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System for the environmental management of urban areas

How can cities ensure sustainability through the management of the environmental impacts of all activities within their whole functional area? Cities are complex and dynamic. The everyday choices of small and large activities all add positively or negatively on the urban area's total impact on the environment.

Industries choose cleaning technologies, schools choose how to heat their buildings, public sector purchase policies has impact on waste generation, the small choices of all households adds up to large impacts on the environment, neighbouring local authorities' planning practices influence transport patterns and regional and national authority policies have the power to influence all the above.

At the same time, local government's management requirements increase. The cities need to make sure that they fulfil legal compliance. Not at least numerous EU-Directives (such as Strategic Environmental Assessment, Air Quality Directive, Water Framework Directive or Fauna Flora Habitat Directive and others) require application of management elements and in particular assigning monitoring and reporting duties.

Managing Urban Europe-25 aims at guiding cities in how they can systemise the efforts of public institutions, private sector and households to manage their activities. Thus, a system for the environmental management of urban areas has to enable cities to reduce the added impact of all activities within the whole functional urban area. A key element for ensuring this, all sectors like transport, spatial planning and energy production, has to be integrated in the cities environmental management.

It is therefore suggested that a system for the environmental management of urban areas should be gradually expanded in scope and content. This includes the gradual integration of sustainability aspects into the management and suggests growing the system from environmental to sustainability management. In addition to environmental aspects, it should also allow to manage social and economical ones. The ultimate aim is a good quality of life for all citizens and subsequent generations. An important assumption is that it may not be possible in the beginning to achieve all this. It describes more like a journey with one step following the other. An important road map for this journey is outlined with the Aalborg Commitments in 2004 (see below). The Aalborg Commitments should be regarded as a thematic framework/basis of the system. ¹

The system for managing the whole functional urban area consists of five major steps that are repeated in annual cycles.

¹ Note: There are of course more and also important international agreements and reference documents (such as MDG, Earth Charter, Urban Environmental Accords, Melbourne Principles), which are also used at a city level. These shall be considered complimentary to the reference taken here with the Aalborg Commitments.

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General characteristics of the urban environmental management system

The system for the environmental management of urban areas will be developed in accordance with the following basic principles:

- **Relevance:** Addressing the needs of all relevant activities and actors is key in designing the system. It must also address key issues facing cities, common problems and common solutions, with potential for engagement with key issues facing all European cities. The system will be key in meeting the objectives of EU's Thematic Strategy on the Urban Environment and will be organised around the issues addressed in the Aalborg Commitments.
- **Functional perspective:** The system should address the entire functional urban area, irrespectively of administrative boundaries and degree of local authority power. This means all relevant impacts on the environment and sustainable development of the municipality are to be considered: impacts within the municipality's responsibility (involving the private economy and citizens) as well as the impact of activities of all actors (municipality and stakeholders) on neighbouring municipalities and cities.
- **Legal compliance:** The system needs to assist urban area's legal compliance.
- **Continuous improvement towards sustainability:** The system needs to assist urban area's continual measurable improvement towards sustainability. To this end, it has to have a periodic and cyclical nature.
- **Strategic orientation:** The system has to be considered as mechanism to inform (political) decision making and support implementation. To this end, it has to focus on strategic rather than operational issues. An environmental management system implemented in a private company or public institution is detailed in its scope. The urban environmental management system rather has to provide a strategic framework for sustainable urban development.
- **Mainstreaming:** The system has to be organised centrally in the city management. Regular involvement of the central political body in target setting and evaluation will ensure political commitment, legitimisation and maximised impacts. The process is subject to continuous review and assessment on an annual basis in line with the prime annual budget cycles.
- **Decentralised implementation:** The co-ordination of the system has to be based within the local administration. However, the strategic goals and targets are to be operationalised and implemented via range of actors including administrative departments, private companies and relevant stakeholders. The system need to allow for deriving specific goals and targets of these as well as for 'communication' with their instruments (e.g. environmental management system in private entity) using existing (sectoral) instruments like land use planning, air quality management, water quality management, transport planning etc.
- **Integration:** The system will ensure horizontal integration across various departments and engagement with all relevant stakeholders in the city, and vertical integration by addressing local regional and national spheres of government.
- **Inclusive:** The system shall allow for appropriate involvement of urban stakeholders and provide for transparency and communication in decision-making and evaluation.
- **Adaptability:** Cities are different in size, economic level, localisation, what activities they contain and in organisation. The management system has to be adaptable to variations in local contexts.
- **Complementary:** There are several environmental management instruments (i.e. systems and tools) in use today. The urban environmental management system will not replace existing and applied environmental management instruments in cities, but build on them, as well as co-ordinate and integrate existing (sectoral) instruments like land-use planning, air quality management, water quality management, transport planning etc.

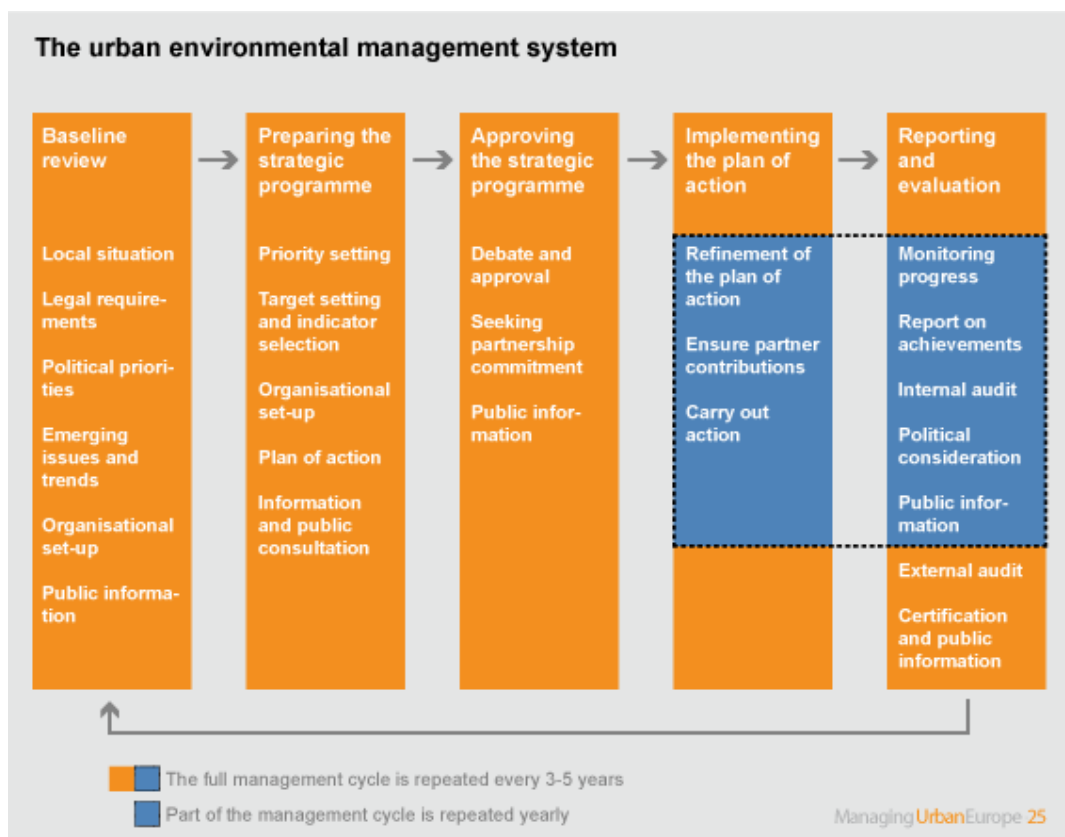
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- **Evolutionary:** The system will build on existing experiences with environmental management systems rather than re-invent the wheel. Strength and advantages of either of them will be combined to the better of urban environmental management.
- **Gradual expansion:** The cities can gradually expand the system in scale and scope to include various aspects, actors and spheres of government. Through the integration of social and economic dimension the urban environmental management system will develop into a sustainable urban management system.

Illustrating the system (to be further developed)

The system for managing the whole functional urban area consists of five major steps that are repeated in annual cycles. These steps are illustrated below and described in further detail in the next section. Although the system follows an annual cycle, full revision will be required only every third year, should not evaluation of achievements and results at the end of the cycle suggest reconsideration

In cases where there are various environmental management systems implemented on the level of departments or private companies, the framework system will interact with these environmental management systems as indicated by the dotted lines.



The framework system step-by-step

1. Baseline review (working title)

The baseline review assessment will be undertaken in respect of the current situation.

- Assessment of the local situation in regards to environmental and sustainability issues
- Mapping the legal requirements
- Mapping the political priorities: current political agenda, stakeholder consultation of key issues
- Mapping of emerging issues and trends: legal/administrative landscape, environmental trends and risks
- Mapping of responsibilities and organisational set-up
- Public information
- Annual up-date, triennial revision (depending on the outcome of the evaluation)

Organisational remark: The baseline review may be part of a peer-to-peer activity. In this stage there could also be input through stakeholder consultation

2. Preparation of the Strategic Programme and Action plan

- Priority setting: significant issues, priorities (Strategic Programme)
- Target setting and choice of indicators
- Setting up appropriate organisational structure to run the system
- Action plan: responsibilities, time-frames, potential contribution to reaching the targets
- Information and public consultation

Organisational remark: In this stage there is a need for cross-sectoral stakeholder involvement and co-ordination with other authorities within the functional urban area

3. Approval of the Strategic Programme

- Debate and approval of vision, strategic programme and management system by the local government. The city itself can define the level of detail of the Strategic Programme as it is presented to the local government.
- Seeking partnership commitment: neighbouring local governments, regional/national authorities, private business/households (gradual expansion according to scope)
- Public information: Public information strategy (Information and sensitisation)

Organisational remark: consider different procedures to challenge decisions

4. Implementation of Action plan

- Refinement of action plan
- Ensure contributions of other partners
- Carry out actions
- Monitor actions taken and their effects, considering the targets
- Accounting monitoring results
- Collection and synthesis of monitoring results (accounting).
- Regular internal communication to all actors involved
- Corrective measures on action (arrow going back to before monitor actions)

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- Information for stakeholders (further partner agreements)
- Public information

5. Reporting and evaluation

- Balancing the accounts
- Report on actions and achievements in regards to the process and outcome
- Internal Audit (by city itself or as matter to peer review) based on monitoring results
- Up-date of baseline review with balance (annual up-date resp. triennial revision)
- Political consideration of the report and evaluation, and endorsement of the next management period.
- Public information
- External evaluation
 - Every 3 – 5 years
 - By an official auditor or alternative way = regional public authority or Official Auditor to audit the process (system) and Peer review audit regarding contents
 - Certification and public information

Existing practices meeting the scope of the steps

The ambition of the urban environmental management system is to avoid duplicating existing environmental management systems and management tools in a city. A city-wide EMAS or an ecoBUDGET process could fulfil the purpose of the urban environmental management system. However, experiences suggest an integration of these approaches utilising their particular strengths for urban environmental management.

Furthermore, existing management instruments applied in the city should be integrated to carry out the individual steps and elements of the system. Examples of such instruments are state of the environment reports, local environmental action plans, indicators, local pollution registers and distance-to-target reporting. The framework will help to better coordinate existing instruments and operational plans (putting mosaik together into one picture)

Gradually expanding the scope and contents of the system

In order to avoid overwhelming, the system shall allow for gradual expansion of scope and contents using a modular approach. The first – territorial - expansion will apply environmental management system to the whole functional urban area. Very few cities have applied environmental management systems for the whole functional urban area. Currently environmental management systems are mostly used for municipal departments but there is a need for expansion to local authorities core targets i.e. strategic and operational planning and programmes. This can be done by use of appropriate choice of indicators and targets. The second – actor related – expansion will include stakeholders in the city and co-operation with neighbours. The third – dimension related – expansion will integrate other dimensions of sustainability into the environmental management system. Through the integration of social and economic dimension the urban environmental management system will develop into a sustainable urban management system. This integration will use the Aalborg Commitments as reference document to identify direct and indirect sustainability aspects of urban areas. The Aalborg Commitments should be regarded as a framework for local sustainable development. Cities may select areas where they want to focus action and can make progress. The first step, however, would be to identify the areas, in which the city has already been implementing action and have achievements to present.

The ‚Aalborg Commitments‘ were adopted in 2004 in the context of the European sustainable cities and towns campaign and have been signed by more than 300 municipalities.

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The 'Aalborg Commitments' set some important policy guidelines for municipal sustainability. They basically require a management process to carry out the Aalborg Commitments monitoring review (see table below).

Aalborg Commitment element	Time schedule	Compares to Management system element ...
Baseline review	Within 12 months after signature	Baseline review
Targets set	Within 24 months after signature	Approval of plan
1 st Monitoring review	By 2010	Reporting and evaluation
Subsequent monitoring reviews	Scheduled in 5-year cycle	All elements of framework management system

The 'Aalborg Commitments' are regarded as voluntary commitments and describe ten fields of action (see table below) and 50 key activities for municipal sustainable development and propose concrete actions.

Field of activity	Commitment
A1. Governance	We are committed to energising our decision-making processes through increased participatory democracy
A2. Local Management towards sustainability:	We are committed to implementing effective management cycles, from formulation through implementation to evaluation.
A3. Natural Common Goods	We are committed to fully assuming our responsibility to protect, to preserve, and to ensure equitable access to natural common goods
A4. Responsible Consumption and Lifestyle Choices	We are committed to adopting and facilitating the prudent and efficient use of resources and to encouraging sustainable consumption and production
A5. Planning and design	We are committed to a strategic role for urban planning and design in addressing environmental, social, economic, health and cultural issues for the benefit of all.
A6. Better Mobility, less traffic	We recognise the interdependence of transport, health and environment and are committed to strongly promoting sustainable mobility choices.
A7. Local action for health	We are committed to protecting and promoting the health and wellbeing of our citizens.
A8. Vibrant and local sustainable economy	We are committed to creating and ensuring a vibrant local economy that gives access to employment without damaging the environment
A9. Social Equity and Justice	We are committed to securing inclusive and supportive communities
A10. Local to Global	We are committed to assuming our global responsibility for peace, justice, equity, sustainable development and climate protection.

Contact points between the frameworks system and "entity level" environmental management systems

The framework system must allow for communication with existing management systems in departments or private companies. In all steps in the cycle of the urban environmental management system there are contact points between this strategic framework management system and various environmental management systems implemented in private companies, public institutions etc. The main contact points are:

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- **Baseline review (triennial revision):** Key information from entity level baseline reviews should be integrated into the city wide baseline review. This should take into consideration: Information harvest, input from environmental reports, sustainability reports, SWOT-analysis, etc.
- **Preparation of the Strategic Programme and action plan:** Entities that have implemented environmental management systems would be expected to have raised awareness and readiness to contribute to a city wide process. This should take into consideration: stakeholder involvement, objectives of existing environmental programmes and/or Strategic Environmental Assessment, Local Agenda 21 agreements and action plans, other approved objectives, targets, relevant commitments
- **Approval of strategic programme and action plan:** Cities have limited executive powers over private companies, households and other spheres of government. Thus, partnerships have to be formed to ensure commitments to targets.
- **Implementation of action plan:** Key information from monitoring of progress in entity level management systems has to be harvested by the urban framework management system. This should take into consideration: monitoring progress including existing monitoring activities, legally required monitoring
- **Reporting and evaluation:** Key information from entity level evaluation should provide insight to the city level system evaluation. This should take into consideration: existing/legally required reporting

Organisation of the environmental management system (Figure to follow)

In order for a local government to introduce the framework management system, some organisational pre-requisites must be met. There are two aspects to be considered here:

1. Complete authorisation and support by the council and the senior management, who must feel ownership of the instrument.
2. Clarity and unambiguity in the co-operation between various departments and with other participants.

Roles & Responsibilities

The organisation of the framework environmental management system need to allow maintenance of the system, communication of all relevant actors and support to political strategy and decision making. The local administration is seen as the only body able to promise all three aspects. The strategic approach suggests a central position for this co-ordination function.

Co-ordination Team: The co-ordinating team is – according to the strategic approach - a central agency responsible for drawing up and implementing the environmental programme and the environmental report. This role may be given to an existing department or to a department or office specially created for the task: The team is likely to consist of not more than 3 staff persons.

Co-ordination Board or Committee. (Gradually expanding according to expanding of scope and contents of the system) The Board will play the central agency role responsible for supervising the whole system implementation process. Ideally, it is a group of about 10 – 15 (depending on the size of the administration) high-level local government members, including politicians and managers. Participation in the Co-ordination Board should follow a cross-departmental approach comprising representatives from all departments relevant for resource management – be it natural, human or financial resources. Participants could

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represent e.g. financial department, mobility department, public works, energy supply, LA 21 etc., but also, the financial department. It is wise to also involve the Chief Executive Officer. This role, however, only exists in some European countries. It is described as senior urban manager in charge of the administrative organisation of the local authority, usually close contact with and agreement with the mayor. Additionally, representatives of relevant local authority services (municipal companies) stakeholder groups should be involved.

Senior management (Mayor, Chief Executive Officer): Senior management has a responsibility to the council to provide guidelines for the draft management plan and for its implementation. They have the leading role in the framework management system as they approve guidelines for the council, propose the draft plan to the council, receive the ratified plan and arrange its implementation. Close co-operation between the senior management and the co-ordinating team is key.

Local political representative body ('council'): At first, the task of the local representative body (district council, town council, council meetings), shortened to "council" in this manual, is to ratify the use of urban framework management system for their city, thereby making the process binding. This ratification gives the go-ahead for the set-up of the first environmental programme. It underlines the council's readiness to use the system as a management instrument, allocates the necessary financial means to the administrative units and brings the prepared organisational directives into force. The council also has target sovereignty in the framework management system. Within the framework, it discusses and ratifies the environmental targets and therefore sets limits for the consumption of natural resources (use of the environment) or targets for the environmental quality that is being aimed for. The council monitors the implementation of the environmental management plan through the local administration and observes the contributions of third parties (local authority services, industry, private households, and neighbours) to the attainment of these targets. Finally, it receives the report at the end of the management period, checks and discusses the results and ratifies the actions of the local administration.

Community platform: The community platform (e.g. Local Agenda 21 or Stakeholder Forum with its thematic working groups) has a supporting and communicating role to play in urban environmental management. The community platform is involved with developing targets for consumption and quality of natural resources represent. These have to be considered as technically supported objectives that are ultimately endorsed by the council, reflecting the will of the politicians. On the one hand, setting objectives for the environmental quality requires insight, understanding, and acceptance from the citizens and leading economic actors. On the other hand, ambitious, sustainability targets are only set and reached in co-operation with important actors from the state, industry, and society as a whole. This is because the local authority's direct area of responsibility and indirect area of influence is limited.

Therefore, the management process requires an interface with individual, major actors (industrial companies, state-owned services such as universities etc.), organised interest groups (associations) as well as the general public. At the interface, a discussion and voting platform is required and the community platform can provide this.

The community platform should ideally be involved at the following stages:

1. During preparation of the environmental management plan: Notification/agreement of the indicators, targets and consumption limits, identification of potential contributions from third parties (non-local authority actors) to target attainment, voluntary commitments from third-party actors to contribute to target attainment, negotiation of a balanced "duty package" for third-party actors.

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2. During public discussion of the environmental management plan: Discussion of the drafts, agreement over proposals and reservations.
3. During implementation of the environmental programme: Facilitation or mediation in cases of conflict, e.g. in the case of non-adherence to voluntary targets by actors and in the case of substantial consumption limit transgressions.
4. Debate and discussion of the evaluation report

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Role in the management system	Involved is is responsible for ...
<u>Approval</u>	Mayor, Chief Executive Officer	<ul style="list-style-type: none"> • EMS/SUMS (discussion / approval) • Discussion and decision of EMS/SUMS Strategic Programme • Discussion and decision of internal audit • Discussion and decision of baseline review and environmental/sustainability report
<u>Lead</u> approves guidelines for the council, signs business directives, proposes the draft strategic programme to the council, receives the ratified strategic programme Elaborates action plan and arrange its implementation.	Council	<ul style="list-style-type: none"> • proposes EMS/SUMS to council • appoints EMS/SUMS-coordinator and board • proposes SUMS- Strategic Programme • Coordinates elaboration and implementation of SUMS action plan • signs internal audit • signs EMS/SUMS business directives • signs environmental report • co-ordinates co-operation with neighbours
<u>Coordination team</u> The coordinating team is – according to the strategic approach - a central agency responsible for drawing up and implementing the environmental programme and the environmental report.	<ul style="list-style-type: none"> • may be an existing department or a department or office specially created for the task • team is likely to consist of not more than 3 staff persons. 	<ul style="list-style-type: none"> • Co-ordinates EMS/SUMS-co-ordination board • co-ordinates and drafts environmental report • co-ordinates monitoring • co-ordinates documentation/ reporting • co-ordinates internal audit • co-ordinates external audit
<u>Coordination board or committee</u> The Board will play the central agency role responsible for supervising the whole system implementation process.	<ul style="list-style-type: none"> • all technical departments relevant for sustainable development • representatives of regional authorities • representatives of neighbour cities • representatives of relevant private stakeholder groups (business, social groups, environment, education, research, Agenda 21) 	<ul style="list-style-type: none"> • Proposal of EMS/SUMS-guidelines to Mayor • Draft of EMS/SUMS-programme (management plan) • Contribution to measure implementation • Contribution to monitoring (measures implemented? results? indicators?) • Input to environmental report • Contribution to internal audit • Contribution to certification • Revision of EMS/SUMS-programme

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Role in the management system	Involved is is responsible for ...
<p>Community Platform supporting and communicating the urban environmental management system</p>	<ul style="list-style-type: none"> representatives of relevant private stakeholder groups (business, social groups, environment, education, research, Agenda 21) representatives of city administration 	<ul style="list-style-type: none"> Discussion of EMS/SUMS-objectives Contribution to baseline review (triennial revision) Contribution to long-term targets Contribution to measure implementation Contribution to monitoring (measures implemented? results? indicators?) Evaluation of EMS/SUMS-programme
<p>Internal auditor Evaluating process and achievements annually as basis for subsequent cycle</p>	<p>Possibly a combination of different levels involved:</p> <ul style="list-style-type: none"> EMS/SUMS co-ordinator EMS/SUMS co-ordination board Mayor, CEO Council regional authorities Agenda Forum Peer to peer review? 	<ul style="list-style-type: none"> Evaluates EMS/SUMS-structure and SUM-programme Evaluates achievements (distance to target) Advises
<p>External Auditor Evaluating process and achievements every 3 – 5 years as basis for certification</p>	<p>(Authorised auditor or alternative way of evaluation)</p>	<ul style="list-style-type: none"> Checks, advises, controls Assigns badge Checks according rhythm set out in agreed rules (e.g. every 5 years as suggested by the Aalborg commitments or every 3 years suggested by EMAS)

Definitions (to be developed):

Urban environmental management system: *A framework management system for strategic management of the environmental impacts of all activities within the whole functional area.*

Environmental management system:

Management tools:

Functional urban area: *Within the MUE-25 framework (and under elaboration) addressing the whole functional urban area means: to address all relevant activities of all actors (municipality and stakeholders) within the borders of the political authority area and built-up city area that have significant environmental impacts.*

Vertical integration:

Horizontal integration:

Entity: *Private company or a single public institution like a school, transport authority, energy company etc.*