



City of
Amsterdam



waternet
regional public water authority
amstel gooi en vecht
city of amsterdam



open
eyes
economy
summit



A network approach for making Amsterdam Rainproof



Daniel Goedbloed
Program manager Rainproof
Economy of a Water city 25 | 09 | 2018

www.rainproof.nl | [#rainproof020](https://twitter.com/rainproof020)



Public water government



City of Amsterdam

- Drinking water
- Sewerage
- Storm water
- Groundwater
- Shipping and inland waterways



Regional Water Authority Amstel, Gooi and Vecht

- Flood protection
- Water level management
- Water quality control
- Waste water treatment



waternet

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city of amsterdam



**world
waternet**

Climate resilient city



Balance in the city



Healthy living



Attractive city



Circular economy

Increase in rain and cloudburst events

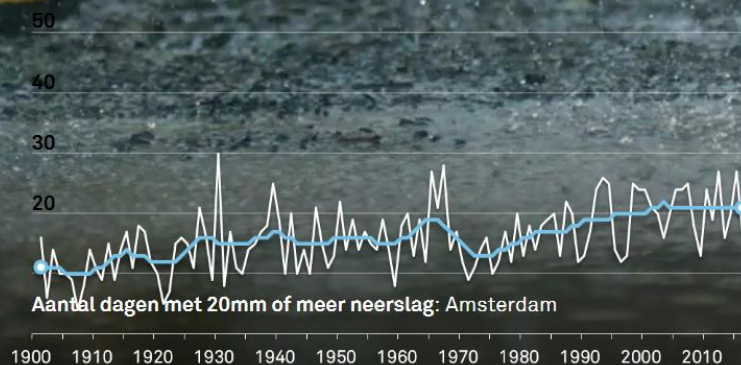
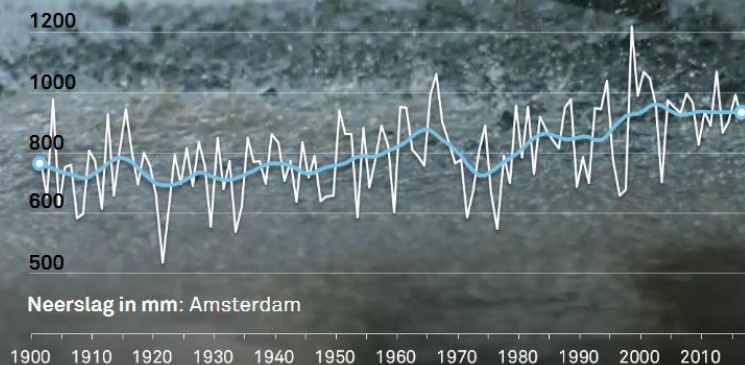
Wake up call Cloudburst Copenhagen 2011.



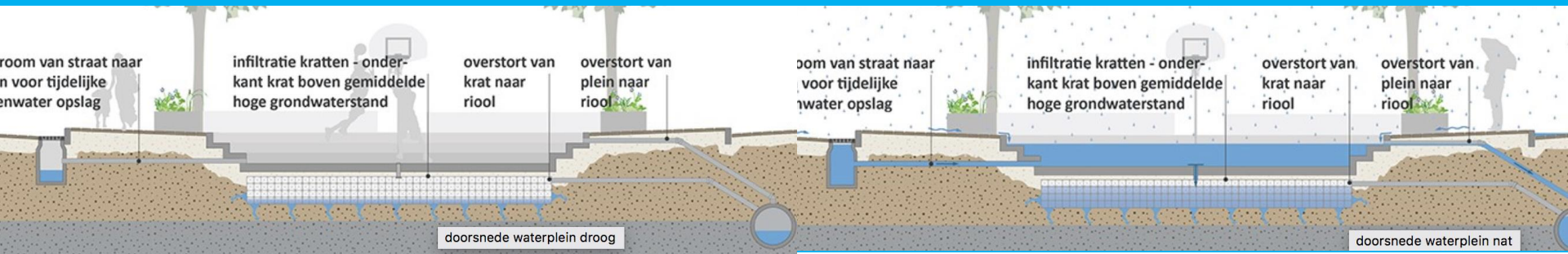
**STEEDS
MEER
NEERSLAG**



De afgelopen eeuw kende een grote variatie in droge en natte jaren. Sinds 1901 nam de jaarlijkse hoeveelheid neerslag in de regio Amsterdam daarbij toe met 25 procent, van gemiddeld 768 mm naar 933 mm.







Different governance model: Amsterdam Rainproof



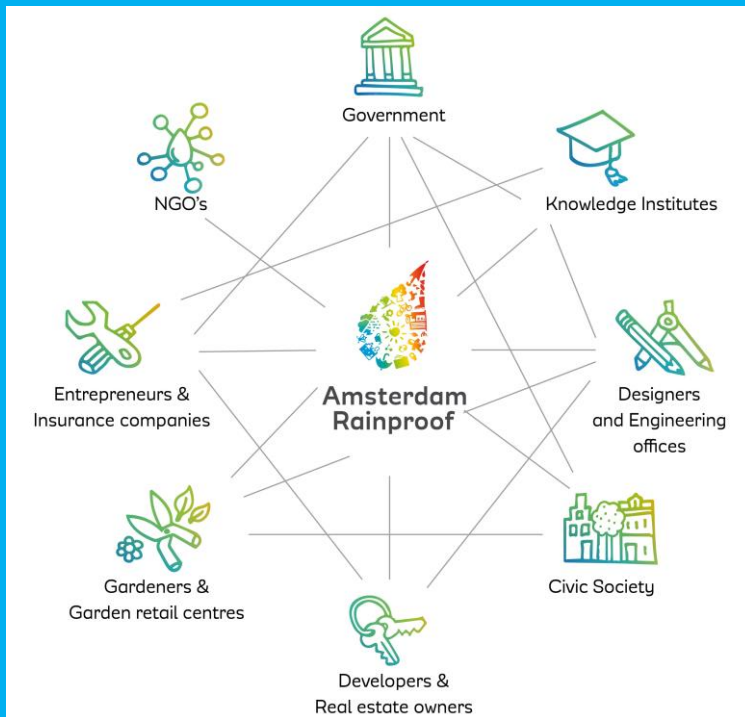
Amsterdam Rainproof

every drop counts



Network Organisation

Connecting and facilitating all stakeholders involved.



Online platform with storytelling, tips and tricks

Welke plekken in de stad **zijn al** rainproof gemaakt?

Deze projecten zijn er al om onze stad rainproof te maken



Make your neighbourhood rainproof. How? Use these tips!

Amsterdam Rainproof
Amsterdam Rainproof: that's you, us and all the people of Amsterdam working together. We share a common goal: to help Amsterdam handle the increasingly frequent downpours. Even better, we want to make better use of the free rainwater that currently flows directly into the drains. The extreme rainstorms cause damage, primarily because the city is increasingly paved in buildings, asphalt and paved gardens - no raindrops can seep through!

Introducing Rainproof initiatives together..
If you add improvements to your house or garden, make them Rainproof! If you'd like to make an even bigger difference, work with others on joint initiatives. Rainproof wants to link citizens, entrepreneurs, knowledge workers and public servants in ongoing projects and new initiatives. When we work together, we can transform Amsterdam into a city that uses smart solutions to make the best of heavy rainfall.

..that make the difference.
The following suggestions offer tangible tips for what you can do - as a local resident or a professional. Visit Rainproof.nl for a comprehensive overview. If you have an idea, story or other contribution for Rainproofing your city, let us know! We'd be happy to link you to other Rainproof locals.

Together, we are Amsterdam Rainproof



Rainproof Solutions in:



containing/
slowly
releasing



run-off



infiltration



building
robust



re-cycling



building



roof



garden



street



square



park



neighbourhood

Intermediate/middlemen to citizens: Garden retail



Intermediate to citizens: NGO's / local communities



Actions: Rainproof gardens



Together with: Housing Associations, garden centres, green NGO's and large companies (for providing volunteers)



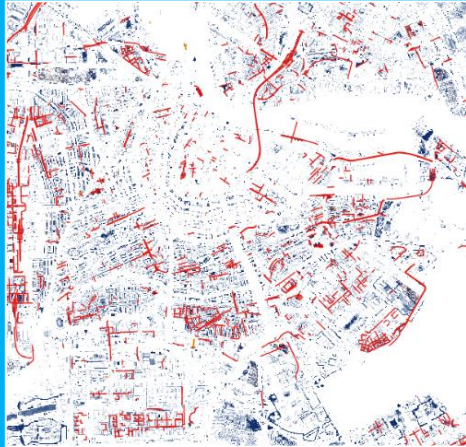
Link Rainproof Measures to Other Urban Work and Vision

Rainaway tiles

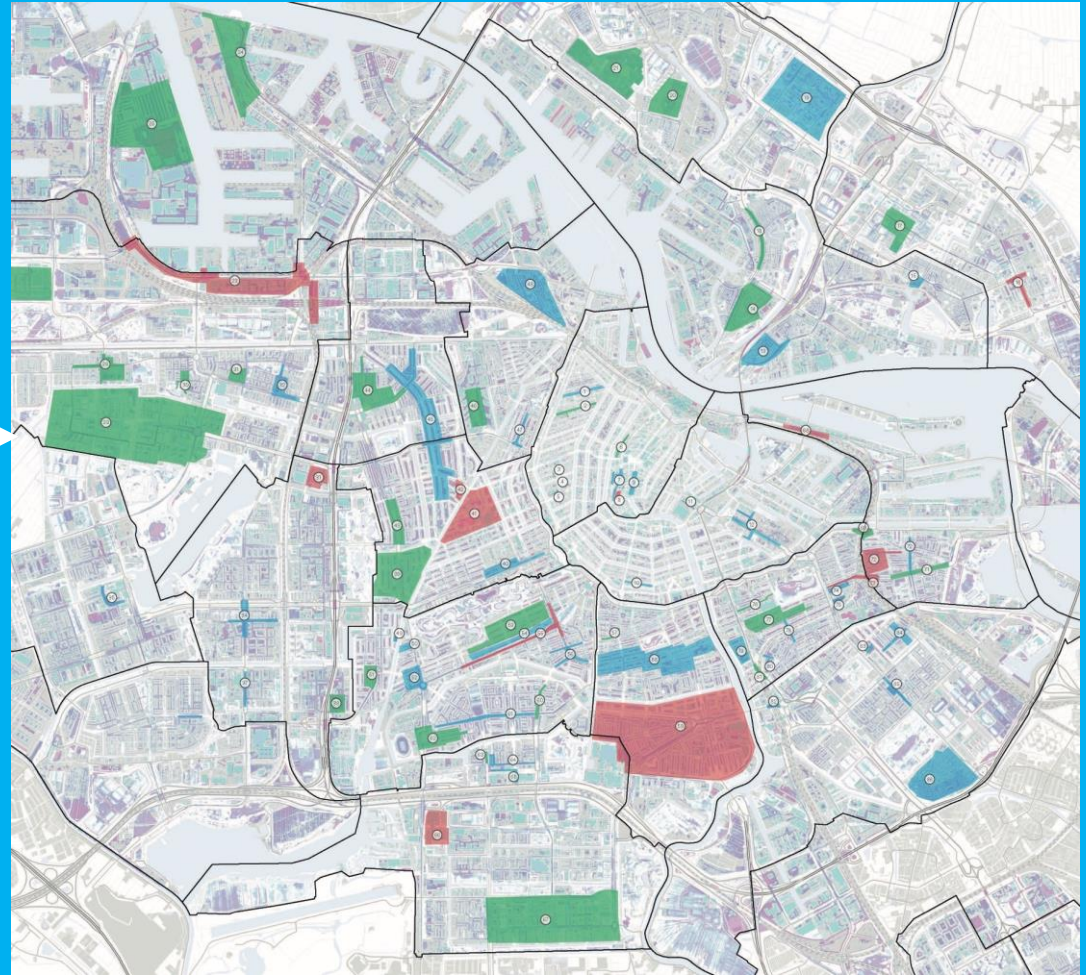


Linking Green infrastructure to water-stress

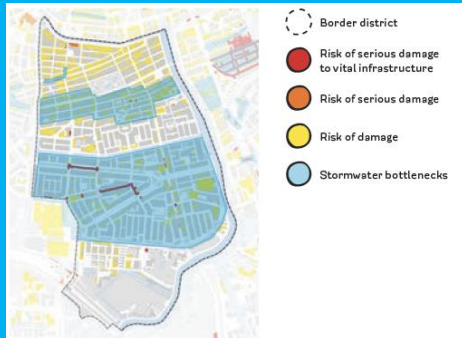
3di Cloudburst simulation



Major bottlenecks















Risk assessment



Green infrastructure for cloudburst prevention



-  Stormwater dispersing streets
-  Stormwater transporting streets
-  Stormwater retention streets
-  Potential stormwater retention area
-  Stormwater controlling speed bump
-  Overflow outlet
-  Collection discharge point of district
-  (More) infiltration desirable in summer
-  Border hydrological area
-  Border hydrological district
-  Buildings
-  Water

Recreation and stormwatermanagement



- Stormwater dispersing streets
- Stormwater transporting streets
- Stormwater retention streets
- Potential stormwater retention area
- Stormwater controlling speed bump
- Overflow outlet
- Collection discharge point of district
- (More) Irrigation desirable in summer
- Border hydrological area
- Border hydrological district
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- Water





- Stormwater dispersing streets
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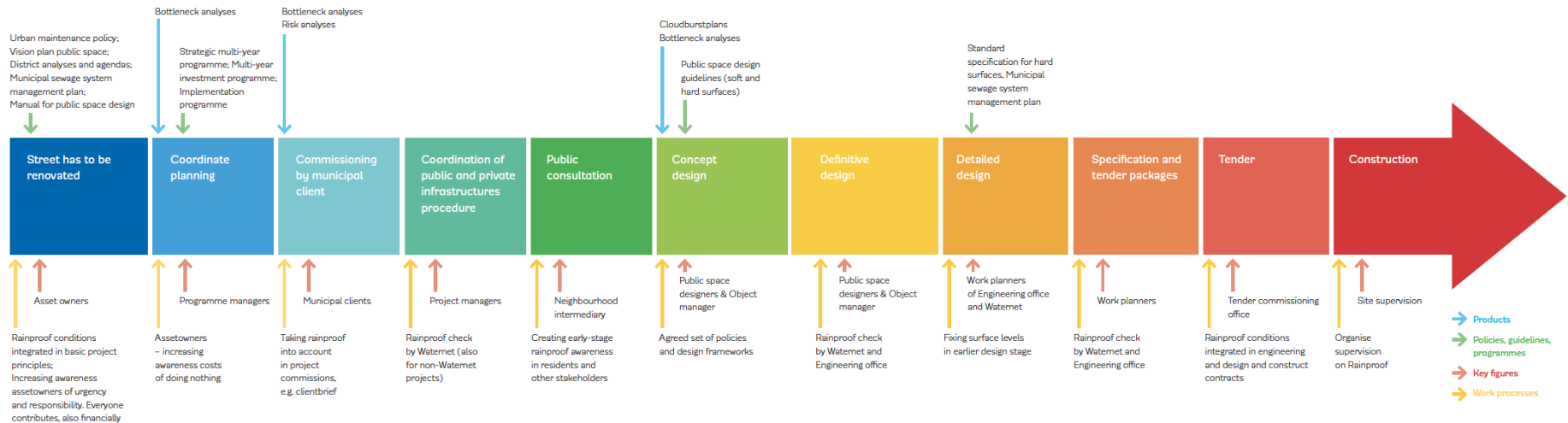




Mainstreaming Rainproof

Mainstreaming Rainproof in public domain

- Policy/guidelines/programmes
- Key figures
- Instruments

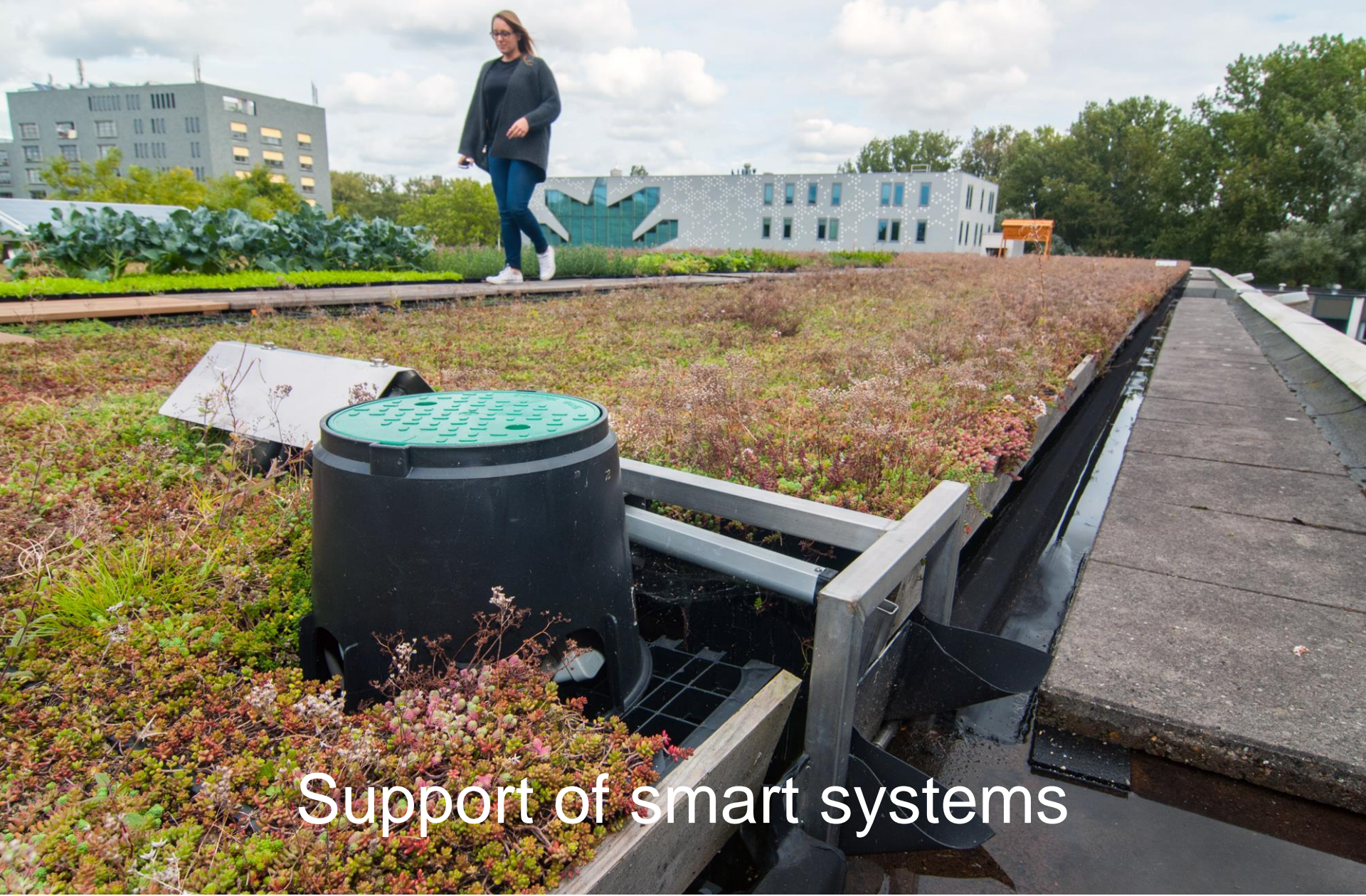




Link design and maintenance







Support of smart systems

Smart use of green infrastructure



Smart rainbarrel





Private green projects



Help from unexpected sources



Reaching a wider / different audience



Happy hour when it rains

RAINBAR

Welkom in de Rainbar: de enige bar waar het binnen regent. Trek een regenjas aan, want happy shower = happy hour! Hier drink je bier gemaakt van regenwater. Proost!

Het regent vaker harder in Nederland. Maar een stad kan niet schuilen. Als we niets doen worden we kleddernat. Hoe kunnen we regenwater benutten en steden rainproof maken?

Kom binnen en proef wat jij kunt doen.
Check www.rainproof.nl.



Rainbar is een concept van RDEP Collectief

Made possible thanks to Amsterdam Rainproof.

Water Sensitive Rotterdam, Waterschap Amstel, Gooi en Vecht en Rainbar.



LET OP:

Van regen word je nat,
dus trek een regenjas aan.
Betreden op eigen risico.
Geen alcohol < 18

RAINBAR







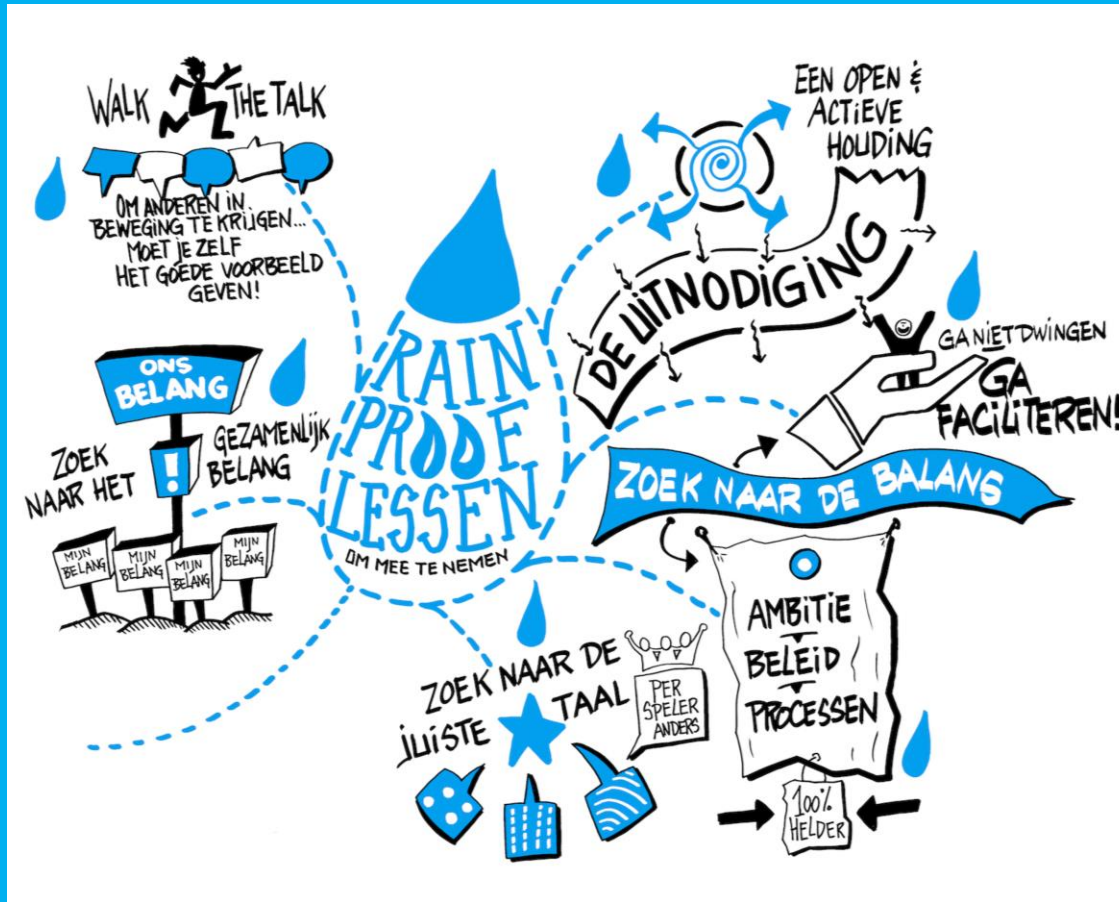
Do what you do,
but do it rainproof!



Lessons Learned Rainproof

Walk the talk:
For movement,
you have to
give the right
example

Search for
the common
interest

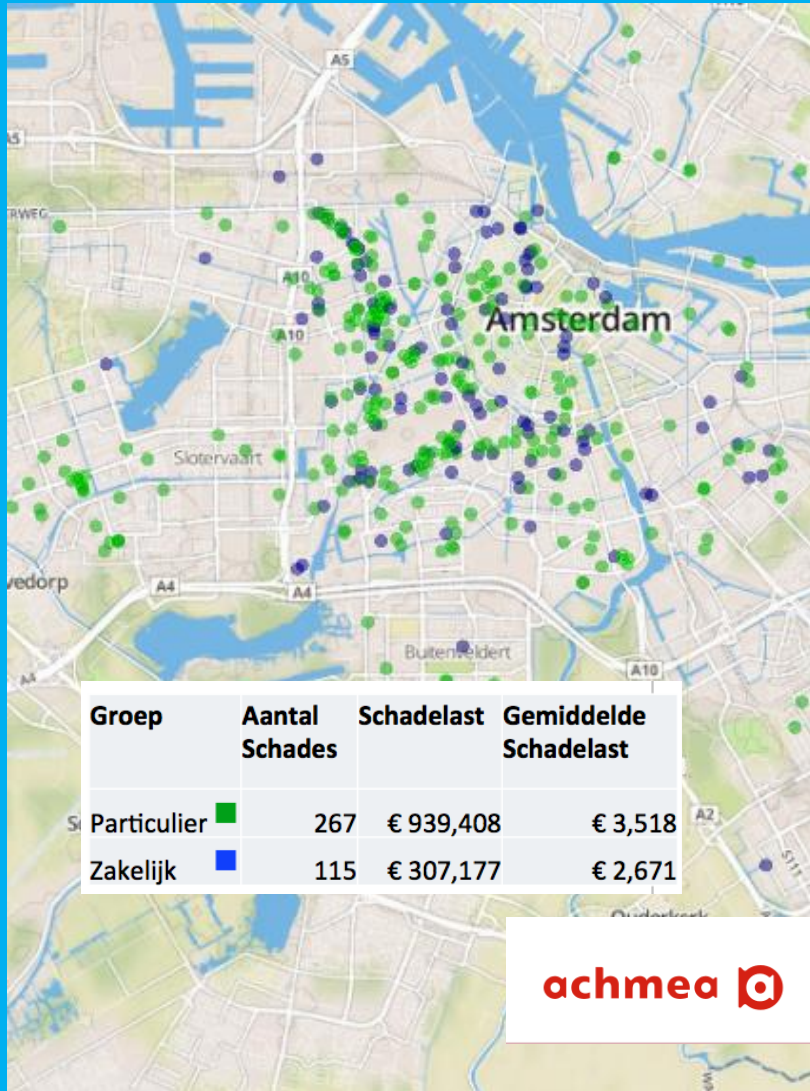


The invitation:
Have an open
and active
attitude

Create a balance
between:
Facilitating
(instead of
pushing)
- Clear ambitions
/ policy /
processes

Search for the right language
(change per stakeholder)

Intermediate to citizens: Insurance companies



Het regent meer omdat het steeds warmer in Nederland wordt
 Klimaatverandering is de grote oorzaak van de hevige regenbuien. De temperatuur stijgt in Nederland. Daarom regent het steeds vaker. En komen er meer hoosbuien voor.

Veel steden zijn kwetsbaar voor grote hoosbuien
 De riolen in grote steden, zoals Amsterdam, zijn vaak niet geschikt voor het regenwater dat tijdens een hoosbui valt. Ook door de vele gebouwen, de betegelde tuinen en al dat asfalt kan het regenwater niet goed weg.

Via Rainproof werkt Amsterdam aan een mooie stad met droge voeten
 In Amsterdam koppelt Rainproof projecten van bewoners, bedrijven en overheid aan elkaar. Bij verandering van daken, tuinen, straten en parken wil Rainproof de Amsterdammers helpen om dit meteen goed te doen. Zodat de leefomgeving de hevige regenbuien beter aankaan. Bijvoorbeeld door gratis regenwater niet af te voeren, maar juist