provide necessary contacts to progress in the efforts and learn from other initiatives.

The ambition of the City is to keep ahead concerning phase out of substances that constitute hazards to the environment and health, a process which should be based on solid scientific evidence. To ensure this, it is necessary to maintain close contact with the research community. The Chemicals Centre should form a scientific council, consisting of eminent scientists within the field, to provide a scientific basis for the choices and priorities made for example justifying when a certain group of substances should be avoided.

2. Information and dialogue

Vision

- Actors in Stockholm have the information they need to avoid substances hazardous to environment and health.

Actions

		When	Responsible
2.1	Develop a communication plan for the City's communication concerning chemicals, including: • target groups • messages • channels and methods	2014-15	The Chemicals Centre in cooperation with Stockholm Vatten and others
2.2	Carry out activities according to the communication plan.	Continuously from 2015	The Chemicals Centre in cooperation with Stockholm Vatten (Stockholm's water and waste management company) and others
2.3	Follow up results and/or effects of activities.	Continuously from 2015	The Chemicals Centre in cooperation with Stockholm Vatten and others

Actions marked in orange are aimed at the prioritised area "children's exposure"

An important purpose of communication concerning chemical hazards is to stimulate action. Efforts made to inform about chemical hazards should be combined with support to facilitate action and avoid the sense of apprehension and passivity. It is important to identify obstacles, and determine if these stem from lack of knowledge or lack of opportunities for better choices. If the obstacle interferring with the change of a behavioural pattern is defined as a lack of possibilities, the City must first contribute to systems with better function; preferably ones where it is easy to make correct choices. For example, it might be necessary to develop collection systems in order to get more citizens to turn in waste fractions containing hazardous substances, or provide information for consumers to help them make non-toxic choices when shopping for articles and building materials.

Where enhanced communication is required to change behaviour, we can choose to communicate widely or with a smaller number of persons or companies. In certain instances, large target groups are necessary, but a general principle is to reach key groups for certain issues. For example, it is often more efficient to communicate with key companies who can affect the supply of articles rather than to influence individual consumers in their choices, or to communicate with specific companies that handle particularly hazardous substances rather than communicating with every company. Business-specific actions can here be of significant importance. Communication efforts that only reach a few individuals or companies can serve as a pilot study or example which can be used and communicated to larger target groups later.

Examples of target groups

Some target groups that have been identified as important are:

- Pre-school staff and management
- Teachers in elementary and high school
- Consumers, in particular parents and future parents
- Businesses and other operators

Follow-up of activities

As early as when the outline of the acitivites are being planned, the routine for following up and investigating the consequences of the action should also be set. This should be done in connection with the development of a communication plan for the specific activity. To follow up activities both improves the chance of success for future activities, and increases the probability that the activities will be covered in media. Different systems for assessment of the consequences of actions are appropriate for different activities. In connection with educational activities, surveys can provide informaiton on the number and opinions among the participants, surveys in schools and city districts can provide useful information for future development etc. In certain cases, more in-depth qualitative evaluations are required, while other activities can be followed up by quantitative evaluation. This can be done by compiling the number of web visitors, completed seminars and exhibitions, families that have received information, companies that have made environmental commitments, etc. Performing measurements both before and after communication of a certain issue, gives the possibility to assess how large an impact an activity has had. Other outcomes of assessing the consequences of actions may for example be a positive trend in environmental monitoring or the amount of waste which has been fractionized.

3. Procurement

Vision

- Articles and chemical products that are used in the City of Stockholm's operations do not contain any substances that pose a risk to humans or the environment.

Actions

		When	Responsible
3.1	Information regarding the content of substances on the EU Candidate List shall be requested in all procurement of articles.	Continuously from 2015	The Service Administration, procuring administration or company, with support from the Chemicals Centre
3.2	For procurement areas where criteria from the Swedish Competition Authority exist, these shall be used.	Continuously from 2015	The Service Administration, procuring administration or company, with support from the Chemicals Centre
3.3	If the procured product will be used in particularly sensitive applications, specific criteria should be used in order to ensure that phase-out substances and relevant priority risk-reduction substances are not present.	Continuously from 2015	The Service Administration, procuring administration or company, with support from the Chemicals Centre
3.4	A systematic follow-up of requirements set in procurement criteria shall be carried out in prioritized areas.	Continuously from 2015	The Service Administration, procuring administration or company, with support from the Chemicals Centre
3.5	If the follow-up shows that the criteria have not been fulfilled, sanctions shall be put in place according to the procedures which are used concerning other contract breaches.	Continuously from 2015	The Service Administration, procuring administration or company
3.6	Procurers and other relevant staff in the City's operational units shall be offered necessary training concerning chemicals and the criteria.	Continuously from 2015	The Chemicals Centre in cooperation with the City Executive Office – procurement and competition

Actions marked in orange are aimed at the prioritised area "children's exposure"

The importance of using environmental and other sustainability criteria has been highlighted in many national and EU documents. Criteria including requirements for a low impact on health and environment may be used in public procurement as long as they comply with the fundamental principles regarding the following:

- non-discrimination,
- equal treatment,
- transparency,
- proportionality,
- mutual recognition

Progressive and functional procurement criteria

Phase-out substances should not occur within the City's activities. To ensure this by creating criteria for each particular procurement would require a huge amount of work. Therefore, new criteria should primarily be constructed if the procured product will be used in especially sensitive applications and if there are no criteria avaliable from the Swedish Competition Authority. Concerning procurement with other focus and no especially sensitive exposure expected, criteria from the Swedish Competition Authority should be used where such exist but new criteria should not be created. The Chemicals Centre offers support in the application of the criteria from the Competition Authority.

A more in-depth analysis of the suitability of certain criteria must be conducted when the procuring products will be used in particularly sensitive applications. This applies, for example, if children and adolescents may be exposed or if the use leads to direct emissions into the environment. In these cases, the requirements set in the criteria should be phrased in a way to ensure that the articles are free from both phase-out substances and relevant priority risk reduction substances. This can be achieved primarily by using the criteria of the Swedish Competition Authority at a higher level (advanced or spearhead) or secondly, if these are not sufficient, by formulating new criteria. The Chemicals Centre provides support in formulating such criteria.

In all procurement of articles, information regarding substances on the EU Candidate List should be requested. According to article 33 of the EU chemicals legislation REACH, each supplier is required to provide the receiver of the product with sufficient information in order for the product to be used in a safe manner provided that the product contains substances of very high concern present on the Candidate list.

Effective follow-up and control

In order to ensure that the articles and services that are delivered meet the requirements that have been set in the criteria of the procurement, there is need for a systematic approach. Following up on the criteria is crucial and forms a good basis for development of the criteria for the next procurement. A follow-up should be planned already when constructing the criteria for the procurement. Close cooperation between the Chemicals Centre and the procuring unit is a prerequisite for proper use of criteria involving chemical content as well as for succeeding in ensuring that the ambitions set in the criteria are met by the supplier.

How the follow-up should be performed is decided on a case-by-case basis in cooperation between the Chemicals Centre and the procuring administration or company. Examples of methods are scrutinization of documentation to verify that the criteria are met, supplier's guarantees, control of products through chemical analysis and control of supplier's routines.

If the follow-up reveals that the supplier has not met the requirements set in the criteria, the same procedures should apply as for other types of contract breaches. Normally, this provides the possibility of instant correction, a price adjustment or penalty, or, as a last option, cancellation of the contract.

Further development

Many procurement officers have expressed a need to improve their own knowledge on the topic of hazardous substances in procured products and the Chemicals Centre can offer such training. As a suggestion, this can be done within the framework of the established procurement network, administrated by the City Executive Office.

The criteria of the Swedish Competition Authority are developed in cooperation with both procuring authorities and suppliers. In order to implement the City's ambtions and needs in these processes, the Chemicals Centre should take part in the development of these procurement criteria.

4. Materials for construction

Vision

- Materials that are used in construction within Stockholm do not contain any substances that pose a risk of negative impact on humans or the environment.

Actions

		When	Responsible
4.1	The chemical requirements described in this chapter shall be included in land allocation or development agreements.	Continuously from 2015	City Development Administration
4.2	Routines shall be developed to ensure that the requirements in land allocation and development agreements are followed up.	2015	City Development Administration, City Planning Administration, Environment and Health Administration
4.3	The same chemical requirements shall also be used in criteria used in procurement of building materials, projectors and entrepreneurs.	Continuously from 2014	Procuring administrations and companies
4.4	A task termed *selection of materials* should be added to the environmental supervision schedule of construction projects.	Continuously from 2015	Environment and Health Administration
4.5	Random sample reviews of ongoing construction projects shall be carried out.	Continuously from 2017	Chemicals Centre
4.6	Seminars shall be given with the aim to introduce the City's criteria and exchange experiences between and within both the construction sector and the the City's administrations, concerning chemical requirements.	Continuously from 2014	Chemicals Centre
4.7	A pilot study shall be carried out to determine how children and fetuses can be protected (at home, in preschools, schools and workplaces).	2017 and forward	Chemicals Centre, City District Administrations, Education Administration, Real Estate Administration and real estate companies

Actions marked in orange are aimed at the prioritised area "children's exposure"

Requirements for construction materials

Construction goods **must** not contain phase-out substances.

Example: Floor materials must not contain endocrine-disrupting phthalates.

Construction goods **should** not contain priority risk-reduction substances. Prior to use, the risk involved concerning environmental and human exposure should always be assessed for a product and set in relation to the usage in question, in particular in environments designated for children and adolescents (for example pre-schools and schools).

Example: Exterior roof and façade materials should not emit copper or zinc ions unless it is particularly motivated from a cultural-historical standpoint, or if the run-off is managed on-site.

The use of nano materials must be documented for future traceability. The documentation must include information regarding which type of material is being used and where it has been incorporated in the building.

Requirements placed on suppliers and developers

Environmental officers with relevant knowledge should be assigned with the task to ensure compliance with stated requirements and proper documentation.

Routines to ensure that the City's chemical requirements are being met should be implemented. The routines must describe how fulfilment of the set requirements will be ensured in practice.

In the case of land allocation agreements, the environmental officers are responsible for deviations from the set requirements in joint consultation with the City Development Administration and when necessary the Chemicals Centre.

Environmental officers at the City's suppliers and in projects taking place under City's management are responsible for the management and approval of existing deviations in joint consultation with the City's project manager. Approval is carried out in dialogue with the City's Chemicals Centre, when necessary.

When supervisions, reviews and project closures are carried out, suppliers to the City and constructors who have been allotted the land must provide the following documentation:

- Environmental officer (name, contact information and CV)
- Tools/routine for implementation of chemical requirements. A recommendation is to use existing product databases
- Log book for products used (materials and chemical substances) and specified location within the building where these have been used, as well as information about the use of nano materials
- Approved deviation reports

Implementation

In connection to land allocation, the City Development Administration places criteria including chemical requirements on the developer. The City Development Administration shall, in cooperation with the City Planning Administration and the Environment and Health Administration, develop routines for how the requirements are to be followed up.

When the City's administrations and companies construct buildings, the chemical requirements shall be included in the procurement of goods for the construction planners and entrepreneurs. The supplier and the City's project manager are jointly responsible for ensuring that the goods/articles used meet the requirements, as well as for approval of existing deviations. The Chemicals Centre provides support when necessary.

The Environment and Health Administration conducts inspection and supervision on construction projects based on the Swedish Environmental Code. At the present, this supervision includes, among other things, how chemical products are chosen and utilised. This supervision should be expanded to include goods for construction.

As an additional follow-up of the set requirements, the Chemicals Centre should carry out random reviews of ongoing construction projects.

Development

To advance the development within this area, the City should carry out a larger pilot study to investigate how children and foetuses can be better protected. This would include an overview of materials used in both homes, pre-schools, schools and workplaces. To achieve the best result, this should be carried out in cooperation with both the construction industry and the research community.

5. Control and supervision

Vision

- A proactive inspection and supervision of chemicals within the different areas of activity of the Environment and Health Administration ensures that hazardous chemicals do not affect the environment or the inhabitants of the city

Actions

		When
5.1	Control of food contact materials (FCM) in areas identified by the Swedish National Food Agency.	Continuously from 2014
5.2	Control of the levels of heavy metals and other hazardous substances in baby food, as well as giving advice regarding which products can be selected to minimise risks.	Continuously from 2014
5.3	Contribute to the development new methods for analysis of contaminants in food.	Continuously from 2014
5.4	Develop the supervision of articles.	Continuously from 2014
5.5	Develop the supervision of chemicals in environmentally hazardous activities.	Continuously from 2014
5.6	Focus on phase-out chemicals in the supervision of chemical products in the retail sector.	Continuously from 2014
5.7	Develop routines for cooperation between The Environment and Health Administration and the City Planning Administration concerning demolition activities.	Continuously from 2014
5.8	In the inspection of pre-schools and schools, investigate and inform about sources that may contain hazardous chemicals and give advice about materials and articles that can be chosen to reduce risks.	Continuously from 2015
5.9	Develop the supervision of cosmetic products used in large volumes.	Continuously from 2015
5.10	Focus on cosmetic products developed for children in the supervision of labelling.	Continuously from 2014
5.11	The Environment and Health Administration and Stockholm Vatten should, when possible, cooperate concerning selected focus substances.	Continuously from 2015

The Environment and Health Administration is responsible for all actions, except for action 5.11 which is carried out in cooperation with Stockholm Vatten.
Actions marked in orange are aimed at the prioritised area "children's exposure"

Control of food contact materials (FCM)

Different chemicals in materials that come into contact with food, for example plasticisers, can migrate from the material into the food, particularly when handled incorrectly. The Environment and Health Administration should control FCM anually as it is one of the areas identified as especially prioritised according to the national control plan for the food production chain.

Control of hazardous substances in baby food

Traces of hazardous metals such as lead, cadmium and arsenic have been found in many grain based baby-food products. A revision of EU limit values for heavy metals is underway, where both new and revised limits are being discussed. The Environment and Health Administration will control levels of heavy metals and other hazardous substances in baby food and provide advice regarding which products can be selected to minimise risks.

Analysis methods for food items

If many individuals are negatively affected after ingesting a particular food item, methods must be at hand to identify the substance causing it. Existing analysis methods for chemical contaminants in food are expensive, time-consuming and limited in regard to what is analysed.

Inspection and control of articles

Many retailers consider chemical issues difficult, and view the legislation as complicated. Therefore, the information concerning chemicals and the connected legislation is an important part of the inspection and supervision. The Environment and Health Administration will develop the supervision within this area by:

- Advancing the information component of the supervision.
- Prioritising articles based on new toxicologcal knowledge, existing supervisory regulations, children's exposure, materials where many individuals are exposed during long periods of time, and according to the sectors that are most in need of information.
- Develop criteria for analysis: When and with regard to what, should articles be analysed?
- Advance the existing cooperation between cities on the topic of hazardous chemicals

Use of chemicals in environmentally hazardous activities

Many hazardous operations register their use of chemicals in order to assess the consumption and to enable substitution of hazardous substances. Such information can be utilized to make estimations of the total amount which has been used of specific chemicals. Materials that are used may also contain problematic chemicals. Within the supervision, greater focus can be placed on identifying these.

Inspection and control of chemical products in the retail sector

Chemical products in the retail sector have primarily been inspected in order to verify that the labelling is correct. Products can, even if they are correctly labelled, contain chemicals with hazardous properties, that should be phased out.

Supervision of demolition

Demolition waste is an example of an important source of emissions of environmentally hazardous substances from buildings. This waste is handled in a less controlled way than other waste and might affect, for example, storm water. It is important that the Environment and Health Administration is informed about planned demolitions well in advance. To be effective, supervision should begin before the start of demolition. To ensure this, cooperation between the Environment and Health Administration and the City Planning Administration needs to be advanced.

Supervision concerning chemicals in pre-schools and schools

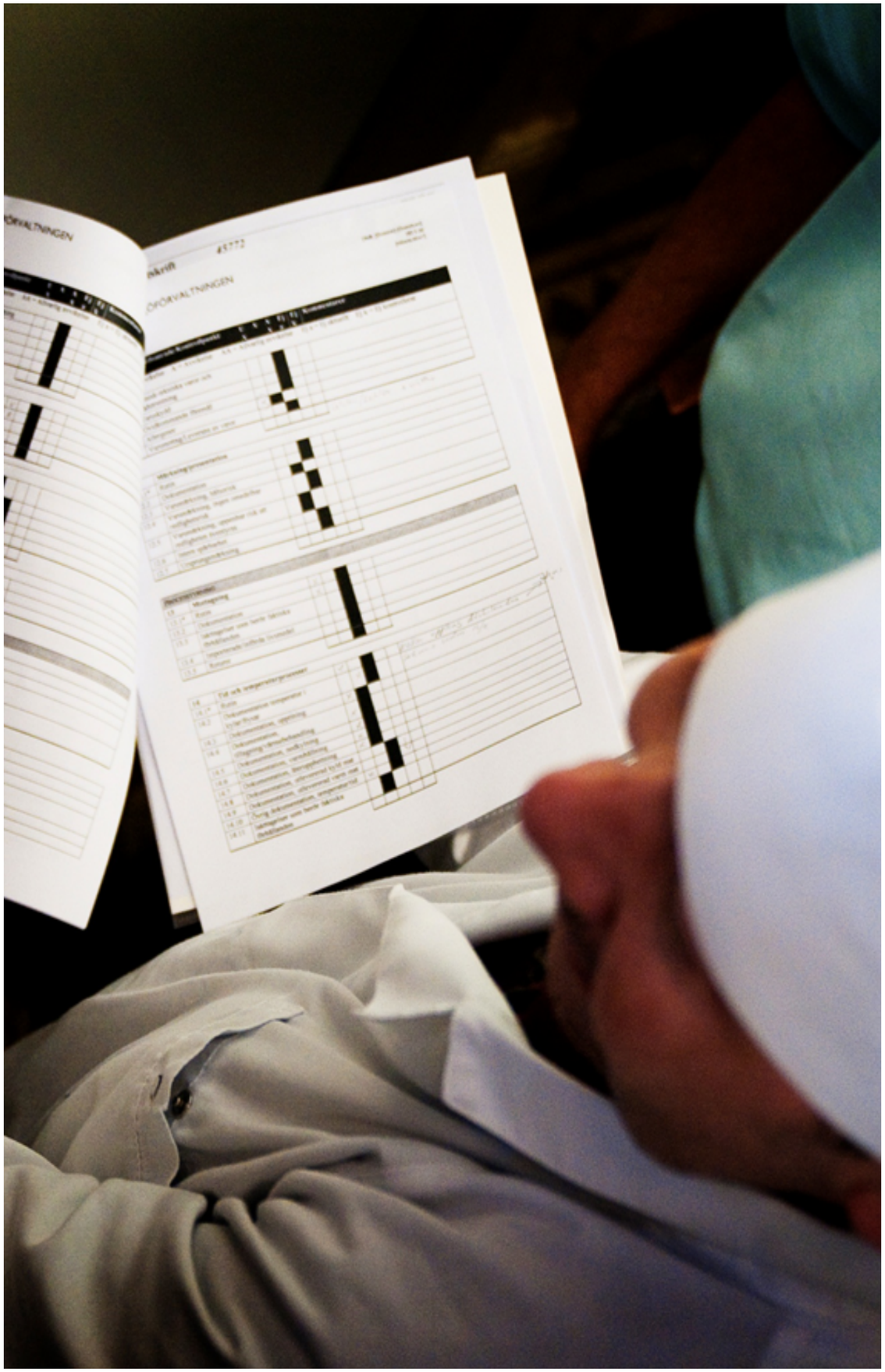
Supervision concerning chemicals in pre-schools and schools is currently focused on the handling of chemical products such as cleansing agents and laboratory chemicals in chemistry education. But the materials found in the building and the articles used can also affect health and the environment. In order to include this part in the supervision, a survey must be carried out to determine which areas that should be prioritized. Pre-schools and schools should be made aware that materials and articles can be sources of undesirable existance of hazardous chemicals.

Inspection of cosmetic products

More and more personal care products are developed for children. These products are absorbed through the skin. The environmental impact of cosmetic products has, so far, not been subject to investigation. Although the level in each product can be low, these products are used in large volumes. Use of high-volume cosmetic products needs to be studied and inspection within this area should be prioritized.

Cooperation in supervision concerning chemicals

Chemical inspections are conducted at all supervisory departments of the Environment and Health Administration. Cooperation with Stockholm Vatten occurs mainly when inspections of the industry are carried out. Greater impact of supervision could be achieved by occasionally coordinating supervisory efforts regarding the local focus substances.



6. Handling of chemicals

Vision

- Chemical products which are used within the City have no negative effects on humans or the environment and the most harmful substances have been substituted.

Actions

		When	Responsible
6.1	Sign a framework agreement for a data-based chemicals inventory to be used as a system support for the City's administrations and companies.	2015	The Service Administration with support from the Chemicals Centre
6.2	Perform inventory and documentation of chemical products.	Continuously from 2016	All administrations and companies using chemical products that require labelling[1]
6.3	Actively strive to substitute phase-out substances and priority risk-reduction substances.	Continuously from 2016	All administrations and companies using chemical products that require labelling[1]
6.4	Develop plans and guidelines for substitution efforts.	Continuously from 2015	Chemicals Centre
6.5	Provide support and education in chemical matters.	Continuously from 2015	Chemicals Centre
6.6	Report figures[2] to the Chemicals Centre.	Annually from 2017	All administrations and companies using chemical products that require labelling[1]
6.7	Develop statistics and compilations regarding the City's use of chemicals[3].	Annually from 2017	Chemicals Centre

[1] Labelling requirements according to environmental or health hazards stated in CLP or KIFS 2005:7
[2] According to a format designated by the Chemicals Centre
[3] Requires a system support according to action 6.1

Chemicals, or chemical products, are chemical substances or mixtures of chemical substances (preparations). In the legislation, these are separated from articles. An article is defined as "an object which, during production, is given a special shape, surface or design that determines its function to a greater degree than does its chemical composition".

To keep a registry of chemicals used in the work environment and operations is demanded by national law. It is also stated that a risk assessment for chemicals should be performed and that hazardous substances should be substituted by better alternatives. This implies that users of products that contain phase-out substances or priority risk-reduction substances should work continuously with substitution.

Substitution is the strategy to replace substances that are hazardous to the environment and health with less harmful ones.

Statistics on the use of chemicals within the city are not currently avaliable. Due to this, the amount of phase-out or priority risk reduction substances used within the city is unknown. Furthermore,there is a lack of compiled knowledge about the City's on-going efforts on substitution of hazardous chemicals.

Chemicals registry for the City of Stockholm

The Service Administration should, with support from the Chemicals Centre, procure a City-wide data-based chemicals registry. Such a registry facilitates inventory and risk assessment of chemicals used in different operations. The registry tool can provide support in the substitution work by indicating which products contain phase-out substances or priority risk-reduction substances.

Inventory, documentation and substitution

The City's operations should continuously document and make an annual inventory of the use of chemicals and chemical products that require labelling. The chemicals used within contract operations should be included in the inventory. This information should therfore be requested from the entrepreneurs active within the City's operations.

The documentation of substances in the registry should function as a basis for substitution efforts. For products that cannot be substituted, the operations shall make a risk assessment for the present use to ensure safe handling. The Chemicals Centre shall support administrations and companies in the substitution of phase-out and priority risk reduction substances.

Statistics

The City's operations will annually, starting in 2017, account for their use of phase-out and priority risk-reduction substances. The Chemicals Centre will annually compile the information and produce statistics regarding the use of hazardous chemicals. The statistics will indicate changes in use of hazardous chemicals across the years and form the basis for planning the City's strategies for substitution of phase-out and priority risk reduction substances.

7. Monitoring of environmental pollutants

Vision

- The City has enough information about sources and distribution of environmental pollutants to assess and reduce the risks to humans and the environment.

Actions

		When	Responsible
7.1	Revise the program for monitoring of environmental pollutants in surface water, fish and sediments to keep it updated concerning the number of water bodies and priority pollutants.	2014-2015	The Environment and Health Administration
7.2	Develop the monitoring of sludge.	Continuously from 2014	Stockholm Vatten
7.3	Carry out health-related monitoring of environmental pollutants, with focus on children's exposure.	Annually from 2015	The Environment and Health Administration
7.4	Compile information about important sources for selected substances.	Continuously from 2015	The Environment and Health Administration
7.5	Publish the results of the monitoring on the Stockholm Environmental Barometer.	Continuously from 2014	The Environment and Health Administration

Actions marked in orange are aimed at the prioritised area "children's exposure"

Environmental monitoring can be defined as the mapping of the state of the environment and how it is affected by human activity. Such information is important, both for prioritizing which actions are most urgent and for following up the effects of implemented actions. The main operations responsible for the environmental monitoring in Stockholm are the Environment and Health Administration and Stockholm Vatten. The results of the monitoring activities are presented on the Stockholm Environmental Barometer (www.miljobarometern.stockholm.se).

Updated monitoring of the chemical status of the water environment

Surfacewater
The Environment and Health Administration has a program for monitoring of environmental pollutants in three water areas: Årstaviken, Saltsjön and Drevviken. The programme, which started in 2009, is planned to be evaluated and revised every six years, with the first revision in 2015. A new six-year monitoring programme will then be defined based on the collected data, other experiences and changes in the legislation.

Sediment
Bottom sediments from water areas in and around Stockholm have been analysed on several occasions since the 1990s. The latest investigations were carried out in 2013 in cooperation with the county administrative board. The ambition is to carry out regular investigations in the same settings at intervals of a few years. When the data from 2013 have been fully evaluated, the results will serve as a basis for determining when the next investigation should be perfomed.

Groundwater
Monitoring of groundwater composition has been performed in 1997, 2004 and 2012. No new comprehensive investigation is planned for the period 2014-2019.

Sewage sludge reflects the use of chemicals in society

Many of the chemicals used in society can be found in the sludge from sewage treatment plants. Therefore, the sludge provides a good summary of the development of the chemical society. Stockholm Vatten regularly monitors the levels of selected environmental pollutants in digested dewatered sludge. The levels are presented in the environmental report of Stockholm Vatten and on the Stockholm Environmental Barometer.

Indications and recommendations about substances that are important to monitor in sludge are provided by authorities and organisations (e.g. the Environmental Protection Agency and the Swedish Water & Wastewater Association) as well as scientific publications. Based on these suggestions and the results från previous years, the annual surveys are continually reviewed and revised to give the best picture of the substances that are released from Stockholm. Specific analyses can be added in order to investigate the effects of efforts undertaken to reduce emissions of environmental pollutants.

Environmental pollutants in children's everyday environment

The City's monitoring of environmental pollutants has almost exclusively focused on the impact of pollutants on the environment, whereas the human living space – especially the indoor environment – has not been studied to any great extent. The matter has now been given more attention, both in academia and among national authorities, and methods to monitor the indoor environment are being developed.

Indoor monitoring of pollutants will take place at preschools and day care centres as an initial priority. The monitoring should be performed in cooperation with the National Board of Health and Welfare, which has aready shown interest in a partnership, preferably together with an academic research group.

Updated knowledge about sources of pollutants

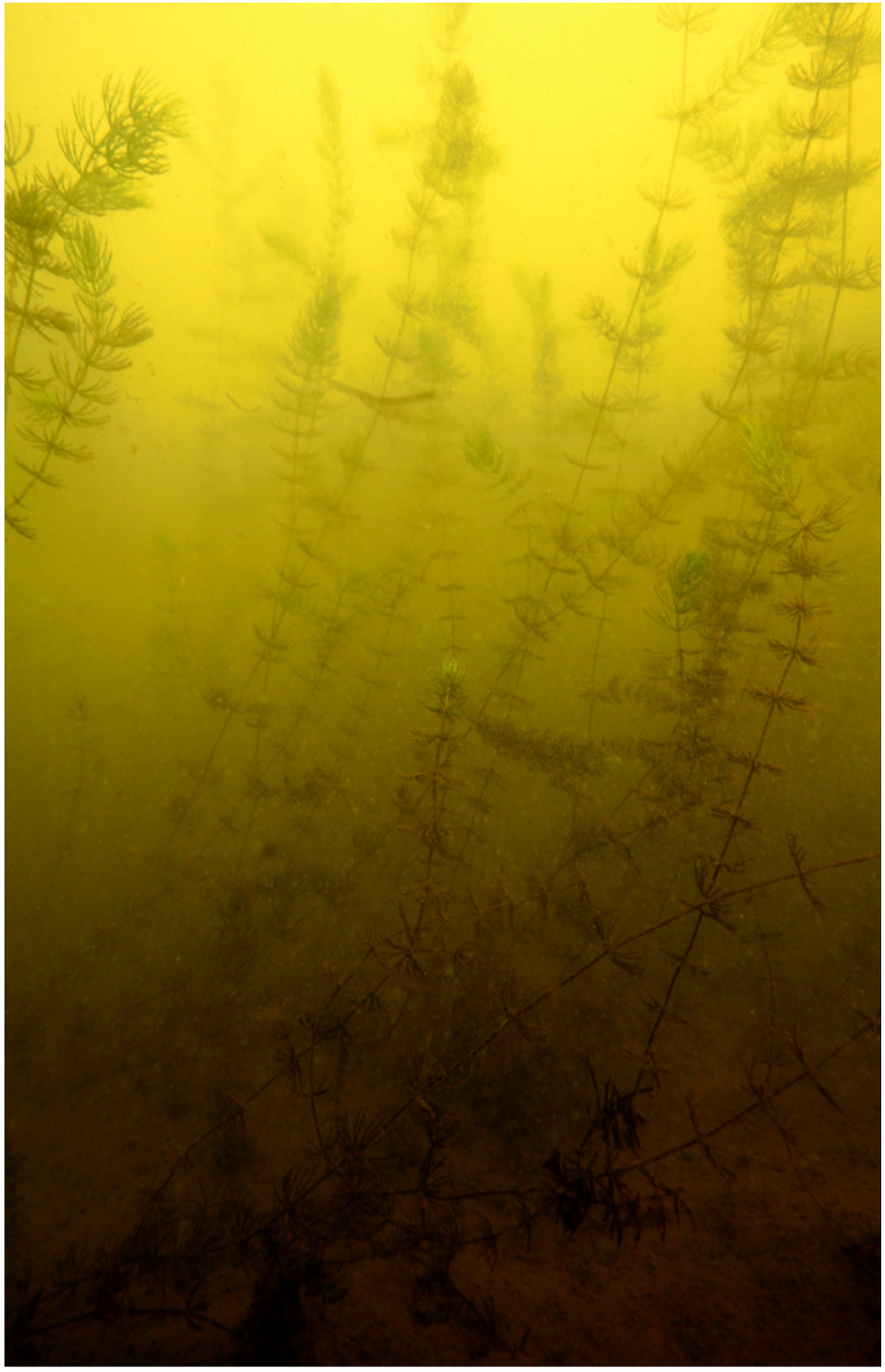
In order to correctly focus the actions aimed at reducing the emissions of hazardous substances, the emissions need to be identified and quantified. For diffuse emissions, this is complicated. The city has successfully worked with substance flow analyses for metals and some organic substances. These results are in need of an update, especially concerning substances that are subject to regulation. The City should continuously update its state of knowledge and investigate which sources are most likely to be important for Stockholm.

Making the results accessible

The Stockholm Environmental Barometer (www.miljobarometern.stockholm.se) is the City's portal for environmental information. Facts concerning the City's efforts to provide a sound environment are presented here together with the current state of the environment. The results are reported as a series of measurements which in some cases extend far back in time while others only comprise occasional studies.

The Environment and Health Administration has developed a database where data from environmental investigations will be stored and presented to the public. The results from the monitoring of environmental pollutants should also be stored in this database.

When appropriate, the data from the monitoring should be reported to the national databases for environmental monitoring. Hosts for these types of data are commissioned by the Environmental Protection Agency and the Swedish Agency for Marine and Water Management. These hosts are responsible for checking the delivery, storage and presentation of data.



Stockholms stad

Chemicals Centre
stockholm.se/kemikaliecentrum
facebook.com/giftfrittstockholm
kemikaliecentrum@stockholm.se