



MAKE IT HAPPEN!

FIND YOUR CATALYST FOR A LIVEABLE CITY

LIVEABLE CITIES– KUIPERCOMPAGNONS
Wouter Vos – Director International
24th September 2018 - Wrocław

WROCLAW



SMART SOLUTIONS FOR SUSTAINABLE WATER MANAGEMENT

Wrocław lies in the valley of 5 large rivers and a dozen or so smaller ones. The river system of Wrocław is considered as one of the largest and most complex in Europe and is about 80 km long. River valleys and numerous canals form the rich landscape of the city, which is inseparably connected with its history and development. In 1903, a great flood destroyed most of the city, forcing the construction of flood defences that shape today's urban structure. In 1997, another great flood struck Wrocław, entering 40% of the city surface and causing huge infrastructural damage. Reconstruction, however, has influenced the city positively, especially in terms of economic impact, social bond creation, and environmental awareness improvement. Today, Wrocław is prepared for a similar flood and it is turning towards the river.

City representatives:



Mrs. Magdalena Piasecka
Deputy Mayor City of Wrocław



Mrs. Joanna Kiernicka-Alavena
Head of Climate Protection Unit



Tomasz Koniczny
Director of the Centre for New Technologies of Wrocław MPWiK S.A.

Diversity of the natural environment and cultural heritage are mixed in Wrocław. Due to its location by the river and a large number of bridges and overcrossings, Wrocław is often referred to as 'Venice of the North'. In order to prepare for the opening of new possibilities, Wrocław analyses and implements projects related to the activation of rivers and riverside areas. These measures (consultations, debates, cooperation with entrepreneurs as well as institutions and state authorities) lead to the determination of the most important needs from the perspective of residents, tourists and entrepreneurs.

At the same time, the city takes measures related to the eco-development of the water area e.g. by supporting and use of agricultural traditions in river valleys, increasing the storage capacity of the valleys, defining the use and management of areas exposed to flood hazard. However, the city has been pursuing clear and transparent flood protection policy for many years: we protect historically developed areas, mainly by means of technical measures, and we do not allow the development of areas exposed to flood hazard.

Drinking water for the city residents is taken from the surface sources in the valley of Olawa River, which is supplied with water from another river, Nysa Kłodzka. The water resources for the city include 1,026 hectares of meadows and ponds in the south-east of Wrocław, located



6 kilometres from the city centre, within the city itself as well as the neighbouring commune.

The biggest water-related challenges the city faces are storm water management, surface water protection and water savings.

Therefore, we feel the need of deep reflexion and remodelling of our approach to water in the city, so as to achieve the best possible, sustainable model, which guarantees water safety for the nearest future as well as for the next generations. Water plays a significant role in the sustainable development concept. Water is a necessary condition of life and is needed in large quantities. Therefore a rational water resource management is necessary.

One of Wrocław's achievement for sustainable water management - Smartflow

The Municipal Water and Sewerage Company (MPWiK), in co-operation with Microsoft and Future Processing, has developed the IT system 'SmartFlow', which enhances battling hard-to-find malfunctions of the water supply system and thanks to which the utility provider is able to manage its water resources in a more ecological, efficient, and economic way. The MPWiK is in the top five largest water and sewerage companies in Poland. It is a great example of a long tradition complemented with dynamic growth based on innovation and modern technologies.

Within the SmartFlow system, the city has been divided into zones, which together use around 100 devices monitoring the amount and pressure of the flowing water. Thanks to this, the most difficult to find failure – the 'hidden leak' – is easy to locate.

The system is based on sensors in the network, which continuously provide information on water distribution.

The most important measurements are taken in the night, when the consumption is minimal. After the potential failure spots have been identified, precise search is carried out with the help of acoustic methods. The system covers 80% of the city and utilises 70 flow metres with 10-minute measure interval. The data is sent once per day; the MPWiK is thus fed with 10,080 measurements per day.

The advantages for the city and the water system are indisputable:

- 72 hours, instead of 180, days reaction time to failures
- real decrease in water losses
- intelligent and ecological water management
- easier and faster data analysis
- better management of the sewage network

In 2017, the MPWiK was awarded the IT Leader Prize for the SmartFlow system in the category Public Utility.

<https://www.smart-flow.eu/en>

Stakeholders:

- MPWiK
- Microsoft
- Future Processing
- Municipality of Wrocław

CHALLENGES ON WATER

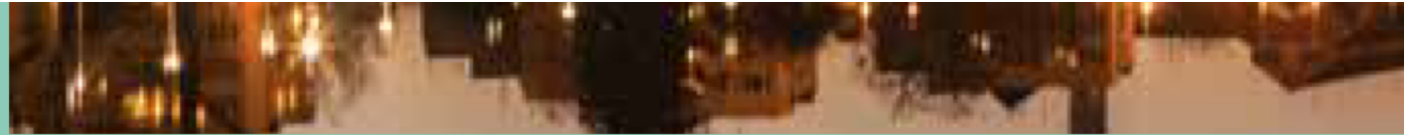
PRESENTED CASE IN 2017



AIWW LEADERSHIP PROGRAMME

CITY LEADERS FORUM | TUESDAY, 31 OCTOBER 2017





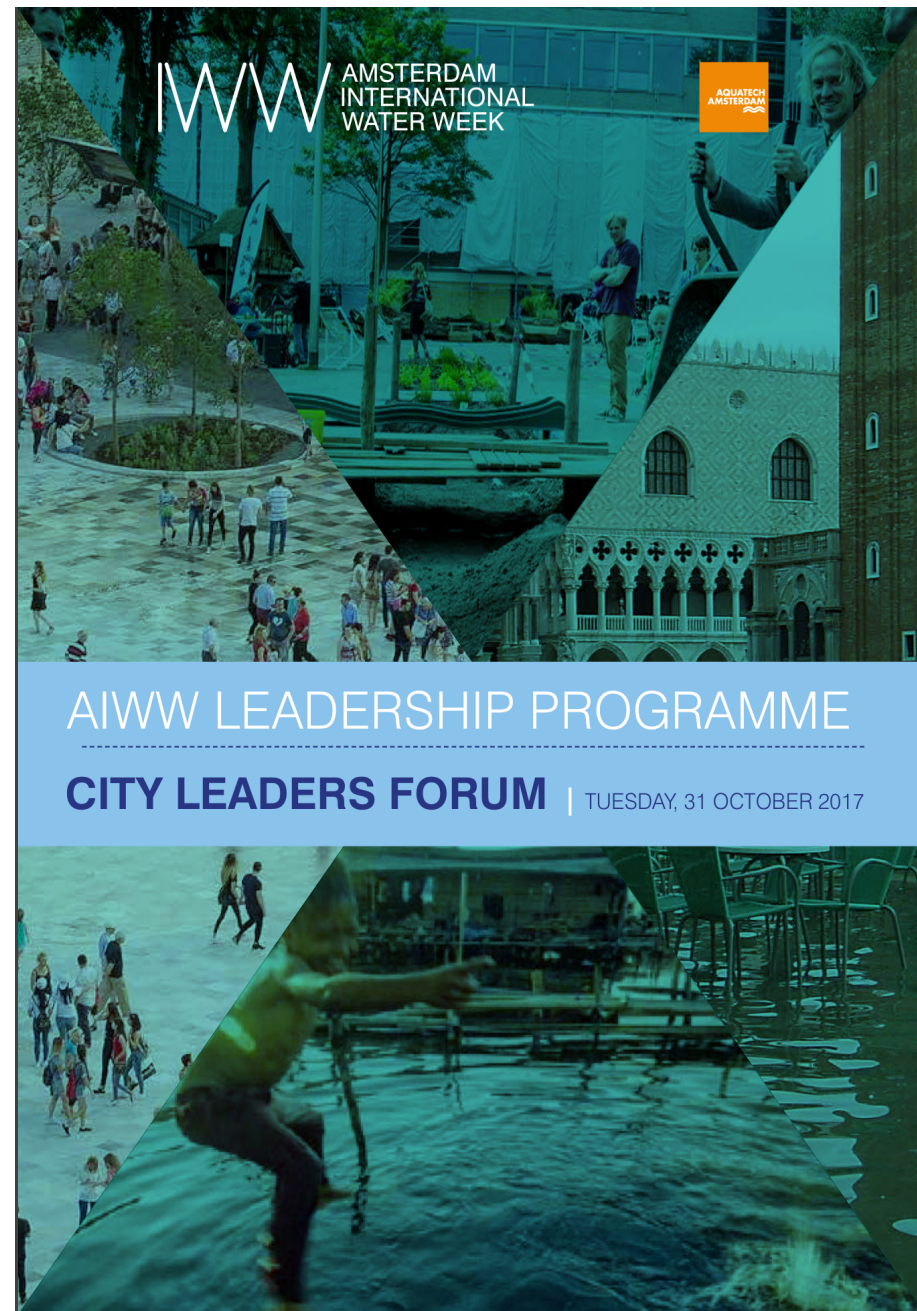
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CHALLENGES ON WATER

PRESENTED CASE IN 2017



SOCIAL VALUE OF WATER IN THE BLUE-GREEN CITY OF WROCLAW



ZBIGNIEW W. KUNDZEWICZ

Institute for Agricultural and Forest Environment,
Polish Academy of Sciences, Poznań, Poland

JOANNA KIERNICKA-ALLAVENA

Climate and Nature Protection Office, Department of Sustainable
Development, Municipality of Wrocław, Wrocław, Poland

ACHIEVEMENTS ON CREATING AWARENESS

PRESENTED ON JUNE 2018

The blue-green city of Wrocław can serve as an **interesting case study** of relevance to the topical domain of social value of water. There is a need for deep reflection and remodelling of our approach to water in the city, so as to achieve the best possible, sustainable, model.

Many activities towards **awareness raising** have been undertaken in the city.

While initiated and enhanced by **municipal authorities, utilities, and groups of citizens**, such activities have been enthusiastically supported by many inhabitants.

General awareness of the value of water and the water issues has been **improved** and so has been the understanding of possible responses.

RAISING AWARENESS & EDUCATION

ENVIRONMENTAL EDUCATION CENTER “HYDROPOLIS” | WROCLAW

EXHIBITION ZONE



RELAXATION ZONE

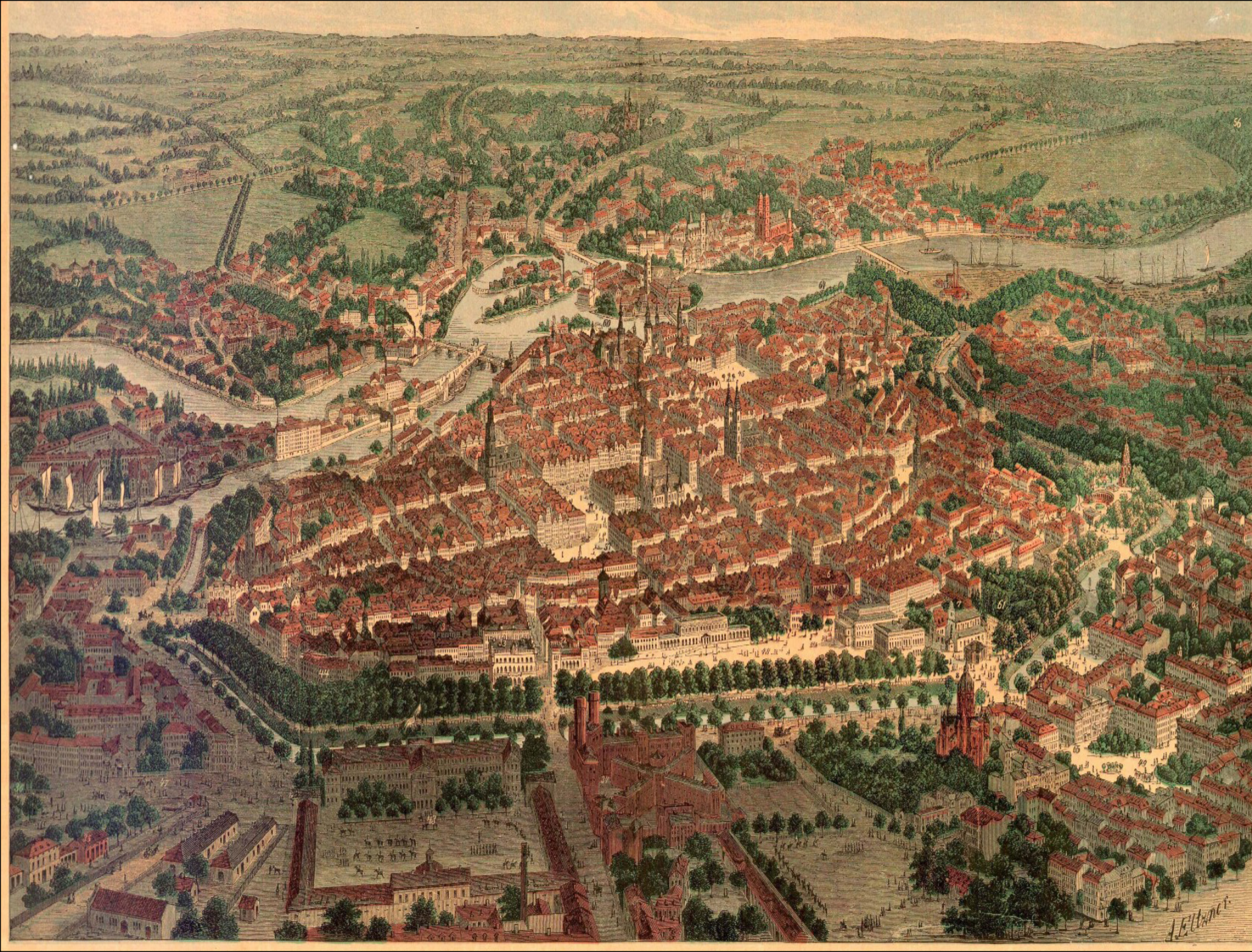


Did you know that Amazonia is an area stretching across 9 countries of South America?

[Read more](#)



SOCIAL VALUE OF WATER
GLINIANKI BATHING AREA | WROCLAW



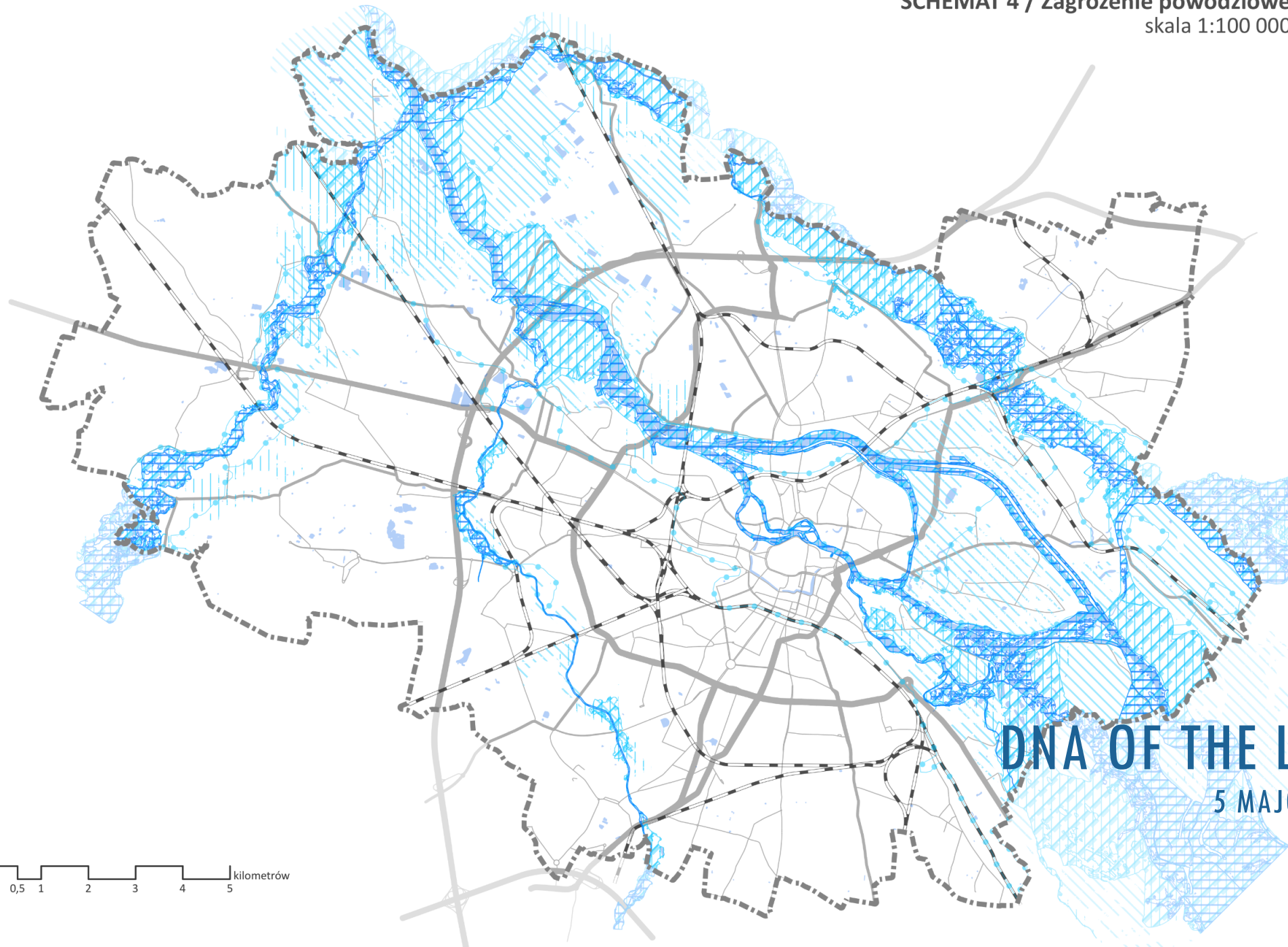
HISTORY OF THE CITY

DNA OF THE LAND



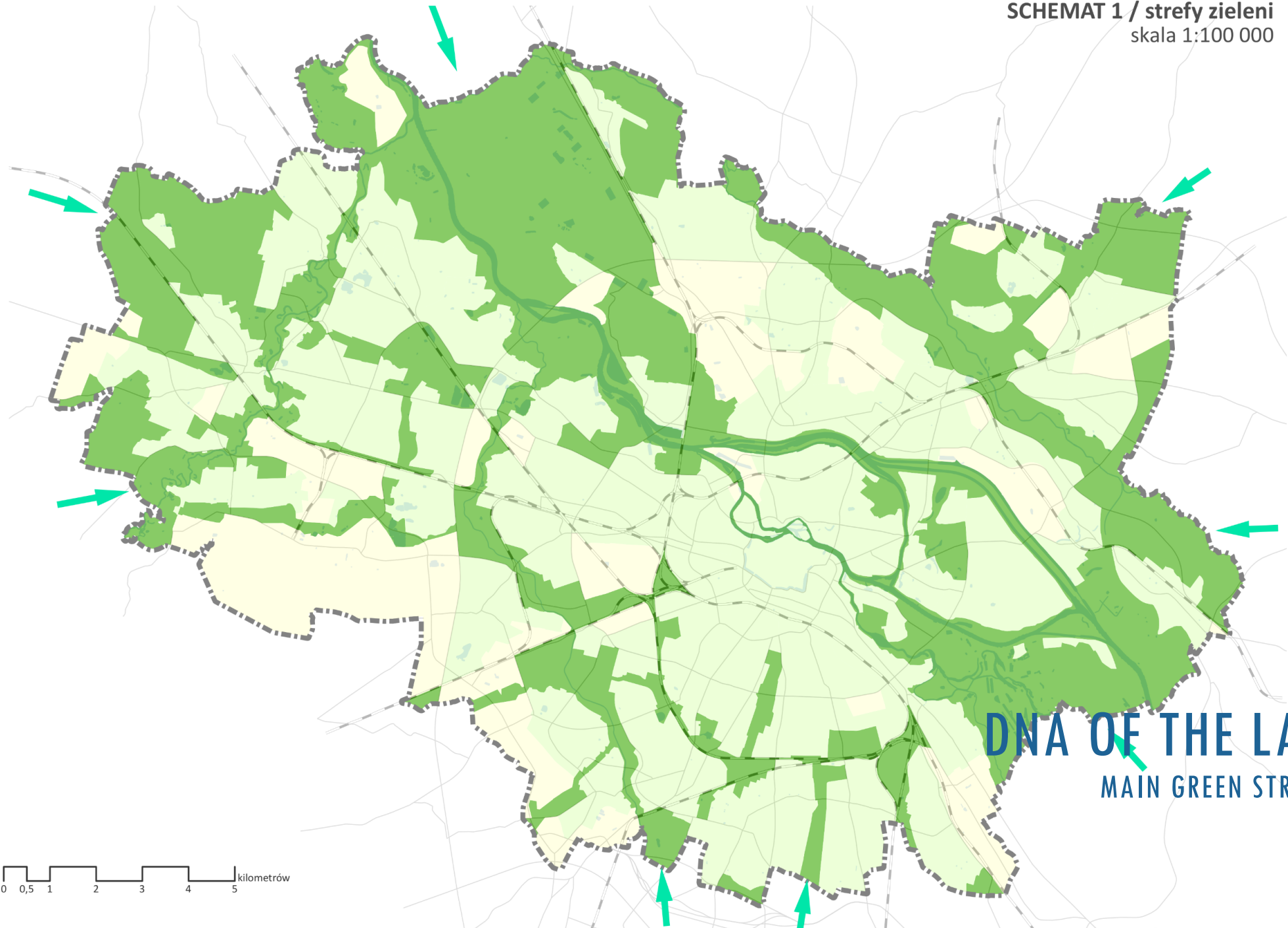
HISTORY OF THE CITY

DNA OF THE LAND



DNA OF THE LAND(SCAPE)
5 MAJOR RIVERS | WROCLAW

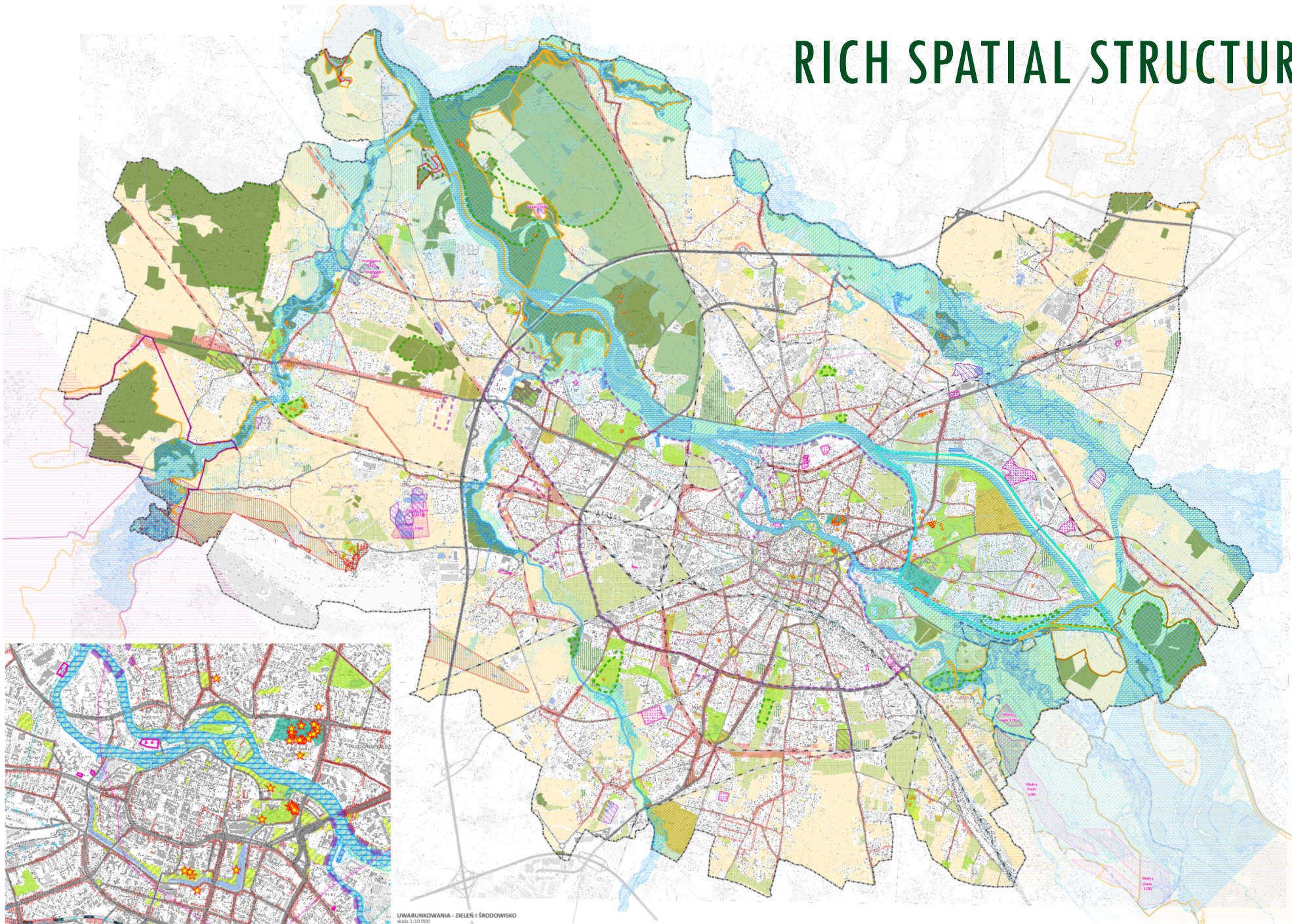
0 0,5 1 2 3 4 5 kilometrów



DNA OF THE LAND(SCAPE)
MAIN GREEN STRUCTURE | WROCLAW



RICH SPATIAL STRUCTURE | WROCLAW





2 EXAMPLES WITH DIFFERENT TOPICS AS CATALYST
FOR TRANSFORMATION OF OUR CITIES AND LAND | ZWOLLE



2 EXAMPLES WITH DIFFERENT TOPICS AS CATALYST
FOR TRANSFORMATION OF OUR CITIES AND LAND | POZNAN

POZNAN | POLAND WATER AS THE CATALYST

2012

- The City of Poznan in 2012 is isolated from the river. The river is not managed well, flooding might occur, unattractive and unsafe places are developing, and socio-economic deterioration is a threat.
- The spatial development of river area bear the consequences of the rather one-dimensional 'engineering approach' towards the river that was dominant during the second half of the 20th Century. The River Warta is canalised.
- Water is seen as an enemy, rather as a friend to people.
- The relationship between the City of Poznan and its river got lost. The city turned its back on the river zones.
- The historic Royal Route is lost and taken over by car traffic.
- There are no cycling routes, paths or attractions, and not even one restaurant.

- Industrial area
- city center high density area
- high and low density area
- Royal Imperial Route in parts
- city main roads
- parks
- low green area
- deltas
- forest
- forts
- sport facilities



Preferred alternative:
Maximum integration River and City



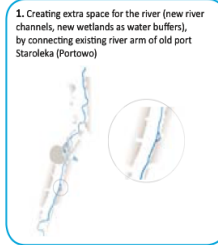
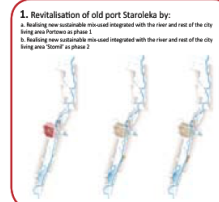


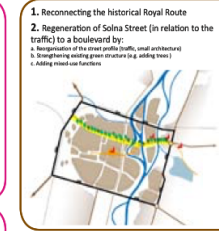
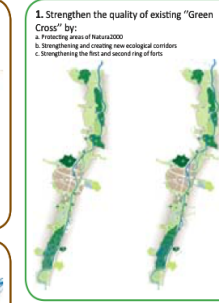


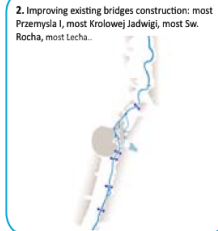
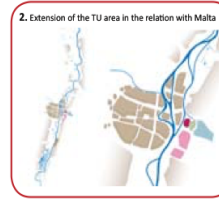

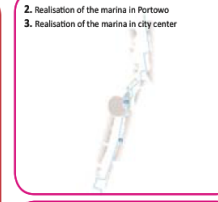
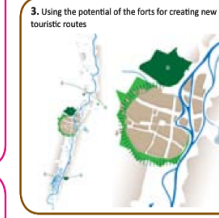
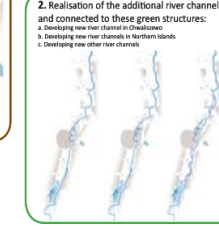

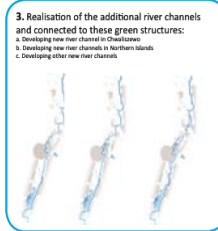
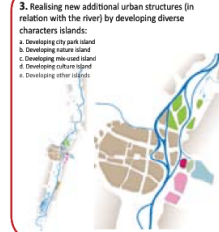

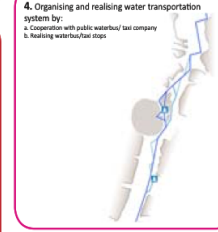
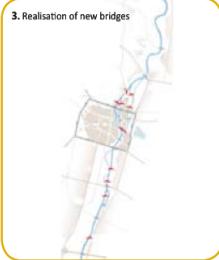
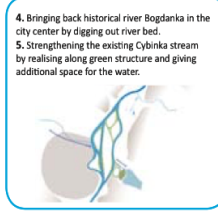
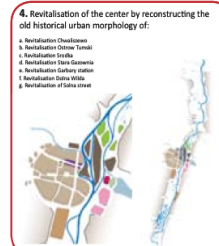



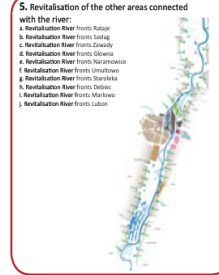



2030

- The presence of the river in the city adds many cultural, historical, natural, social, economic and aesthetic values to that city.
- The river offers great potential for the new developments in urban quality with all the benefits that go with it.
- The development of the Warta zone is used for the revitalisation of the urban areas.
- The beautiful river zone contributes to the attractive environment with positive effects on society.
- The River Warta zone has many attractive places and facilities, and is bike and pedestrian-friendly. New connections have been made and the river has very good accessibility.
- The historic Royal Imperial Route is strong and connects the new and old city structures - city centre, Chwaliszewo, Ostrow Tumski and Malta Park.
- The new living areas are full of life; people are taking advantage of living by the water.
- A water taxi is running, for tourists as well for residents, as public transport.

- intensive mix used area
- mix used area
- university area
- high density living with green
- low density living with green
- Solna Street
- Royal Imperial Route
- first city ring
- parks
- low green area
- deltas
- forest
- forts
- sport facilities
- fort routes
- existing and new green corridors



POZNAN - POLAND WATER AS THE CATALYST

connections		river safety	living and working	living and working	tourism and recreation	historical heritage	landscape and nature
car traffic	slow traffic		build-up areas	open spaces			
<p>1. Completing First City Ring</p> 	<p>1. Completing Wartastrada</p> 	<p>1. Creating extra space for the river (new river channels, new wetlands as water buffers), by connecting existing river arm of old port Staroleka (Portowo)</p> 	<p>1. Revitalisation of old port Staroleka by:</p> <ul style="list-style-type: none"> a. Building new residential mixed integrated with the river and rest of the city living area Portowo as phase 1 b. Building new residential mixed integrated with the river and rest of the city living area Staroleka as phase 2 	<p>1. Realising boulevards along the river</p> <ul style="list-style-type: none"> a. Developing boulevard along Tuwim's Walk b. Developing boulevard along Chwaliszewo c. Developing boulevard along boulevards 	<p>1. Realising new significant regional cultural buildings within "Green Cross" border by:</p> <ul style="list-style-type: none"> a. Realising new Conference Center b. Realising other possible cultural buildings 	<p>1. Reconnecting the historical Royal Route</p> <p>2. Regeneration of Solna Street (in relation to the traffic) to a boulevard by:</p> <ul style="list-style-type: none"> a. Regeneration of its great profile (traffic, road architecture) b. Strengthening existing green structure (e.g. adding trees) c. Adding mixed use functions 	<p>1. Strengthen the quality of existing "Green Cross" by:</p> <ul style="list-style-type: none"> a. Fortifying Area of Natura2000 b. Strengthening and creating new ecological corridors c. Developing the first and second ring of trees 
<p>2. Reorganisation of city centre traffic system</p> 	<p>2. Realisation of new and completing existing pedestrian and cycle routes/network</p> <ul style="list-style-type: none"> a. Realising river boulevards 	<p>2. Improving existing bridges construction: most Przemysla I, most Krolowej Jadwigi, most Sw. Rocha, most Techa...</p> 	<p>2. Extension of the TU area in the relation with Malta</p> 	<p>2. Realising river related services:</p> <ul style="list-style-type: none"> a. Building bars, cafes, restaurants, beach b. Building operator of river connected spaces 	<p>2. Realisation of the marina in Portowo</p> <p>3. Realisation of the marina in city center</p> 	<p>3. Using the potential of the forts for creating new touristic routes</p> 	<p>2. Realisation of the additional river channels and connected to these green structures:</p> <ul style="list-style-type: none"> a. Developing new river channels in Chwaliszewo b. Developing new river channels in Northern islands c. Developing new other river channels 
<p>3. Realisation of additional parking places</p> 		<p>3. Realisation of the additional river channels and connected to these green structures:</p> <ul style="list-style-type: none"> a. Developing new river channel in Chwaliszewo b. Developing new river channels in Northern islands c. Developing other new river channels 	<p>3. Realising new additional urban structures (in relation with the river) by developing diverse characters islands:</p> <ul style="list-style-type: none"> a. Developing city park island b. Developing nature island c. Developing mixed island d. Developing culture island e. Developing other islands 	<p>3. Providing neighbourhood playgrounds in different city districts connected to the river</p> 	<p>4. Organising and realising water transportation system by:</p> <ul style="list-style-type: none"> a. Cooperation with public waterbus/ taxi company b. Realising waterbus/fair stops 		
	<p>3. Realisation of new bridges</p> 	<p>4. Bringing back historical river Bogdanka in the city center by digging out river bed.</p> <p>5. Strengthening the existing Cybinka stream by realising along green structure and giving additional space for the water.</p> 	<p>4. Revitalisation of the center by reconstructing the old historical urban morphology of:</p> <ul style="list-style-type: none"> a. Revitalisation Chwaliszewo b. Revitalisation Olden Twarda c. Revitalisation Techa d. Revitalisation Stara Gornia e. Revitalisation Gornia wola f. Revitalisation Dolna Wola g. Revitalisation of Solna street 	<p>4. Activating the Garbary Square by realising new mixed-use functions on the edges of the plaza. Realising the high quality plaza: pavement, small architecture, green structure, trees</p> 	<p>5. Enriching sport facilities by improving facilities and combining those with additional mixed-use functions:</p> <ul style="list-style-type: none"> a. Developing gym life b. Developing TU area 		
	<p>4. Reconnecting the historical Royal Imperial Route</p> <p>5. Downgrading and reconstruction of the Solna Street</p> 		<p>5. Revitalisation of the other areas connected with the river:</p> <ul style="list-style-type: none"> a. Revitalisation River Fronts Kralup b. Revitalisation River Fronts Kralup c. Revitalisation River Fronts Zdzislaw d. Revitalisation River Fronts Chwaliszewo e. Revitalisation River Fronts Chwaliszewo f. Revitalisation River Fronts Staroleka g. Revitalisation River Fronts Techa h. Revitalisation River Fronts Staroleka i. Revitalisation River Fronts Staroleka j. Revitalisation River Fronts Lodon 		<p>6. Realising sport facilities buildings to accommodate new water connected sports (canoe club, yacht club, swimming club etc.)</p> 		
	<p>6. Reorganisation public transport in the centre in connection with new city centre traffic system</p> 				<p>7. Realising touristic tram</p> 		
					<p>8. Replacing dattas if needed</p>		

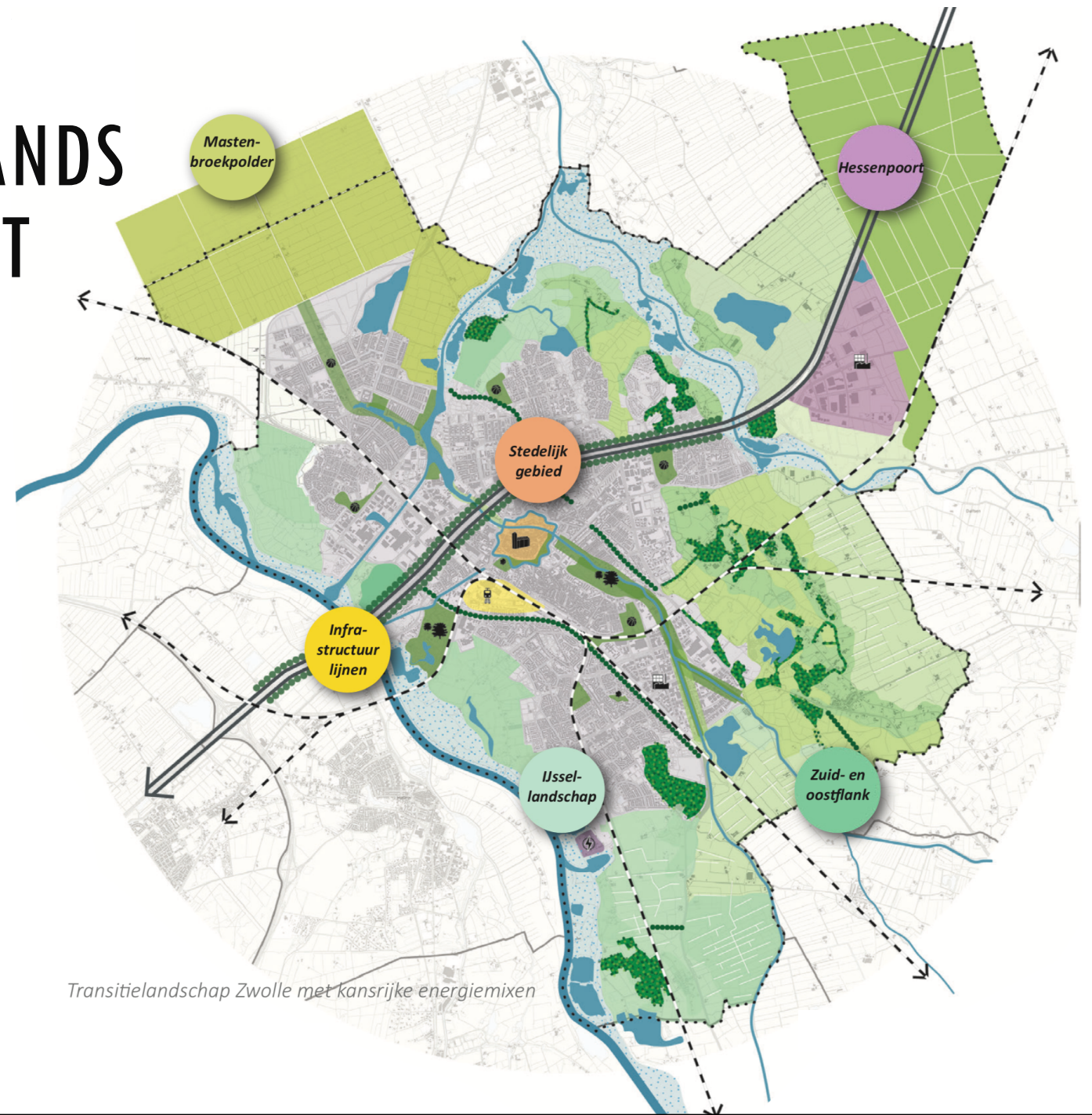
POZNAN - POLAND WATER AS THE CATALYST



POZNAN - POLAND
WATER AS THE CATALYST



ZWOLLE - THE NETHERLANDS ENERGY AS THE CATALYST



ZWOLLE - THE NETHERLANDS ENERGY AS THE CATALYST

Stedelijk gebied

Het Centrum

- Sterke focus op besparing in bestaand stedelijk gebied;
- Zonne-energie alleen op plekken waar het historische karakter niet aangetast wordt;
- Focus op besparing via het stimuleren van isolatie, lage temperatuurverwarming, etc.;
- Via kunst en moderne communicatie de (energie)transitie van stad en land in beeld brengen en houden.

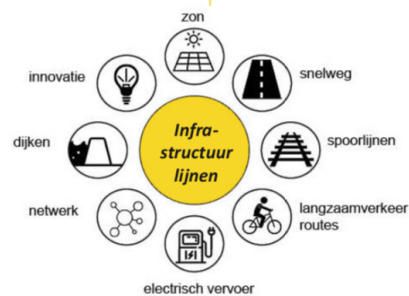


De wijken

- Stimuleren van energie uit PV's, zonneboilers en lage temperatuurverwarming;
- Stimuleren isolatie bij bestaande bouw, maximale besparing bij nieuwbouw (bv. stationslocatie);
- Verbruiksmanager en energiedashboard aanstellen met inzicht in de transitie in stad en ommeland.

De infrastructuurlijnen

- Kansen onderzoeken voor energieopwekking en benutting langs snelweg, spoorlijnen, LV routes en dijken. Primair focus op zonne-energie.
- Lineaire structuren kunnen ook ingezet worden als verbindinglijnen door het stedelijk gebied die de diverse energieopwekkers in het ommeland aan elkaar verbinden.
- Inzetten op all-electric mobiliteit.
- Letterlijk zichtbaar en attractief maken voor de burger → betrokken, bewust, trots.



De Zuid-en oostflank

- Primair inzetten op zonne-energie;
- Meekoppelen met oplossingen voor regionale en stedelijke wateropgave en identificeren van versterkingsmogelijkheden voor recreatie, transitie van agrarisch gebruik, sub-urbane verstedelijking en het versterken landgoederen.



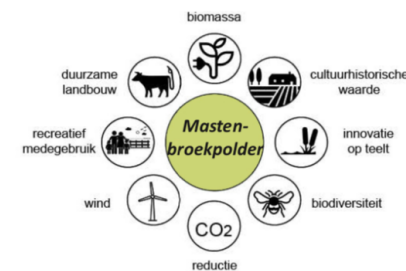
Hessenpoort

- Primair grootschalige windopwekking in combinatie met zon;
- Meekoppelen met huidige ontwikkelingen en ambitie om de poort naar de stad een gezicht te geven. Ontwikkelen en inzetten op innovatie, R&D en bedrijvent centrum met nieuwe vormen van geautomatiseerde logistiek, verwerking en verpakkingen en gelaagde voedselteelt voor Zwolle en de regio.



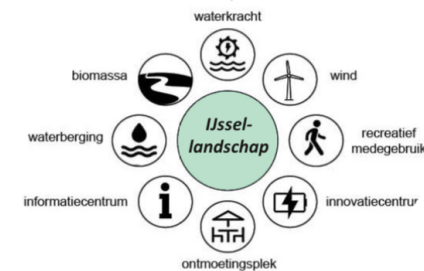
De Mastenbroekpolder

- Primair inzetten op biomassa;
- Meekoppelen met transitie naar duurzame landbouw, versterken recreatief gebruik met een nadruk op het ervaren van de cultuurhistorische waarde;
- De kansen voor windmolens onderzoeken op basis van de inpasbaarheid, maat en schaal in relatie tot de urgentie en het tijdelijk karakter.

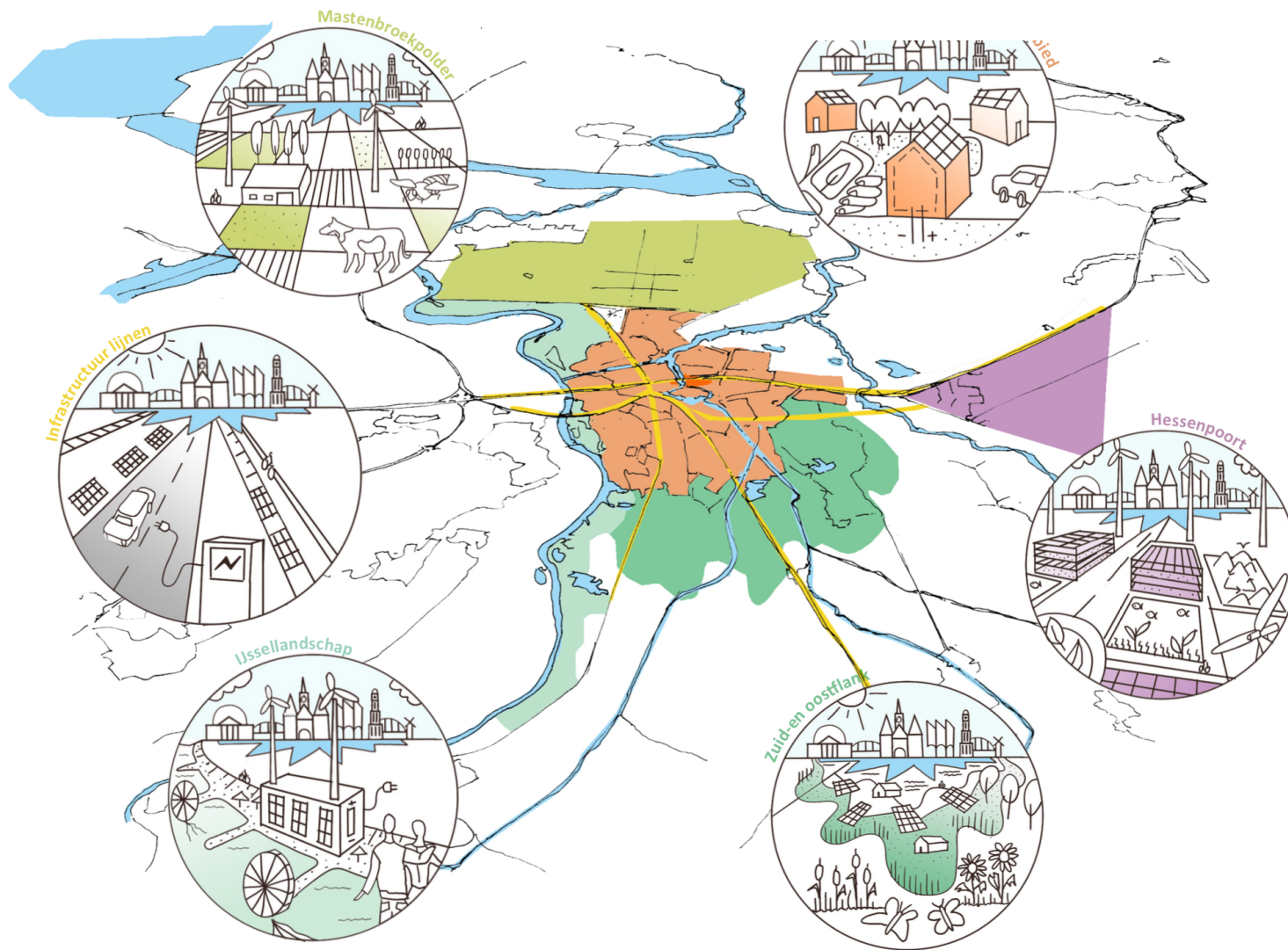


Ijssellandschap

- Primair waterkracht;
- Meekoppelen met dijkversterkingen, onderzoeken naar kansen voor energie uit zon, recreatief medegebruik en waterberging;
- Uiterwaarde als ondergrond voor biomassa;
- Onderzoekslocatie voor wind;
- Transformatie oude energiecentralelocatie naar een energie-informatiecentrum, een duurzaamheidsicoon voor de stad en innovatiecentrum voor energieopslag.



ZWOLLE - THE NETHERLANDS ENERGY AS THE CATALYST



Mastenbroekpolder



infrastructuurlijnen



IJssellandschap



stedelijk gebied



Zuid- en oostflank



Hessenpoort



KEY FOR SUCCESS

1. Zone based on the lay of the land
2. Identify your catalyst (energy, food, water, housing, etc.)
3. Integrated approach; combine programs/problems/issues/opportunities
4. Focused institutional body with multiple stakeholder (Public, private, knowledge institutes, startups & residents)
5. Develop an inclusive investment plan & organise funding