

The City of Helsinki Storm Water Program

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Helsinki

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Incentives

Climate change adaptation guidelines 2016

1. Preparedness for extreme weather events
2. Integration of adaptation into city planning and **comprehensive storm water management**
3. Development, capacity and knowledge
4. Business opportunities

The iWater project

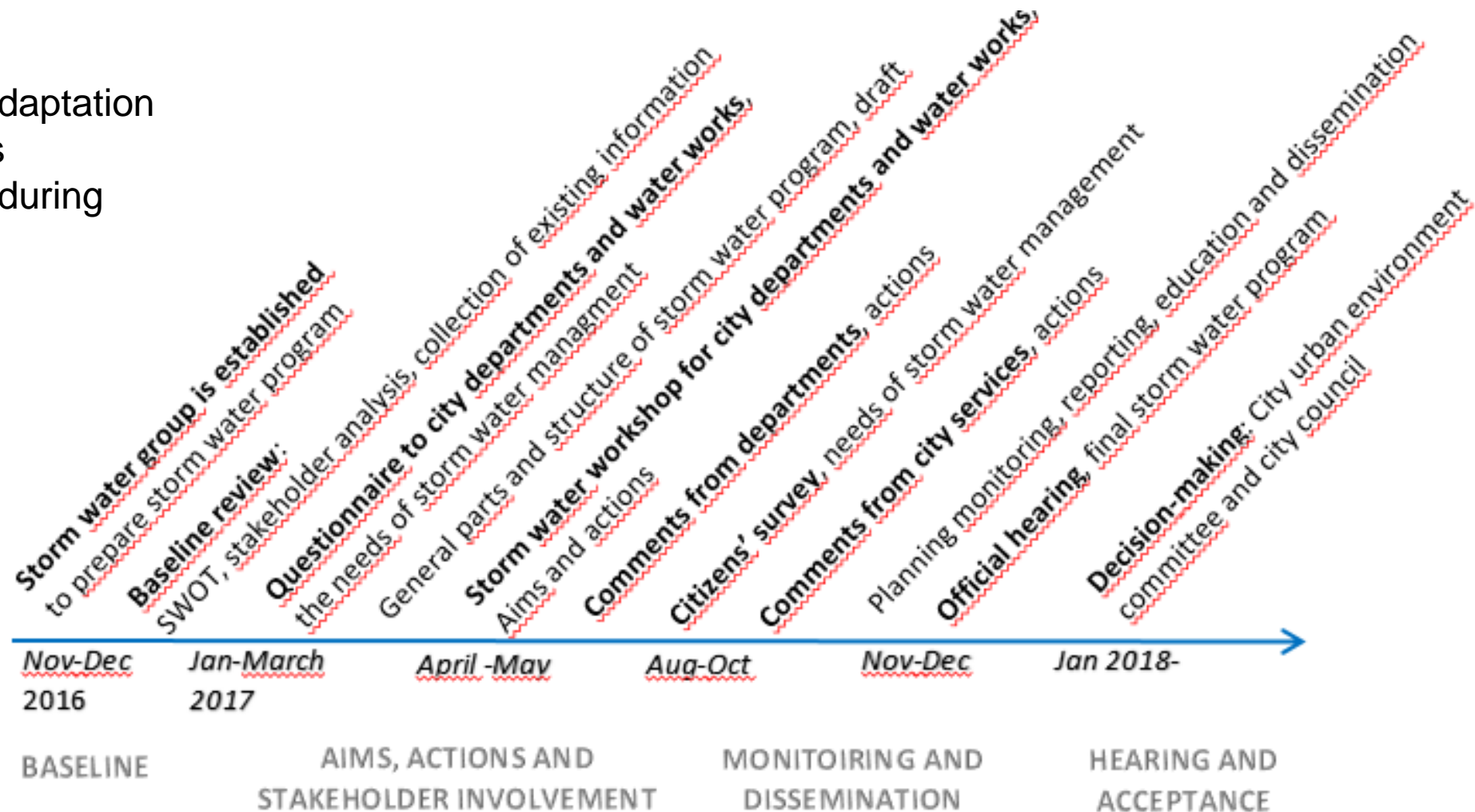
- developing integrated and multifunctional SW management in cities



Preparing process

Preparing process of SW program

Climate Adaptation
guidelines
prepared during
2016



Storm water group

Representatives

- Environment centre
- Public works department
- City planning department
- Building supervision department
- Real estate department
- Executive office
- Water works: Helsinki Region Environmental Service Authority

Storm water group supervised by
Climate adaptation and Climate groups

- representatives also from health, education and sports departments

Baseline review

- SWOT
- Stakeholder analysis
- Collection of existing programs, decisions, recommendations, plans, projects dealing with climate change adaptation and sw management
 - Flooding strategy
 - Rescue plans
 - Different environmental and nature conservation plans
 - Green roof strategy
 - Projects on climate change adaptation
 - Etc etc... 70 in all!

Involvement of stakeholders

1. Questionnaire to city experts and planners
 - needs for storm water management
2. Workshop for experts and planners
 - aims and actions for sw management
3. Citizens' survey
 - how should storm waters be managed?

➤ Comments continuously from involved departments/services within the city



1. Results from involvement: Obstacles and challenges

1. Lack of information and data
2. Attitude problems, lack of awareness
3. Unclear roles and responsibilities
4. Storm water handled mostly on detailed level
5. Lack of Finnish sustainable sw solutions (SUDS)
6. Lack of human or monetary resources

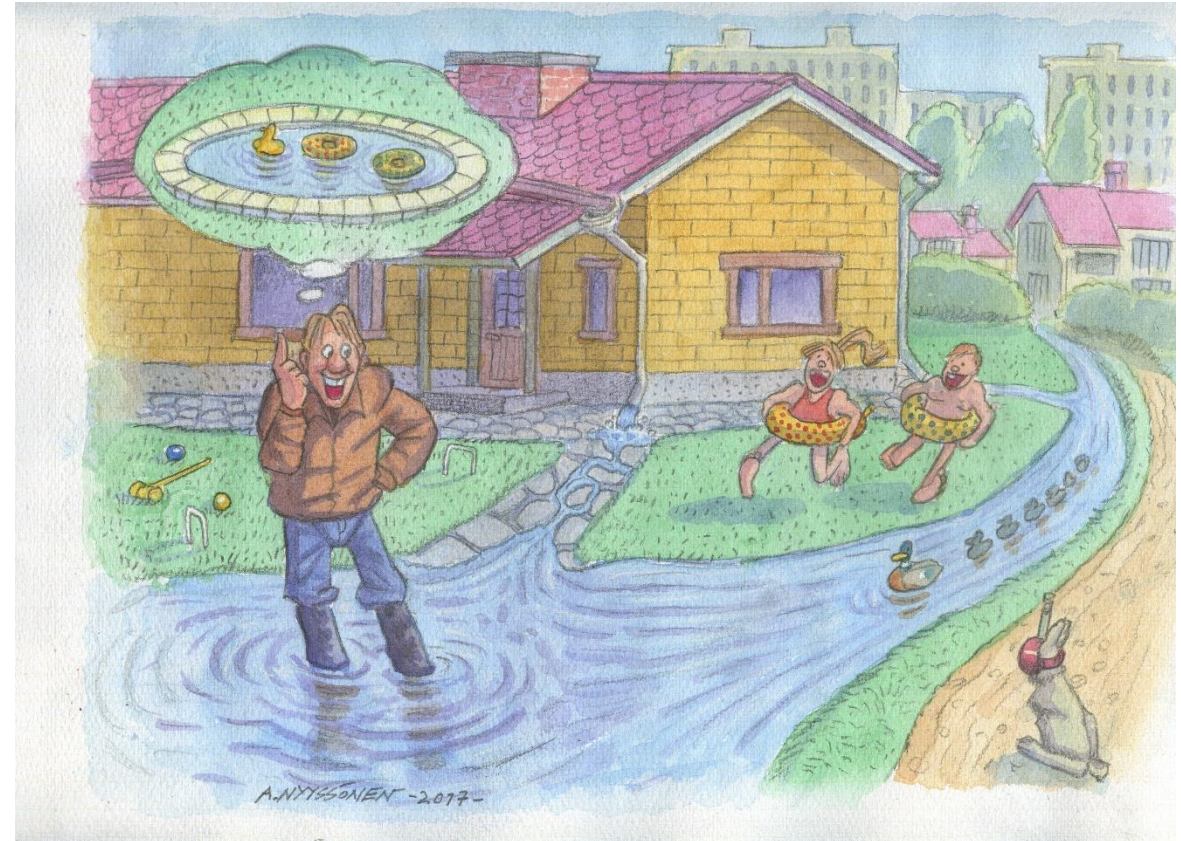
2. Results from involvement: Priorities for SW program

1. Management of information, data and knowledge
 - Database & website
 - Education and awareness raising, capacity development
2. Administrative management model for SW management
3. Drainage-based storm water plans with infiltration and detention requirements
4. Pilots and examples
 - SUDS! (esp. from citizens!)
 - Cost-benefit analyses
 - Ecosystem services
5. Securing resources

The New Storm Water Program

Structure of the SW program

- DEFINITION OF STORM WATER
- NEW CHALLENGES
 - Dense city structure
 - Changing climate
 - Legislation
 - Development of city organisation
 - Improving storm water quality
- **AIMS**
- **PRIORITY ORDER**
- **TABLE OF ACTIONS**
- MONITORING AND REPORTING
- EDUCATION AND DISSEMINATION



Aims of SW program

- *Storm water is used as a resource for a pleasant environment, for maintaining diversity and for increasing a good status of ground and surface waters.*
- **Regional and local drainage** is secured with consideration of **climate change** effects
- **The damage caused by storm water is prevented** in changing conditions and **dense city structure**
- **Storm water flows** are managed and the **quality** is improved
- The amount of storm water led to **combined networks** (waste water) is **decreased**
- **Cooperation and management models** supporting **integrated comprehensive planning and management** of storm water is in use and resources are secured

Priority order for management in practice

1. Infiltration and use on site
2. Lead away through detending, retending and conveying open solutions allowing infiltration
3. Drainage pipes feeding to a detending solution before ending up in urban water systems
4. Lead in pipes to water systems
5. Lead in combined pipes to the waste water treatment plant

Table of actions

- 40 detailed actions structured by responsibilities
 - Responsible service/ unit
 - Action
 - Targeted aims
- Responsibilities for
 - SW group
 - general and detailed planning, city and landscape planning, construction supervision, real estate and lots, traffic and streets, maintenance and environment

Toimenpide	Vastuuyksikkö/Yhteistyössä	Aikataulu	Rahoitus	
MAKA/Maaomaisuuden kehittäminen ja tontit palvelun vastuulla olevat toimenpiteet				
20. Sisällyttää tarvittaessa tontinluovutusehtoihin ja maankäyttö sopimuksiin hulevesiä koskevia määräyksiä.	Tontit-yksikkö	jatkuva	Budjetti	● ● ●
MAKA/Liikenne- ja katusuunnittelupalvelun vastuulla olevat toimenpiteet				
21. Varaa tarpeelliset tilavaraukset liikenne- ja katusuunnitelmissa hulevesien hallintarakenteille, hulevesien viivyttämiseksi ja imeyttämiseksi.	Suunnittelu-yksikkö yhteistyössä tarvittavien tahojen kanssa	jatkuva	Budjetti (konsultti)	● ● ● ● ●
22. Lisää vettä läpäisevien materiaalien käyttöä soveltuvin osin katurakentamisessa.	Suunnittelu-yksikkö, yhteistyössä tarvittavien tahojen kanssa	jatkuva	Budjetti (konsultti)	● ● ● ●
23. Laatii selvityksen edellytyksistä rakentaa katu ilman hulevesiviemäriä ja toteuttaa siitä pilottikohteen.	Suunnittelu-yksikkö yhteistyössä Kaupunkitila- ja maisemasuunnittelupalvelun kanssa.	selvitys 2020	Budjetti (konsultti)	● ● ● ●
24. Eriyttää investointien ohjelmoinnissa ja seurannassa hulevesikustannukset katu- ja puistorakentamiskustannuksista omaksi kustannuspaikaksi.	Toiminnanohjaus-yksikkö yhteistyössä tarvittavien tahojen kanssa	jatkuva	Budjetti	●
MAKA/Kaupunkitila- ja maisemasuunnittelupalvelun vastuulla olevat toimenpiteet				
25. Laatii ja kehittää purojen ja muiden alueiden valuma-aluekohtaisia hulevesien hallintasuunnitelmia asemakaavoituksen ja muun jatkosuunnittelun tarpeisiin.	Alueellinen suunnittelu-yksikkö yhteistyössä Kaupunkitila- ja maisemasuunnittelupalvelun muiden yksiköiden ja	jatkuva	Budjetti (konsultti)	● ● ● ● ●

Snapshot of actions

- Among the first actions during 2018 will be to
 - **make the management model for SW management** in the new city organisation
 - **construct a data base** for handling storm water related information
 - **plan, construct and maintain SUDS** in constructed areas
 - **intensively monitor storm water quality**
 - **compile indicators on the implementation of actions** from the responsible units within the city
 - **educate and train stakeholders** in sustainable storm water management
- ...and to disseminate the sw program and organise intensive trainings within the city on its contents as the journey has just begun...

The most important thing is to raise awareness on the benefits of sustainable sw management

Using the water on site!

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