Future Cities
urban networks to face climate change

8th Working Group Meeting

Nijmegen

14th – 15th March 2012

Report

Investing in Opportunities
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INTERREG IVB


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Contents

Programme

Working Group Sessions

Annex

Programme

Wednesday, 14th March 2012

Working Group Session I, plenary discussion and split up in parallel groups (two map tables), *moderated and prepared by Ton Verhoeven/Veroniek Bezemer, Nijmegen:*

WG 2 "Twinning"

- Climate Map Nijmegen and conclusions for two areas: city centre and Nijmegen-West,

Site Visits

Visit to Stevenskerk/ View over Nijmegen/ Korenmarkt
Introduction: *Ton Verhoeven and colleagues*

Reception by Elderman Jan van der Meer

Thursday, 15th March 2012

Session II, plenary:

- Conclusions day 1/starting points day 2, *Marie-Edith Ploteau, Lippeverband*
- Introduction to prototype of Adaptation Compass
  Birgit Haupter, Stefanie Greis, Infrastruktur & Umwelt

Session III, split up in mini groups:

Get acquainted with the Adaptation Compass

Working Group Session IV, plenary, *moderated by chair of WG 1: Marie-Edith Ploteau*

- Feedback round
- Summary, next steps

Working Group Session V, split up in parallel groups: *moderated by chairs:*

WG 3 "Implementation of combined measures", *Chair: Karin van Dorenmalen, Tiel*

- Business site "Boytal" in Bottrop *Matthias Stumpe, Bottrop*
- "Greening Nijmegen – two examples" *Antal Zuurman, Nijmegen*
- Update work group planner

WG 4 "Awareness raising", *Chair: Chantal Lass, Hastings*

- Presentation: "Energy Made in Arnhem" *Hans van Ammers/ Marion Visser, Arnhem*
- Discussion of (main) lessons learned with concrete communication activities
- Final products of Future Cities
- Update work group planner

Working Group Session VI, Plenary:

Main messages from Future Cities – follow up from 7th WG
Birgit Haupter, Infrastruktur & Umwelt

Working Group Session VII, Plenary:

Conclusions and Wrap-up, *Marie-Edith Ploteau, Lippeverband*

Introduction

The working group members of Future Cities met for their 8th Working Group meeting in the town hall of the municipality of Nijmegen in the Netherlands. The meeting was dedicated to four main topics:

- To introduce the features of the computer-aided tool “Adaptation Compass”
- To discuss consequences of the climate map of Nijmegen in a twinning session
- To present and discuss awareness raising and implementation activities at partner organisations
- To elaborate further on the main messages and lessons learned of the Future Cities project.

Working Group Sessions

Working Group 1: Adaptation Compass

Agenda

1. Introduction to prototype of Adaptation Compass
2. Get acquainted with the Adaptation Compass
3. Feedback round
4. Summary, next steps, update of working group planner

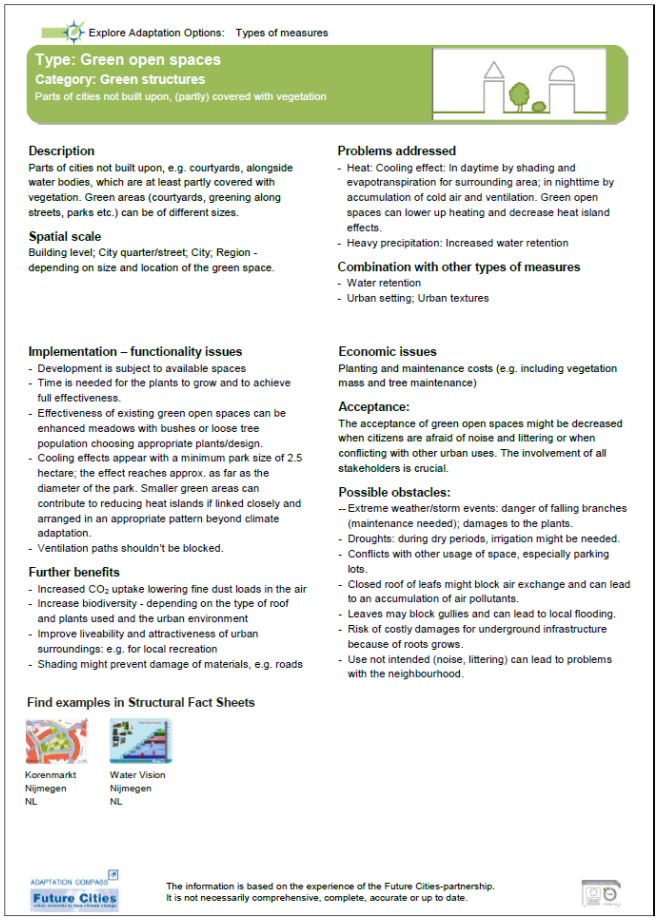
Marie-Edith Ploteau, the chair of working group 1, welcomes the working group members and introduces the programme for the meeting.

1. Introduction to prototype of Adaptation Compass

Stefanie Greis and Birgit Haupter present the status of development of the Adaptation Compass.

The guidance document and the glossary are completed including the results from 7th WG meeting. The English wording has been checked thanks to the work done by Chantal Lass and Jane Dodson.

The technical prototype has been developed with the requirements as agreed in former working group and task force meetings:
For use with Excel 2007/2010 and for use with 2003 (both Windows 7);
Macros must be enabled and Adobe and Acrobat Reader or similar is needed.



Explore Adaptation Options: Types of measures

Type: Green open spaces
Category: Green structures
Parts of cities not built upon, (partly) covered with vegetation

Description
Parts of cities not built upon, e.g. courtyards, alongside water bodies, which are at least partly covered with vegetation. Green areas (courtyards, greening along streets, parks etc.) can be of different sizes.

Spatial scale
Building level; City quarter/street; City; Region - depending on size and location of the green space.

Problems addressed
- Heat: Cooling effect: In daytime by shading and evapotranspiration for surrounding area; in nighttime by accumulation of cold air and ventilation. Green open spaces can lower up heating and decrease heat island effects.
- Heavy precipitation: Increased water retention

Combination with other types of measures
- Water retention
- Urban setting; Urban textures

Implementation – functionality issues
- Development is subject to available spaces
- Time is needed for the plants to grow and to achieve full effectiveness.
- Effectiveness of existing green open spaces can be enhanced meadows with bushes or loose tree population choosing appropriate plants/design.
- Cooling effects appear with a minimum park size of 2.5 hectare; the effect reaches approx. as far as the diameter of the park. Smaller green areas can contribute to reducing heat islands if linked closely and arranged in an appropriate pattern beyond climate adaptation.
- Ventilation paths shouldn't be blocked.

Further benefits
- Increased CO_2 uptake lowering fine dust loads in the air
- Increase biodiversity - depending on the type of roof and plants used and the urban environment
- Improve liveability and attractiveness of urban surroundings: e.g. for local recreation
- Shading might prevent damage of materials, e.g. roads

Economic issues
Planting and maintenance costs (e.g. including vegetation mass and tree maintenance)

Acceptance:
The acceptance of green open spaces might be decreased when citizens are afraid of noise and littering or when conflicting with other urban uses. The involvement of all stakeholders is crucial.

Possible obstacles:
- Extreme weather/storm events: danger of falling branches (maintenance needed); damages to the plants.
- Droughts: during dry periods, irrigation might be needed.
- Conflicts with other usage of space, especially parking lots.
- Closed roof of leafs might block air exchange and can lead to an accumulation of air pollutants.
- Leaves may block gullies and can lead to local flooding.
- Risk of costly damages for underground infrastructure because of roots grows.
- Use not intended (noise, littering) can lead to problems with the neighbourhood.

Find examples in Structural Fact Sheets

Korenmarkt Nijmegen NL

Water Vision Nijmegen NL

ADAPTATION COMPASS Future Cities

The information is based on the experience of the Future Cities-partnership. It is not necessarily comprehensive, complete, accurate or up to date.

The file will be provided with the CD ROM accompanying the report of the 8th working group meeting. The CD will contain one folder "FUTURECITIES_Adaptation-Compass" comprising all necessary files. The folder has to be saved as a whole at hard disk or server of the user.

The fact sheets and sheets on types of measures were revised integrating the results and feedback of partners provided until the 7th WG integrated. Nevertheless they will be subject to further improvement; a revision of content with the feedback on the prototype of the Compass (see time schedule below) is possible.

The new layout of the sheets explaining the types of measures now includes drawings to characterise the types and will provide links to the related fact sheets.

2. Get acquainted with the Adaptation Compass

In the following two hours session the working group members split up into 10 mini groups and work through all steps of the tool to understand how it works in detail.

3. Feedback round

The feedback of the mini groups reveals that the tool is reflecting the needs of the participants within the means available:

It can be used as awareness raising tool, especially when using the table “Former events” and addressing different people of an organisation.

The standard pre fillings ease the usage for a first “quick” round to motivate the user to take a closer look and to invite the user to spend more time filling in detailed information. E.g. in the table "spatial relevance" the information about local maps such as the Climate Analysis Map can be filled in. To get the whole use out of it a certain level of “being familiar” with the tool seems to be necessary. To improve the overview the idea of supplying the “sitemap” on a mousepad is raised. It is agreed that during the application phase within the Future Cities-project the partners can contact INFRASTRUKTUR & UMWELT and the Lead partner if questions arise.

All feedback is written down by the participants and will be included in the documentation that contains all comments and changes made with the revisions. The comments will be checked if they can be implemented within the means available. Whenever possible, the comments will be already integrated in the prototype version which will be supplied with the report of the working group meeting.

The application in the different organisations is discussed. Marie-Edith Ploteau explains that the aim is to apply the tool on different levels. Lippeverband intends the application on regional level, some partners also intend to use the tool on municipal level or for parts of the municipality. It seems that all levels concerned will be addressed with the practice test.

4. Next steps and update work group planner

The following time schedule for the next working steps to lead to the finalisation of the Adaptation Compass is agreed.

Responsible	Theme / activity	Date
IU	Include feedback from 8th WG meeting in prototype as possible	End of March 2012
LP/IU	Send prototype to PPs (on CD with report of WG meeting)	Ca. mid April 2012
PPs	Use/apply the Compass (prototype) at PPs organisations	From April 2012 on
PPs	Report experiences (feedback form), complete fact sheets	Until 15th August 2012
IU	Summarise feedback	For 9th WG Sept 2012
PPs/WG	Discuss experiences	9th WG Sept 2012
IU	Finalise (errors, no general revision)	Nov/Dec 2012
LP	Produce (print guidance/incorporate with final products – see also WG 4)	Dec/Jan 2013
ALL	Dissemination at final conference	Feb/March 2013

Working Group 2: Action plans for transformation

Agenda

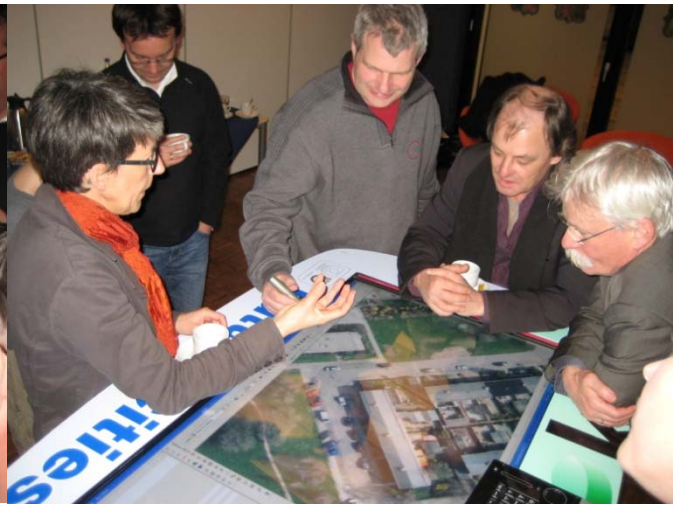
1. Introduction to WG 2 – the problem of the urban heat island in Nijmegen
2. Discussion of possible solutions for two areas of Nijmegen
3. Results of the twinning

1. Introduction to WG 2 – the problem of the urban heat island Nijmegen

The climate analysis map by the university of Kassel shows the heat and wind situation in Nijmegen pointing out problematic areas. As next step, the municipality of Nijmegen needs to combine the results of the analysis map with recommendations how to deal with the heat in the city. Therefore, working group 2 as plenary conducts a twinning session on the topic of the urban heat island effect in Nijmegen, the results of the climate analyses map and working on concrete measure to develop ideas for short, medium and long term urban planning. Furthermore the session demonstrates the usefulness of working interactively with the Map Table.

2. Discussion of possible solutions for two areas of Nijmegen

In two groups the working group members work on two different areas of Nijmegen which were identified with the climate analysis map: the city centre and the western part of the city. They differ in the possibilities to change the urban structure. In the city centre buildings can't be removed to add more green and blue structures so there the heat problem has to be solved in a different way. In the western part of Nijmegen there are more possibilities to remove buildings and re-arrange the urban structure due to renovation of neighbourhoods and possibilities to reduce the number of houses.



3. Results of the twinning

The groups present their result.

Group 1 (western part of Nijmegen) worked intensely on defining the problem and concluded that the problem has to be solved within the area in question. Various possible measures were developed on different levels which could be taken, e.g. learn from areas in the city that are marked on the analysis map “green or yellow”, but be aware not to introduce new (e.g. social) problems and especially not to worsen the situation for the inner city.

Group 2 working on the inner city also started with taking a closer look at the problems analysing the existing surfaces. One idea which as developed makes reference to Nijmegen being an old Roman city, e.g. by introducing the ambiance with shading or flushing streets at night, while being aware of possible negative impacts.

Both groups tackle the issue that learning from the measures taken in southern cities might be an option, but when transferring solutions from the south to the north one has to be aware of the differing northern circumstances especially in winter, spring and autumn. It should be taken into account not to create uncomfortable situations in these times of a year.

More details on the specific results are available in the separate twinning report.

Ton Verhoeven thanks the participants for the valuable inputs.

4. Next steps

Rouen Seine Aménagement who will be organising the next working group meeting will consider to include a twinning session in the working group meeting, too.

Responsible	Theme / activity	Date
LP/RSA/IU	Consider twinning session with WG’s programme	June 2012

Working Group 3: Implementation of combined measures

Agenda

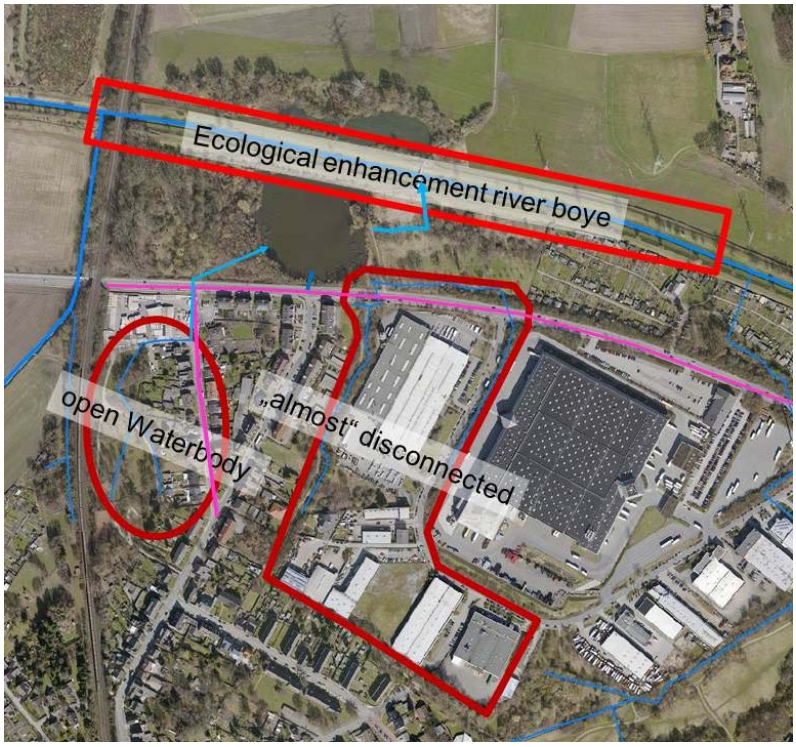
1. Introduction
2. Business site “Boytal” in Bottrop
3. Greening Nijmegen: Monitoring rainwater runoff performance
4. Update of working group planner

1. Introduction

Karin van Dorenmalen, the chair of the working group welcomes the participants and explains the agenda: Two partner activities are presented and discussed.

2. Business sites “Scharnhölzstraße” and “Boytal” in Bottrop

Matthias Stumpe from the municipality of Bottrop presents the results of the feasibility study concerning the combined measures in the industrial site “Scharnhölzstraße” in Bottrop. The study comprised the possibilities to disconnect the industrial sites from the sewer system with a new semicentral system, to implement green roofs, green facades and green zones along the streets. Also included were the possibilites of re-using rainwater for process water and energy aspects. The study showed that disconnection was feasible for some of the buildings as well as the implemention of green roofs. Limitations arise from the existing constructions – the roofs are partly not strong enough, facades are less suitable due to the arrangement and construction of the windows. A high potential could be stated considering the topics energy and water for sustainable and economic redevelopment. These measures will be implemented within funding programmes for economic redevelopment.



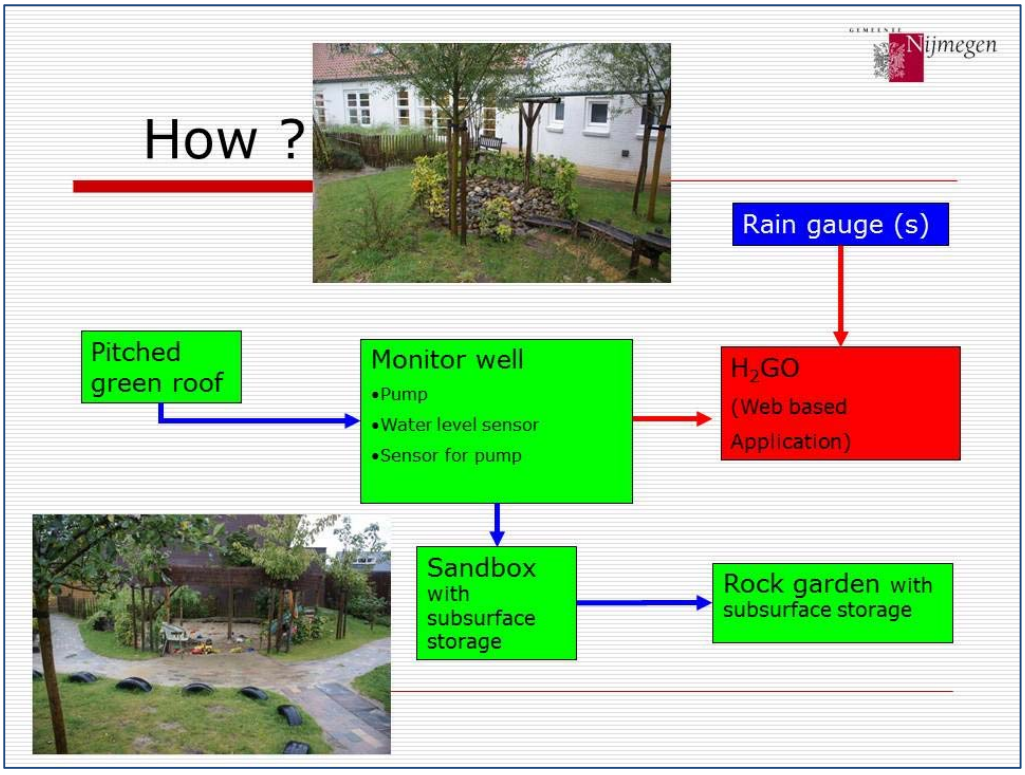
Following these results the industrial area “Boytal” was approved to be the showcase within Future Cities. The industrial park "Boy" drains into the existing mixed sewer system. The aim is to disconnect the whole industrial park from the mixed system. As this will be connected to the ecological transformation of the river "Boye", also a new blue-green corridor can be realised in this area.

The storm water will be pumped from the lake “Polizeiteich” with a fish-friendly archimedik pump directly and conducted through the dike to the Boye´s river. The solutions through a pipe connected with the Liesenfeldbach would have disturbed the lake´s fish population. Therefore the storm water shall be canalised about 80m in northern direction to be discharged into the open water body Liesenfeldbach. With this measure also another misleading connection can be solved: a swamp area in western direction from the industrial park drains actually over two open ditches into the mixed sewer system. This swamp area could be drained into the new storm water canal to be connected to the lake “Polizeiteich”, from where both rainwater and drained water will be conducted into the River Boye.

3. Greening Nijmegen: Monitoring runoff performance

Antal Zuurman explains the concept and the first results of monitoring the impacts a pitched green roof has on run-off of rain water – its ability to retain rain water and to cut off peak events. The impacts of the green roof at the day nursery “De tweeling” are monitored in a well in the garden (with pump, water level sensor and sensor for the pump) before the rain water drains into the infiltration system. The rainfall is monitored at several rain gauge stations in Nijmegen. The results of the measurements are fed into a web based data system.

First results show that there is almost no delay of run off works when single peak rain fall occurs. When the rain starts the run-off starts as well. To draw conclusions concerning the buffer function of the roof more measurements and a setup of a detail waterbalance are required. To achieve this Nijmegne needs to monitor the amount of transported water by the pump.



The municipality of Nijmegen draws three preliminary conclusions: Firstly, the data and content of measurements of the monitoring well has to be validated. Furthermore, the impact and performance of the pitched green roof will be calculated on a monthly and annual basis. And thirdly, it seems to be necessary to go on with the monitoring for a few years to be able to draw validated conclusions.

4. Next steps / Update of working group planner

With Future Cities drawing closer to its end, it seems to be sensible to keep on presenting and discussing results at the pilot locations of project partners. The topics will be clarified in detail with the preparation of the 9th working group meeting.

Working Group 4: Targeted awareness raising

Agenda

1. Introduction
2. Energy “Made in Arnhem” – presentation and discussion
3. Lessons learned from partners’ communication activities
4. Final products
5. Update of working group planner

1. Introduction

Chantal Lass welcomes the working group members and explains the programme which starts with the presentation and discussion of a successful communication campaign of the municipality of Arnhem.

2. Energy “Made in Arnhem” – presentation and discussion

Marion Visser from the municipality of Arnhem presents the background and achievements of the communication campaign “Energy made in Arnhem”.

The campaign evolved from a group of colleagues working on themes of common interest leading to an official municipal programme with interdepartemental cooperation within the municipality.

Starting with a meeting in December 2010 with about 25 key stakeholders of industry, business, educational and social institutions these signed a letter of intent. The following municipal programme plan included 6 programme lines, among others “Leading economic cluster (energy technology and innovation)”, “Climate resilient city”, “Sustainable procurement and fair trade”, the number of participating institutions and businesses grew from 25 to 70 within half a year. Joint breakfasts were organised by participants with discussions about concrete projects and project ideas as well as one city conference among others to install the “Energy council”. To keep the interest ongoing in the 2nd half of 2011 network meetings and project meetings were organised to share successes, discuss “burning issues” and projects’ progresses and lessons learned. The actual period is dedicated to e.g. execute projects within the municipality or increase the network with new partners.

Marion Visser points out the lessons learned for the municipality: One important factor for succeeding is that the municipality got used to a new role as “government control in a network society” connecting, facilitating, stimulating and setting frameworks - whereas the partners are responsible for their own projects. Furthermore it is important to integrate the key players of the municipality to provide a good example as municipality.

In the following discussion the question of costs for the campaign is raised: The municipal campaign itself has a low budget, e.g for the programme manager, but organised the conference. The projects themselves are implemented by the partners themselves. It is agreed that this campaign is a nice example how to create impact with relatively low budget.

3. Lessons learned from partners' communication activities

As follow-up from the 7th working group meeting Birgit Haupter summarises the results of the feedback from project partners. The working group members had agreed on six main lessons learned based on their communication acitvities. These are:

1. Create a communication strategy
   to structure your communication approaches before starting the activities.
2. Have a vision
   where your communication strategy may lead to
3. Stay flexible
   Identify aims, target group and messages, but also adapt during implementation
4. Be organic:
   The communication strategy should not be static, but evolve and grow organically during implementation
5. Use networking on all levels:
   with study visits, information sessions, special events and with new media
6. Communicate information bit-by-bit:
   first inform about the basics, then the details of your specific problem

After the 7th WG meeting project partners were asked to name good-practice examples which demonstrate how the lessons learned can help to reach the aims of communicating about climate change, the need to adapt as well as the implementation of concrete measures. All project partners provided input and good-practice examples for all messages are at hand.The results are summarised in the table below.

Message	Good practice examples
Create a communication strategy	Guideline Climate Change (PP1+PP3 EG+LV)
Have a vision	Water awareness (PP2 Arnhem)
Stay flexible	Energy Market "Green Living" (PP5 Nijm)
Be organic	Sustainable storm water management (PP3 EG)
Use networking on all levels	Vision De Vloei (PP8 WVI)
Communicate information bit-by-bit	Green Allure inner city Nijmegen (PP5 Nijmegen)

It is agreed that the table will be sent to all project partners to inform about the results of the inquiry. The results of the inquiry will be used for the final report.

4. Final products

In the previous project steering group and working group meeting it was agreed to produce three final products which will be disseminated during the final conference:

(1) Final report in English only as digital version (on CD/USB Stick)

(2) Brochure of results in 4 languages (20 pages)

(3) Adaptation Compass: a printed guidance document and the tool on CD/USB Stick.

A “striking” consistent appearance of all items should arouse interest but also, the package needs to be appropriate for taking away from a conference (not too big, not too heavy, allowed to take on the plane, allowed to ship from the continent to UK, e.g. if seeds are included).

In the discussion ideas are collected, e.g.: A nice USB-stick, a mouse pad with appropriate design, a card box with a “green roof”, a small mat with seeds used for green roofs which will grow when watered. The working group members are asked to keep on informing the Lead Partner if they come across further nice examples.

5. Next steps / Update of working group planner

The request for input for the final report will be send to the project partners in April 2012 who will involve working group members of their organisation as deemed appropriate (see bold lettering in following overall schedule for developing the final report.

Work steps for developing the final report	Date	Responsible
Ask for input PP	April 2012	IU
Input PP/LP/IU	End July 2012	PPs**(WGmembers)**/LP/IU
Find layouter	May 2012-June 2012	LP
Layout / appearance (concrete alternatives)	July 2012	LP/IU
Agree on layout / appearance	September 2012	9th PSG
Combine / edit	Sept/Oct 2012	IU/**WG4 (support)**

Main messages from Future Cities – follow-up from 7th WG meeting

Agenda

1. Introduction – status *SIC adapt!*
2. Summary of results from 7th WG meeting
3. Discussion and presentation of messages in thematic clusters
4. Next steps

1. Introduction – status *SIC adapt!*

Marie-Edith Ploteau reports the status of activities within the strategic initiatives cluster *SIC adapt!.*

Future Cities has organised and participated in three *SIC adapt!* cross-project exchanges: In Luxembourg, a meeting on the topic of the Heat island effect took place on 8th February 2012 with representatives of Arnhem participating. On 17th February 2012 the Lead partner participated in the exchange about the topic of "Vulnerability assessment" in Liverpool. Furthermore, the Lead partner organised a cross-project exchange on "Flash floods" on 28th -29th February 2012 in Essen. Here, representatives from Lippeverband, Arnhem, Emschergenossenschaft and Nijmegen participated. The reports of the cross-project exchanges will be available on the website of *SIC adapt!*.

At the moment the cluster is conducting phase 2 – "from main messages to policy recommendations" (see also below).

2. Summary of results from 7th WG meeting

A first input from Future Cities was provided in the brainstorming session at the 7th working group meeting in Ieper in September 2011. The main messages were clustered according to possible overarching topics:

1. Cross-sector and spatial planning
2. Urban elements/ Benefits for livable cities
3. Legal framework/ Funding framework
4. Targeted communication/ Cooperation.

3. Discussion and presentation of messages in thematic clusters

The working group members are asked to elaborate the overarching recommendations further.

Among others the following results are presented:

Cross-sector and spatial planning: Adaptation as a transversal issue involving many services on each level (e.g. for the local level spatial planning, green areas, building regulations, communication, economic developments…) creates good conditions to work together across sectors and create new knowledge. The group also pointed out the concept of "integrated planning", mentioning especially its financial advantage.

Urban elements/ Benefits for livable cities: The group amended the existing main messages with more concrete examples and explanations.

Legal framework: Especially on public procurement rules on the user's side: Use and apply the existing framework in a createvie manner - Use appropriate pre-set criteria to get sustainable offer, e.g. not only the cheapest offer wins but the one that has the best/least maintenance and request a written proof from the constructor.

Targeted communication: It is necessary to keep on raising public awareness about adaption to climate change. It is also necessary to keep on raising political awareness in order to put adaptation to climate change on the working agenda within the organisations. Moreover local governments should be encouraged to assess their vulnerability to climate change. To do so, it might be less convenient to go through the EU-level. Therefore the Future Cities partnership and further organisations engaged in climate change adaptation should keep networking, spreading knowledge and experiences within their own network, giving impulse e.g. with the help of social media (such as LinkedIn). Those social media gives especially the possibility to interconnect with different kinds of national or European organisations.

Cooperation: Adaptation to climate change is a global issue but local measures need to be included in the solutions.

4. Next steps

As next steps the cluster coordination office will develop draft recommendations based on the input from all eight cluster projects. The draft recommendations will be discussed within the cluster steering committee meeting (18th April 2012). The draft will be further refined and selected recommendations will be presented and discussed at the 2nd Cluster expert board meeting in Brussels (25th-26th June 2012).

In parallel the main messages of Future Cities will be used for the final report of Future Cities.

Reception by the Elderman Jan van der Meer

The elderman Jan van der Meer welcomes the Future cities partnership to Nijmegen and highlights some challenges for Nijmegen when coping with climate change: Water is one of the main issues Nijmegen is working on since 2000 years ago civilisation began. Within the actual Dutch “Room for the river”- programme a by-pass of the river Waal is constructed creating a unique urban river park - a project of great impact for city development. Also, to address the topic of flash floods the vulnerability of Nijmegen is investigated together with the Waterboard Rivierenland. And thirdly, the public space is being improved to mitigate heat stress.

In his speech Jan van der Meer points out that learning from international partners is important for Nijmegen and especially working together on the Climate Adaptation Compass proves that transnational cooperation works.

During the reception the results of the twinning session are further discussed and shown to the Elderman.

Site Visit

For the first part of the site visit the working group participants climbe the tower of the Stevens church to get an overview of the city structure of Nijmegen, the residential quarters, the parts with different building structures and densities. Especially, the two areas which are subject to discussion in the twinning are highlighted.

A second site visit is dedicated to the public court yard “Korenmarkt”: Here, the city of Nijmegen transformed a public space from a parking lot into a small park. To achieve this result an intense participation process involving the citizens had to be conducted especially to solve the spatial conflicting use in the city centre of “car parking and green space”. Furthermore archeological remains were found and a concept to integrate and display the remains had to be taken into account.

Conclusions and Wrap-up

Concluding the working group meeting Marie-Edith Ploteau announces the main next steps that lie ahead for the Future Cities-partnership:

All working group members will receive the Adaptation Compass as prototype on CD together with the report of the 8th working group meeting. All organisations are asked to report about their experiences until 15th August 2012. A specific feedback form will be provided.

Project partners will involve working group members as applicable in writing the input for the final report of Future Cities. Project partners will receive the request for input in April 2012, the input is due to be provided until 31st July 2012.

The Lead Partner of Future Cities and further partners (to be confirmed) will take part in the 2nd *SIC adapt!* Cluster Expert Board in Brussels on 25-26 June 2012.

The next (9th) Future Cities working group meeting is scheduled for 19th-20th September in Rouen.

The final conference of Future Cities will take place in Hastings, UK, end of February/begin of March 2013.

Marie-Edith Ploteau thanks the municipality of Nijmegen and Ton Verhoeven and his colleagues for the perfect organisation of the working group meeting.

The 8th working group meeting is closed at 3.30 p.m.

Participants 8th Working Group Meeting

Name	Project Partner
Marie-Edith Ploteau	PP1 Lippeverband
Daniel Wischniewski	PP1 Lippeverband
Hans van Ammers	PP2 Municipality of Arnhem
Albert Anijs	PP2 Municipality of Arnhem
Marion Visser	PP2 Municipality of Arnhem
Jos Verweij	PP2 Municipality of Arnhem
Matthias Weilandt	PP3 Emschergenossenschaft
Matthias Stumpe	PP3 Emschergenossenschaft, Sub-partner Municipality of Bottrop
Chantal Lass	PP4 Hastings
Jane Dodson	PP4 Hastings
Ton Verhoeven	PP5 Municipality of Nijmegen
Veroniek Bezemer	PP5 Municipality of Nijmegen
Henk Jan Nijland	PP5 Municipality of Nijmegen
Maarten van Ginkel	PP5 Municipality of Nijmegen
Antal Zuurman	PP5 Municipality of Nijmegen
Giliam Roolant	PP5 Municipality of Nijmegen
Robert v. Wyk	PP5 Municipality of Nijmegen
Paul Goedknegt	PP5 Municipality of Nijmegen
Thierry Verrier	PP6 Rouen Seine Aménagement
Ida Ricci	PP6 Rouen Seine Aménagement
Annemieke de Kort	PP7 Municipality of Tiel
Karin van Dorenmalen	PP7 Municipality of Tiel
Eveline Huyghe	PP8 West-Vlaamse Intercommunale
Nathalie Garré	PP8 West-Vlaamse Intercommunale
Trui Naeyaert	PP8 West-Vlaamse Intercommunale
Stijn Saelens	PP8 West-Vlaamse Intercommunale
Ron Josten	City Region Arnhem-Nijmegen
Birgit Haupter	INFRASTRUKTUR & UMWELT - facilitation
Stefanie Greis	INFRASTRUKTUR & UMWELT - facilitation
Barry de Vries	With PP2 Municipality of Arnhem
Vincent Kuypers	With PP2 Municipality of Arnhem
Johan Bogaert	Flemish government (LNE)

Presentations (included on CD-ROM)

01 Day 2 Introduction_Ploteau.pdf

02 WG1_Status of Compass.pdf

03 WG3_Bottrop_Business sites.pdf

04 WG3_Nijmegen_Monitoring runoff pitched green roof.pdf

05 WG4_final products_main messages.pdf

06 WG4_Energie made in Arnhem.pdf

07 Cluster SIC_Main messages from Future Cities.pdf

08 Conclusions_Wrap-up_Ploteau.pdf

Photo credits:

Marie-Edith Ploteau, Lippeverband
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