

Kansen zien, kansen pakken!



vvg

13 november 2013

Leven in de stad van de toekomst

Louis Bekker

City Account Manager

Programma manager Onderwijs (PO/MO)

Concurrentie

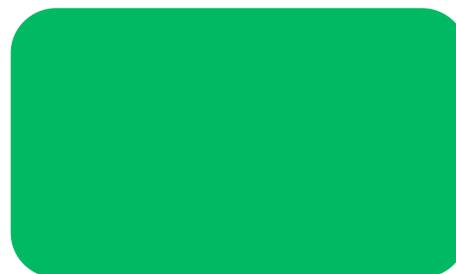
Samenwerking



Smart
Leefbaar
Groen
Veilig
Gezond
Sociaal

Geen gebiedsontwikkeling meer zonder Technologie

- **Leven in de stad van de toekomst**
- De Technologiepartner in gebiedsontwikkeling 3.0
- Samenwerken en loslaten in de “Triple helix”



A Visit to the Future

Germany, 2050. In the observation platform of an energy museum, two visitors from abroad find out about the most ambitious energy system transition achieved to date.





Energie Akkoord : 16% duurzame energie in 2023

Texel goede testcase voor energietransitie



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Page 6

Cloud Power voor TexelEnergie

Cloud Power stelt gemeenschappen in staat hun energiebeheer en energietransitie te regelen en ondersteunt decentraal energie management. Het concept ondersteunt het streven om zelfvoorzienend in energiebehoefte te zijn. Dat sluit goed aan bij de ambitie van Texel om zelfvoorzienend te worden op energiegebied. Cloud Power levert veel voordelen op voor de consument.

Tekst: Michel van Zutphen, Cap Gemini

© by Marco van Wijkbergen

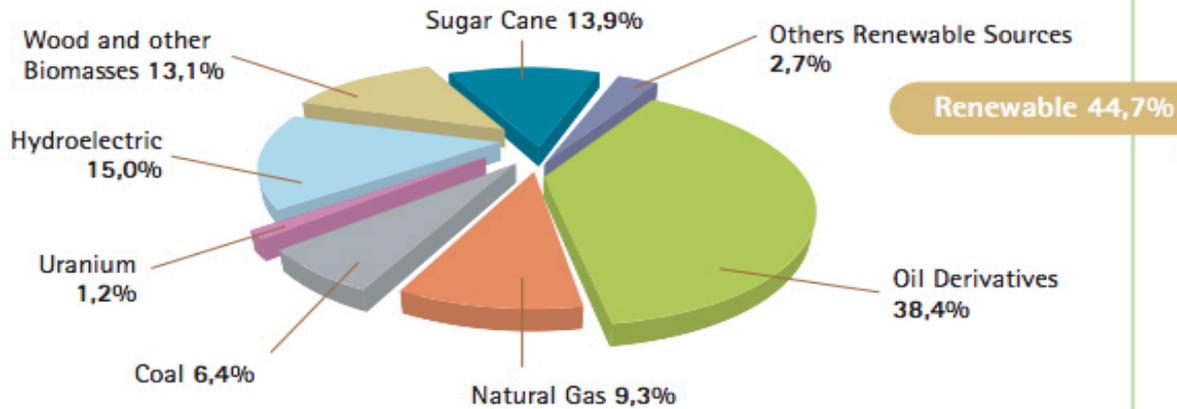
Kenmerken Cloud Power

- **Instapoptie**
Een belangrijk voordeel van Cloud Power is het eenvoudige feit dat consumenten de keuze hebben om in te stappen. Deze keuzevrijheid heeft een belangrijke uitwerking en dat is dat deelnemers gemotiveerd zijn om deel te nemen. Hierdoor kan verwacht worden dat de investeringen in Cloud Power effectief benut worden, terwijl de effectiviteit van investeringen in modellen met verplichte deelname laag is.
- **Producten op maat**
Energieleveranciers hebben geworsteld om nieuwe producten op de markt te zetten. De onderliggende reden hiervoor is dat het

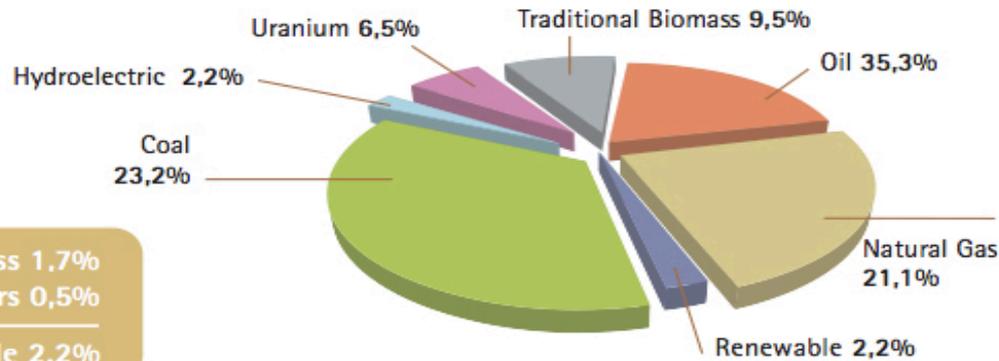
38 | Energiemagazine | 14 juni 2012

Energy Mix in de toekomst?

BRAZILIAN ENERGY MATRIX



WORLD ENERGY MATRIX



50 QUESTIONS AND ANSWERS ABOUT THIS NEW MARKET



Modern Biomass 1,7%
Others 0,5%
Renewable 2,2%

Designing Area's is designing lifestyles based on the Quality of live.

Sustainable:

- Living
- Working
- Moving
- Water
- Food
- Energy
- Recreation
- Health
-



What makes an area development sustainable?



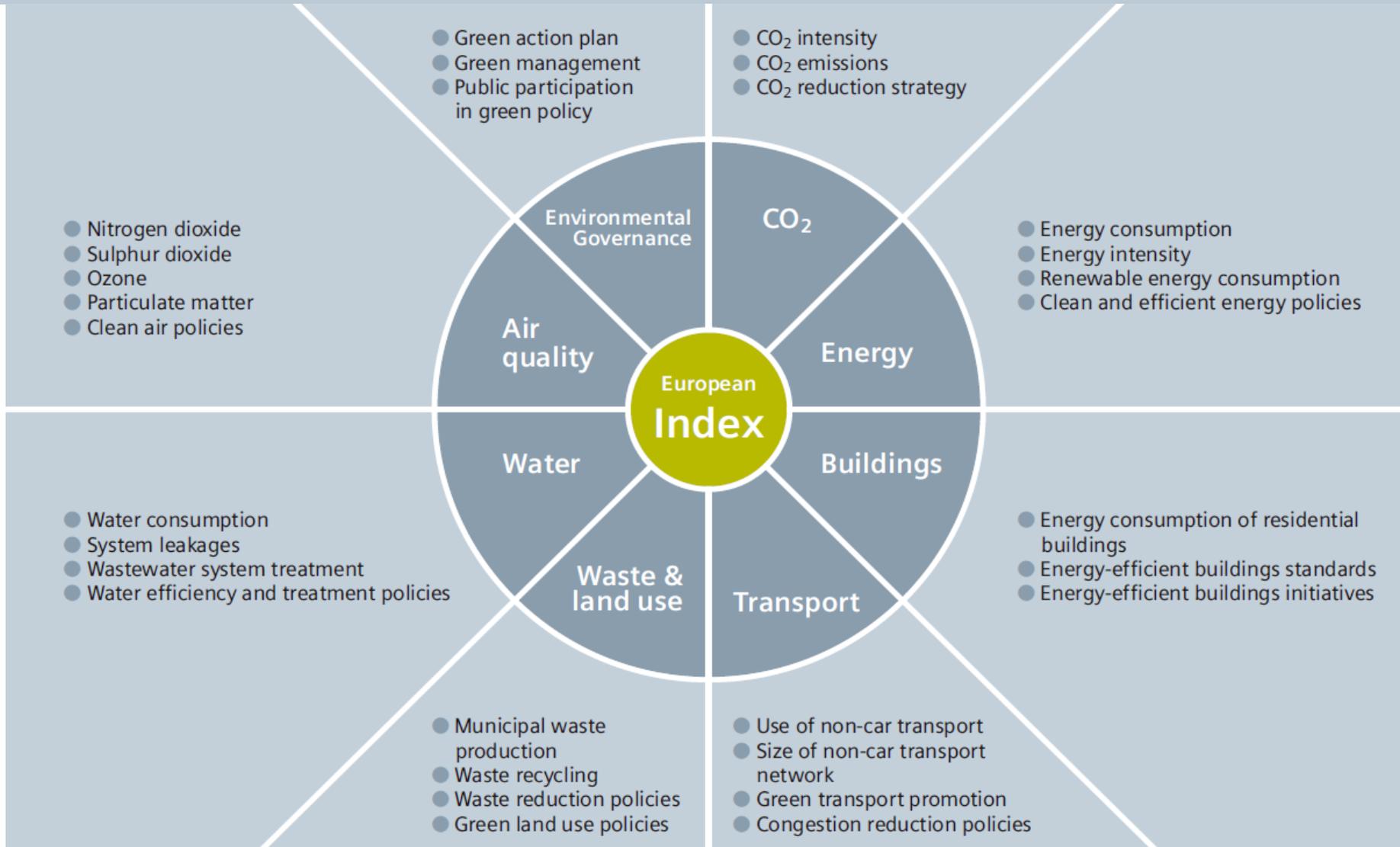
Geen CO2 uitstoot

Geen afval

Geen fossiele brandstoffen

European GREEN CITY Index

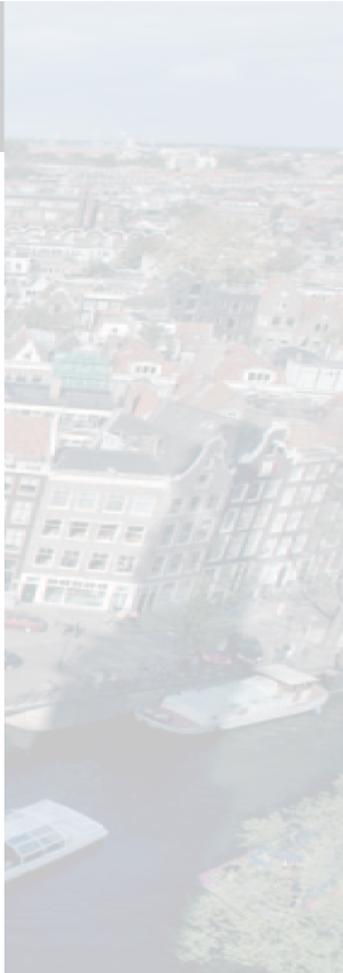
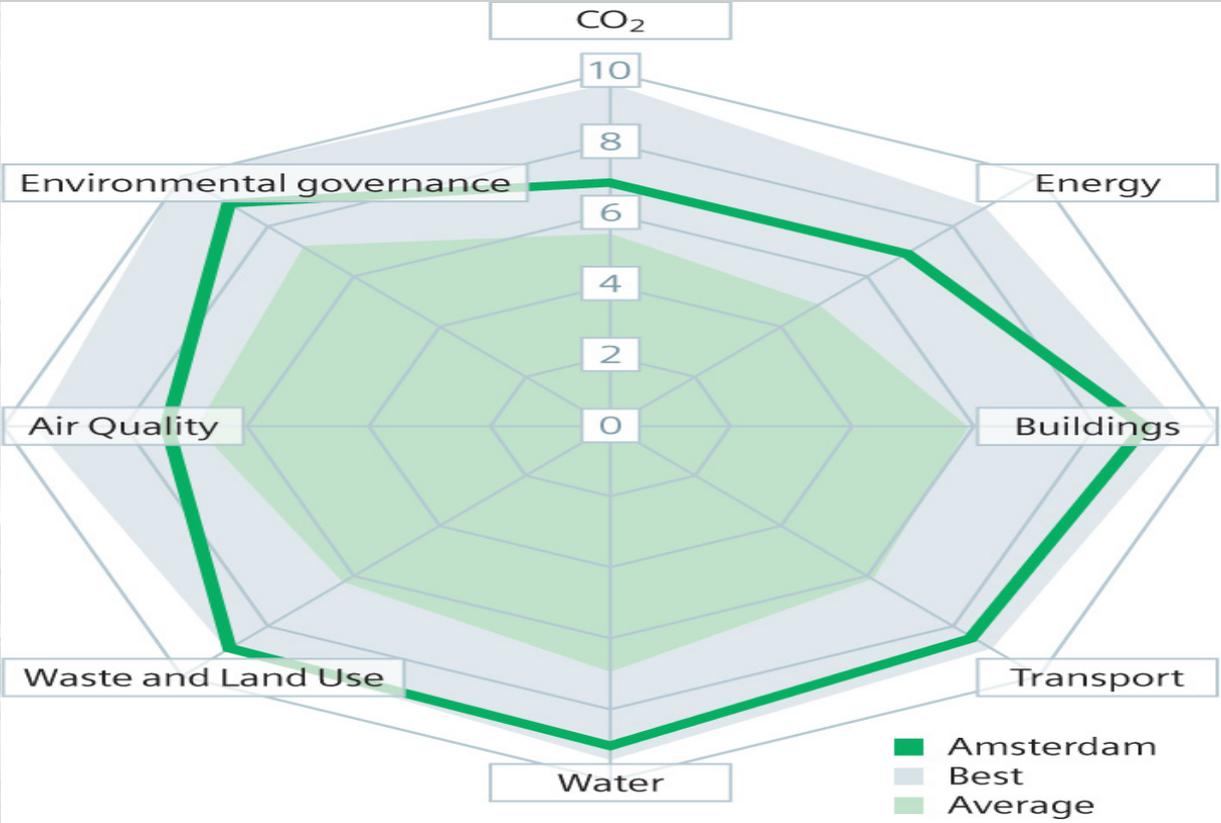
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Green City Index

Measurements: Input for Solutions

Amsterdam_Nederland



BREEAM keurmerk Gebieden (bestaand en nieuwbouw)

BREEAM-NL Gebied

1. Gebiedsmanagement

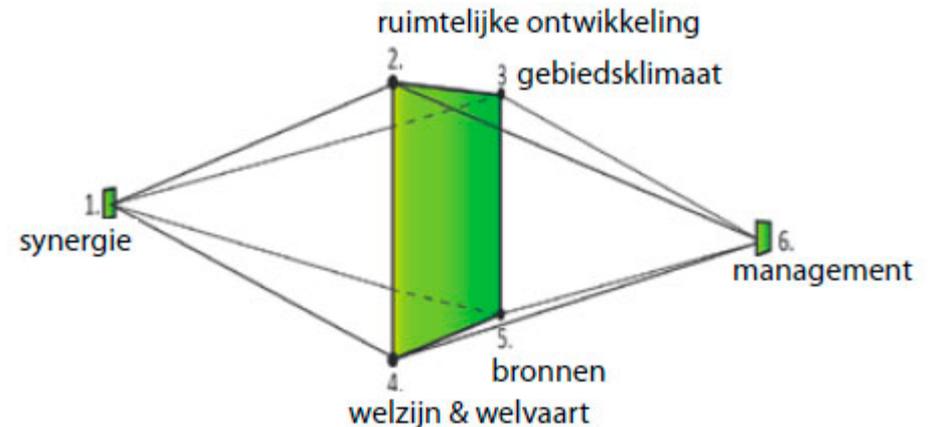
2. Synergie

3. Bronnen

4. Ruimtelijke ontwikkeling

5. Welzijn & Welvaart

6. Gebiedsklimaat



City Dashboard (Real-time data)

London

51.51 N, 0.13 W

Fri 5 Apr @ 13:03:58
 Go to Map - Go to Grid - Change City

WEATHER STATIONS (MULTIPLE SOURCES)

STATION	WIND SPEED	WIND GUSTS	DIRECTION	TEMPERATURE	HUMIDITY	RAIN TODAY	PRESSURE	FORECAST
CASA Office: Bloomsbury W1	11.6 mph	4 mph	NE	5.2 °C	58%	0.0 mm	1014.1 mbar	Cloudy
Hampstead NW3	7.8 mph	12.3 mph	NE	4.8 °C	55%	0.0 mm	1012.0 mbar	Cloudy
Ben Cook: Bow	10.1 mph	9 mph	W	5.3 °C	61%	0.0 mm	1016.7 mbar	Dry Clear

WEATHER (METAR)

London City Airport
 Mostly cloudy **NE at 15 mph** **5 C**

FORECAST (YAHOO! WTH)

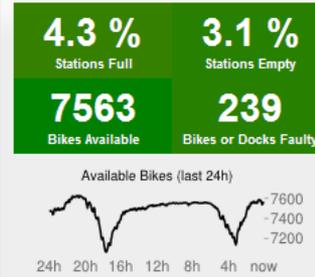
1758

Fri	Sat
6 C	8 C
Mostly Cloudy	Partly Cloudy

TUBE LINE STATUS (TFL)

Bakerloo	Good Service
Central	Minor Delays <small>more</small>
Circle	Good Service
District	Good Service
H & C	Good Service
Jubilee	Good Service
Metropolitan	Good Service
Northern	Good Service
Piccadilly	Good Service
Victoria	Good Service
W & C	Good Service
Overground	Good Service
DLR	Good Service

BIKE SHARING (TFL)



IN SERVICE (TFL)

6448 London buses

348 Underground trains

AIR POLLUTION (DEFRA)

µg/m³ TIME AVGD	OZONE	NO ₂	SO ₂	PM _{2.5}	PM ₁₀
Bloomsbury	38	85	5	20	19
Marylebone Rd	61	57	4	15	22
N Kensington	76	20	?	14	20

RADS (CASA)

Data not updated for 6507 minutes

RIVER LEVEL (PLA)

Thames (Tower Pier)
5.07 metres

STOCKS (YAHOO)

FTSE 100 Index
6266.21
 -77.91 (-1.24%)

RANDOM TRAFFIC CAMERAS (TFL)



BBC LONDON NEWS (BBC)

Dogs 'bred for drug deals and crime' Second gun murder suspect arrested Building sites fail safety checks Londoners claim Lake District name Tower block fire deaths families sue Chelsea 3-1 Rubin Kazan

OPENSTREETMAP UPDATES (OSM)

Updating cycle track on A316 cleaned redundant tags superseded by area-based solution track added Footpath looked a bit dramatic! Address Postcode ITO World / OS Locator / Bing / stop positions added

ELECTRICITY (N.GRID)

Demand (Great Britain)
45393

MOOD (LSE MAPPINESS)

12% unhappier than the long term average for here

1% happier than the whole country right now

TWITTER TRENDS FOR LONDON

#PolisTrust **HBOS** **Hilco** **#ThingsThatAnnoyMe**
#GrandNational Kurt Cobain Nirvana #kisstory #Aintree Russia

Geen gebiedsontwikkeling meer zonder Technologie

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- Samenwerken en loslaten in de “Triple helix”



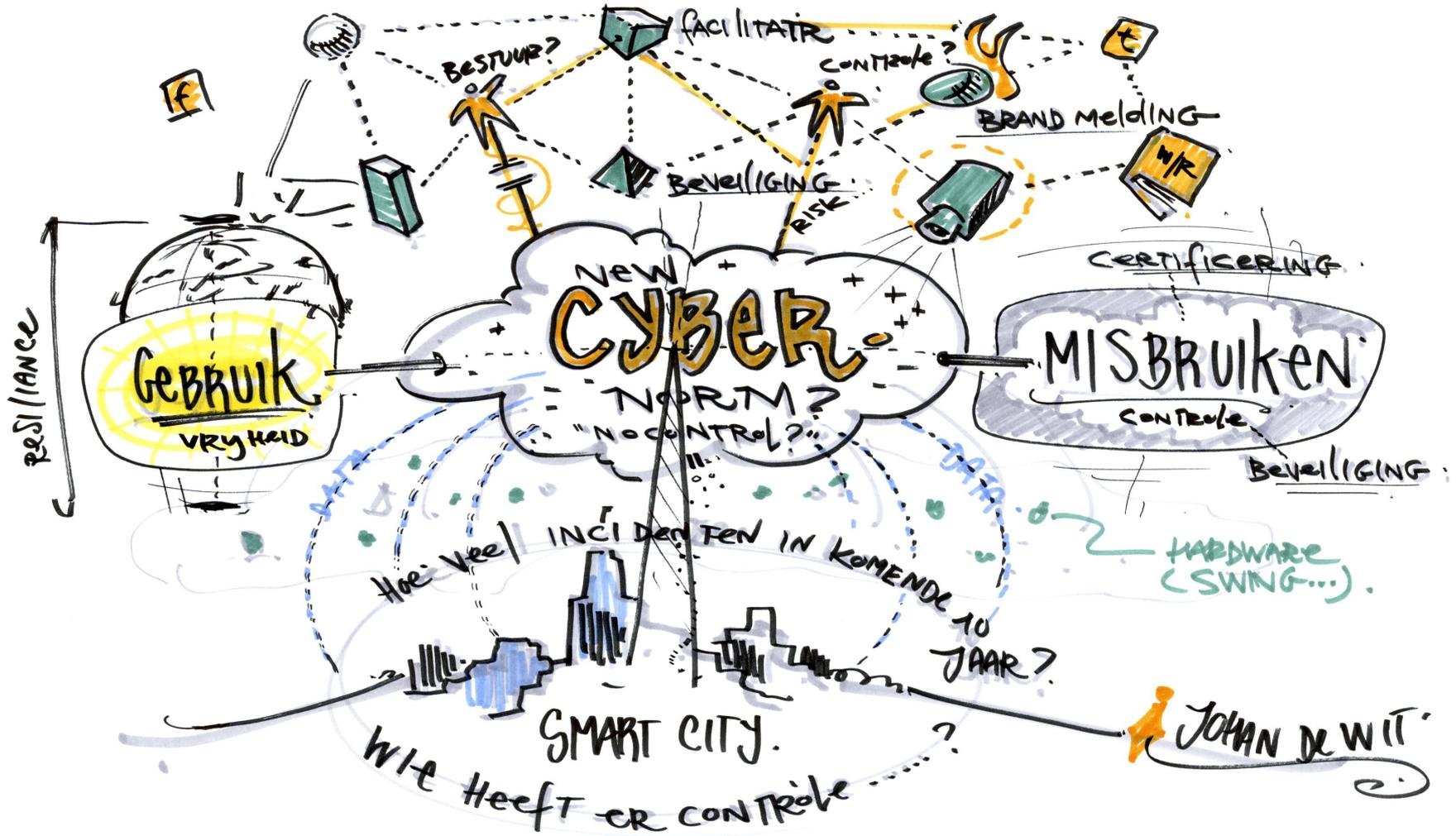
Internet of Things in the Smart City

Wat gebeurt er als de hele stedelijke infrastructuur “*connected*” is?



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Veiligheid in de stad



Picture of the Future “Water 2030“ Integrated Water Cycle Management



2030

Water-Sensitive City

Integration of

- Urban Planning
- Stakeholder Management
- Water Supply
- Water Treatment
- Storm (Flood) Water
- Decision Support Systems

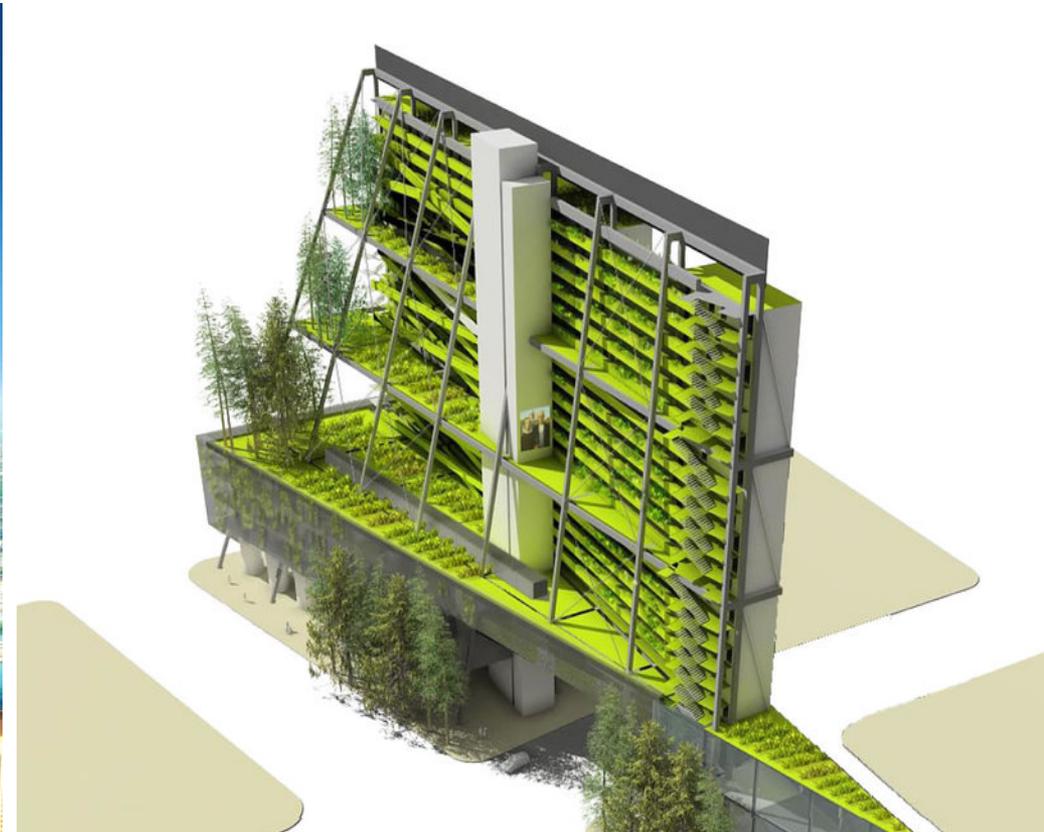
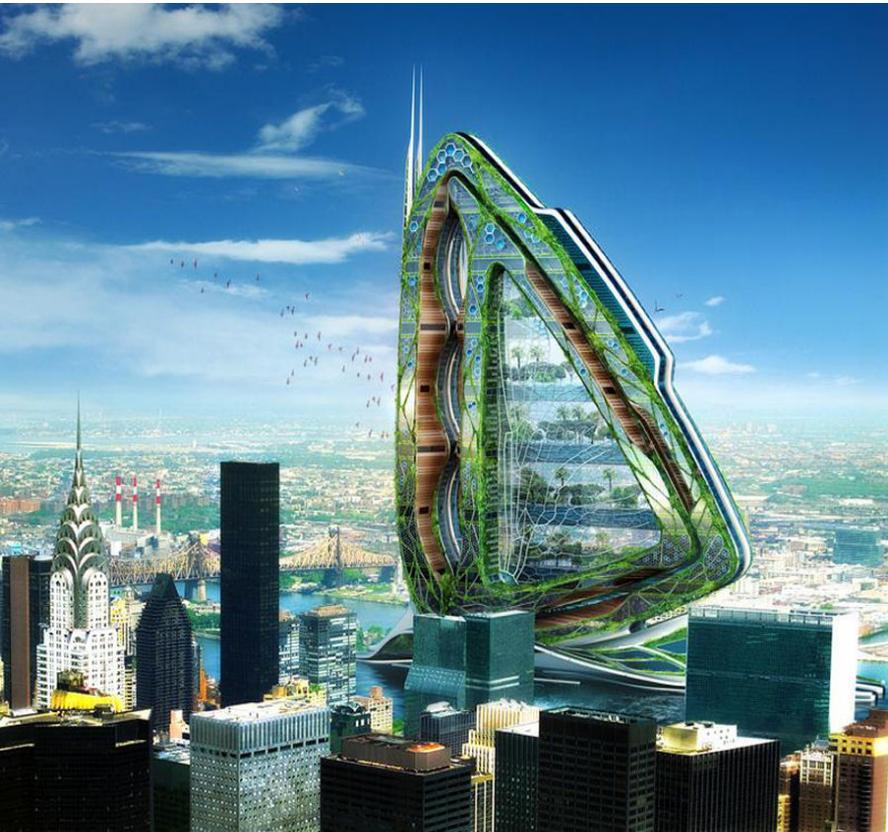
Water Cycle Management

Voedselveiligheid in de Smart City

Why Food security?



Availability, Access , Use (no waste) in the City
There is enough food in the world to feed everyone adequately;
the problem is distribution.



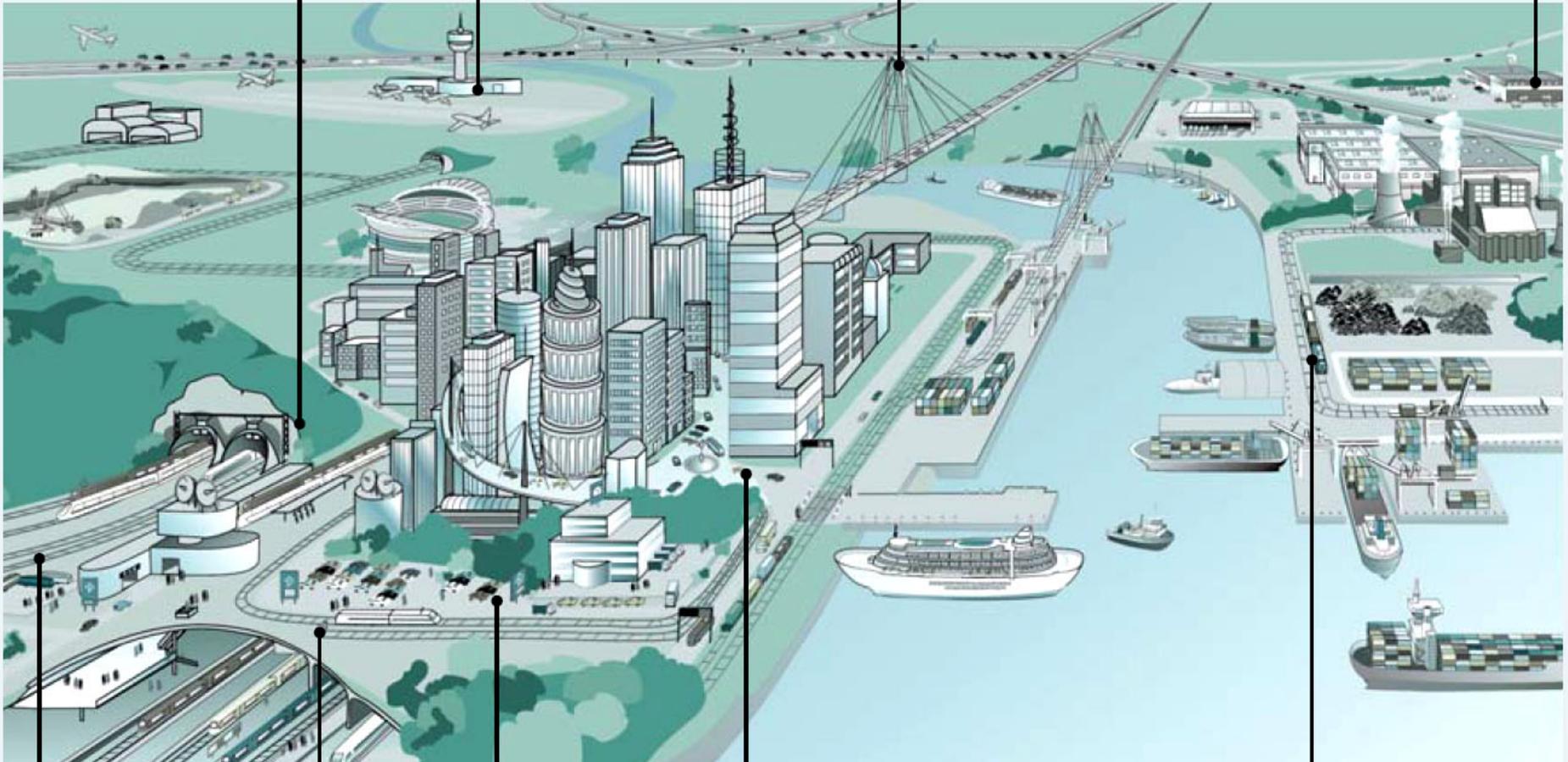
Bewegen in de stad van de toekomst

Intercity & High Speed Transport

Airport Solutions

Integrated Traffic Management

Postal Automation



Commuter & Regional Transport

Urban Transport

Parking Management

City Tolling

Freight Transport & Cargo Management



Challenge: Megacity “Randstad”

**4 big Cities, 2 Seaports, 2 Airports,
The Green Hart, Knowledge Institutes,
(International) Companies**

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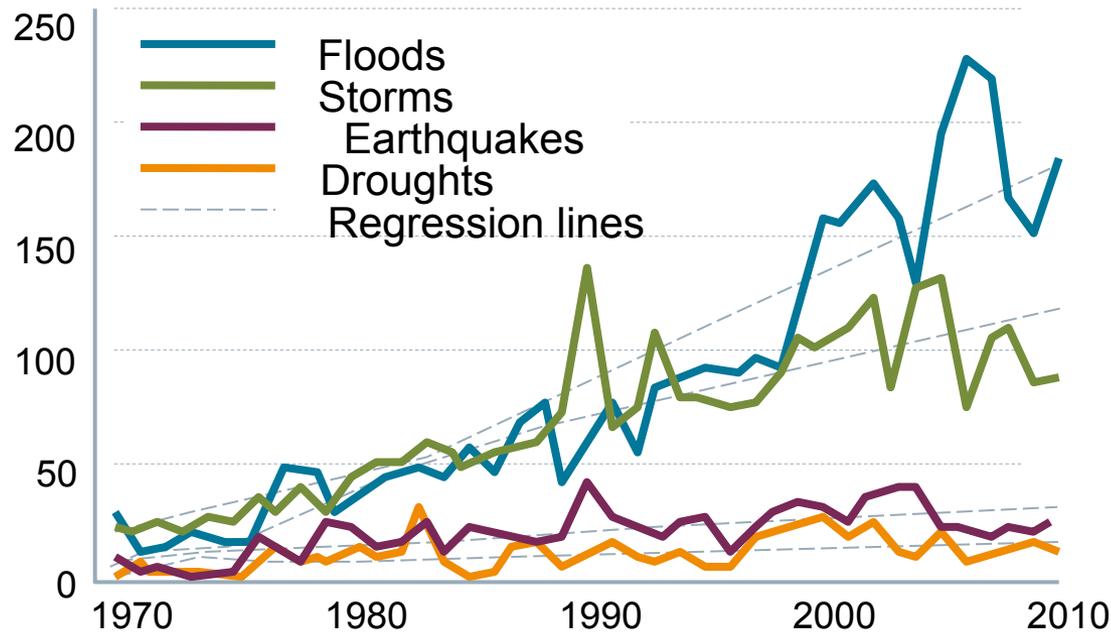


Why Resilience?

The costs of natural hazards call for action

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Building Resilience in Cities & Infrastructure



DISASTER IMPACTS / 2000-2012

*Disasters refers to drought, earthquake (seismic activity), epidemic, extreme temperature, flood, insect infestation, mass movement (dry & wet), storm, volcano, and wildfire / Data source: EM-DAT: The OFDA/CRED International Disaster Database / Data version: 12 March 2013 - v12.07
OCHA Humanitarian Symbol (2012): <http://reliefweb.int/map/world/world-humanitarian-and-country-icons-2012> / Find out more about UNISDR: <http://www.unisdr.org>

\$1.7 TRILLION
DAMAGE (USD)

2.9 BILLION
AFFECTED

1.2 MILLION
KILLED

Focus on Energy, Transport, Water, Gebouwen

Information & Telecommunication Networks

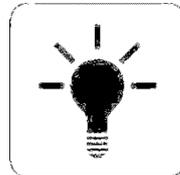
Transport

*Passengers
Emergency services
Logistics, incl. food,
waste, materials.*



Energy

*Generation
Transmission
Distribution*



Water

*Potable supply &
distribution
Waste water*



Buildings

*Residential
Commercial
Public / Institutional*

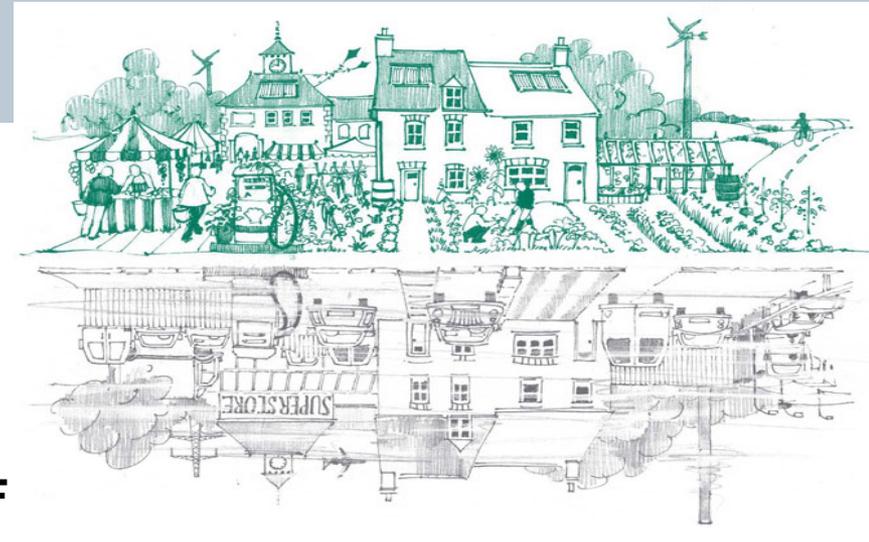


Security & Physical Protection

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- **Samenwerken en loslaten in de “Triple helix”**





OF

***Leefbaar
Groen
Weerbaar
Sociaal***

***Veilig
CO2 neutraal
Voedselveilig
Smart
Connected***

***Energie neutraal
Bereikbaar
Warmte/
Koeling***

>>>>> Technologie partner

Gebiedsontwikkeling nieuwe stijl

Gebieden als business model

Gebiedsontwikkeling

- Gebiedsexploitatie
- Duurzaam perspectief
 - Vanuit gebruiker

schoon
leefbaar
concurrerend

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- Visie ontwikkeling
- Business case (referenties)
 - Integrale oplossingen

Scenario's Metropoolregio Amsterdam

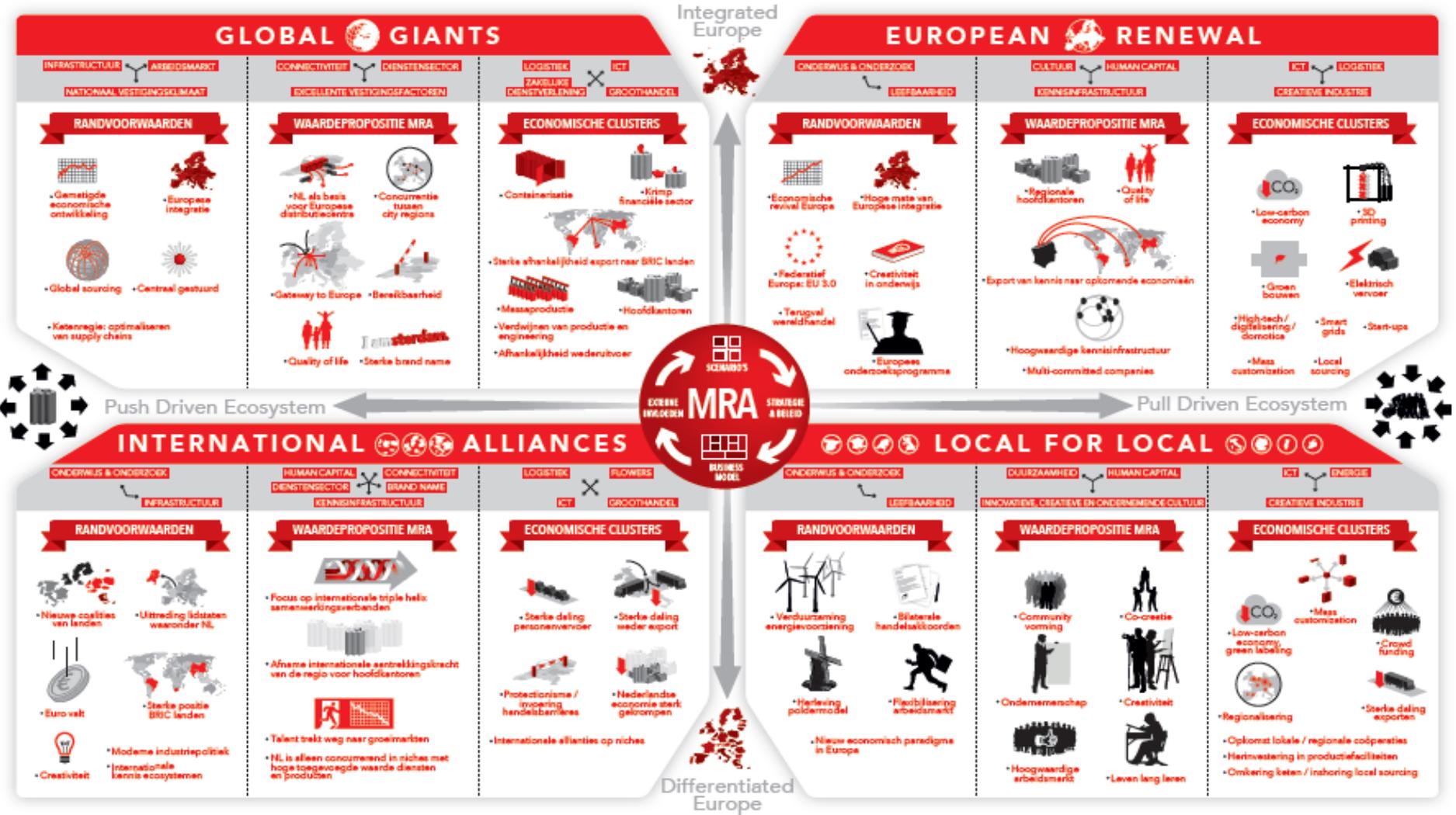
Vier toekomstbeelden voor 2025 en de impact op het businessmodel van de MRA

2025



Scenario's Metropoolregio Amsterdam

Vier toekomstbeelden voor 2025 en de impact op het businessmodel van de MRA



De Transitie van de Stad, vragen:

De Randstad in het Europa van de toekomst?

Economische drijfveren in de toekomst?

Ontwikkeling van voedsel in de toekomst?

Hoe bewegen we in de toekomst?

Duurzame energie in de toekomst?

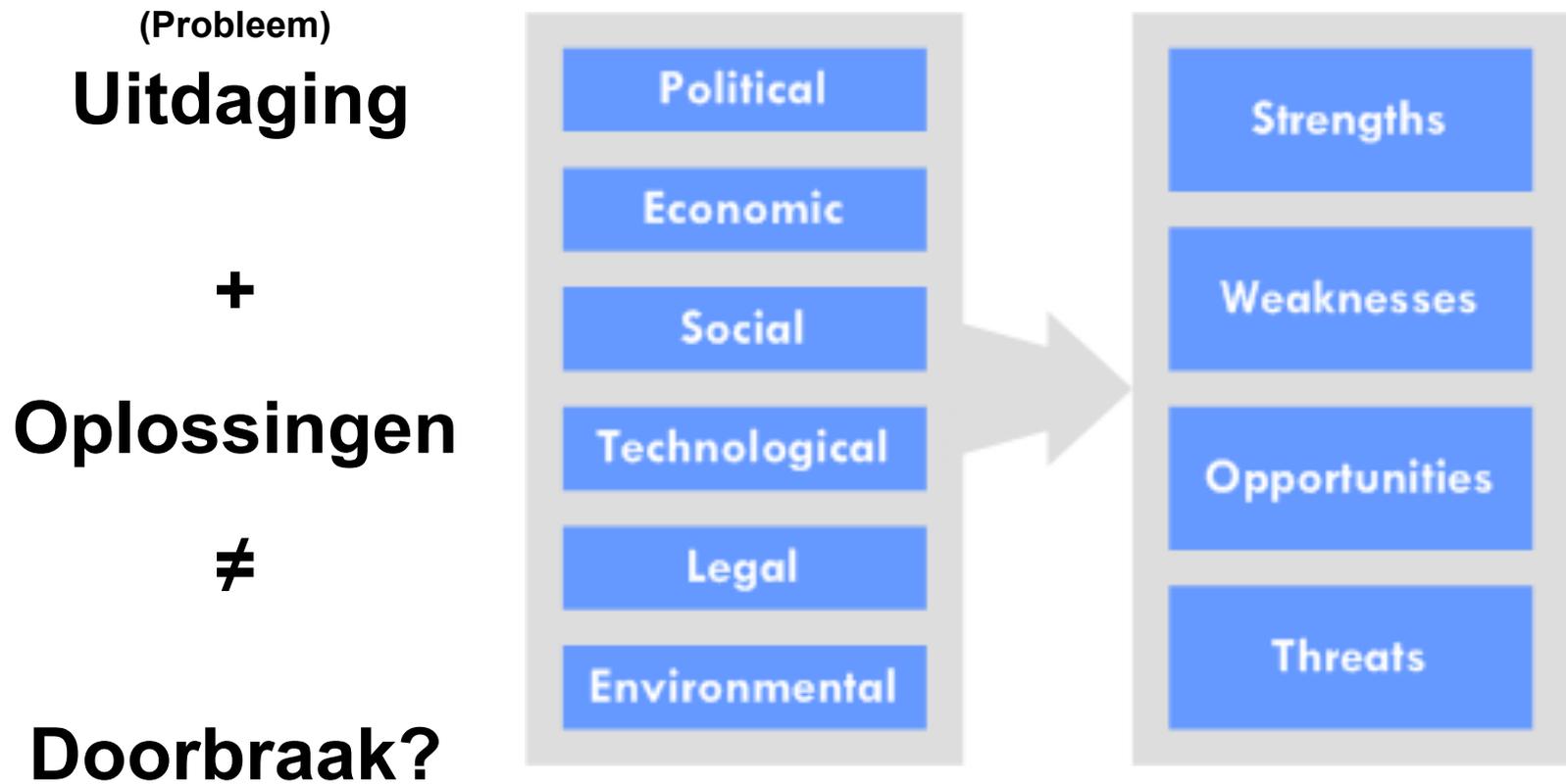
Duurzaam wonen/werken in de toekomst?

Hoe recreëren we in de toekomst?

*Integrale holistische en functionele oplossingen,
ondersteund door (nieuwe) technologieën.*



Complexiteit- meer dan technologie alleen!!



Triple+ Helix

Overheid

Kennisinstituten

Bedrijven



Triple+++ Helix

Overheid

Kennisinstituten

Bedrijven

Bewoners

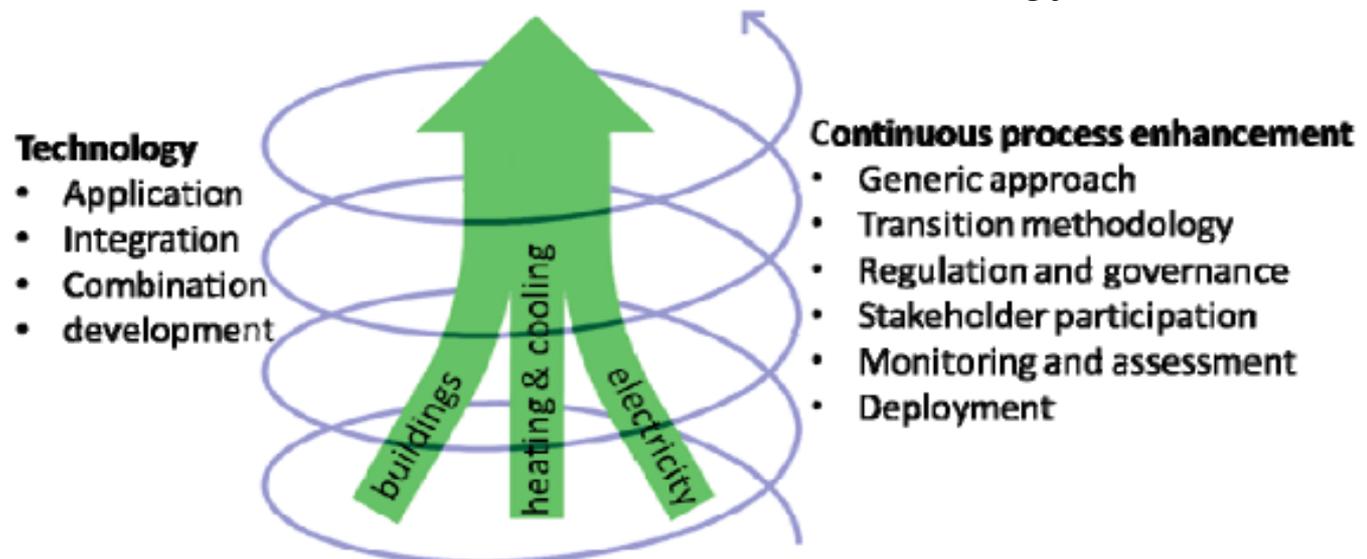
Jeugd



Voorbeeld: City-zen

The overall concept:

- Transition of Cities towards a sustainable, self-sufficient community.
- Essential changes in the energy system,
- This will take place in a different form and at a different speed.
- The project:
 - existing urban context, speed up the change. Market models need to be changed
- Customers enabled to demand renewable and efficient energy.





The Crystal

Exhibition zones follow urban sustainability topics



Future of mobility



The electrified society



Clean and green



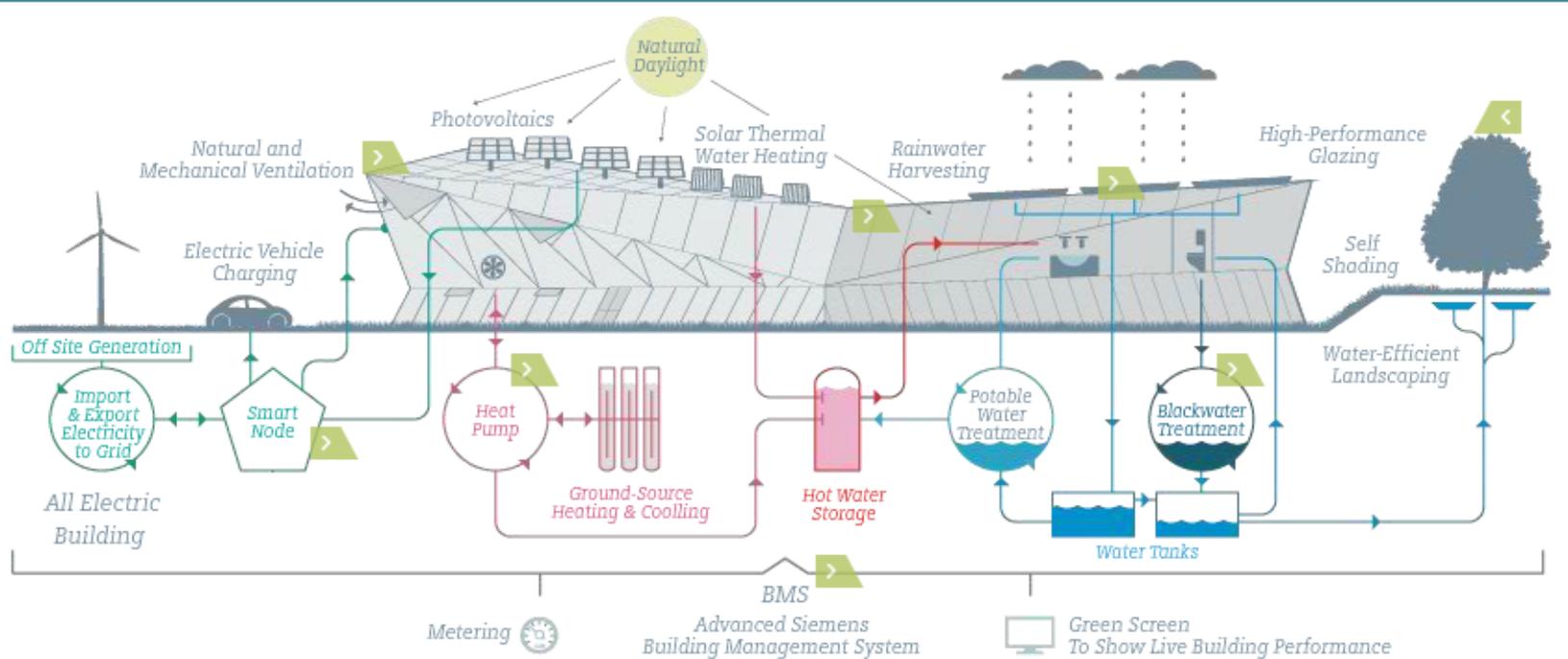
Affordable healthcare



Smart buildings



Lighting



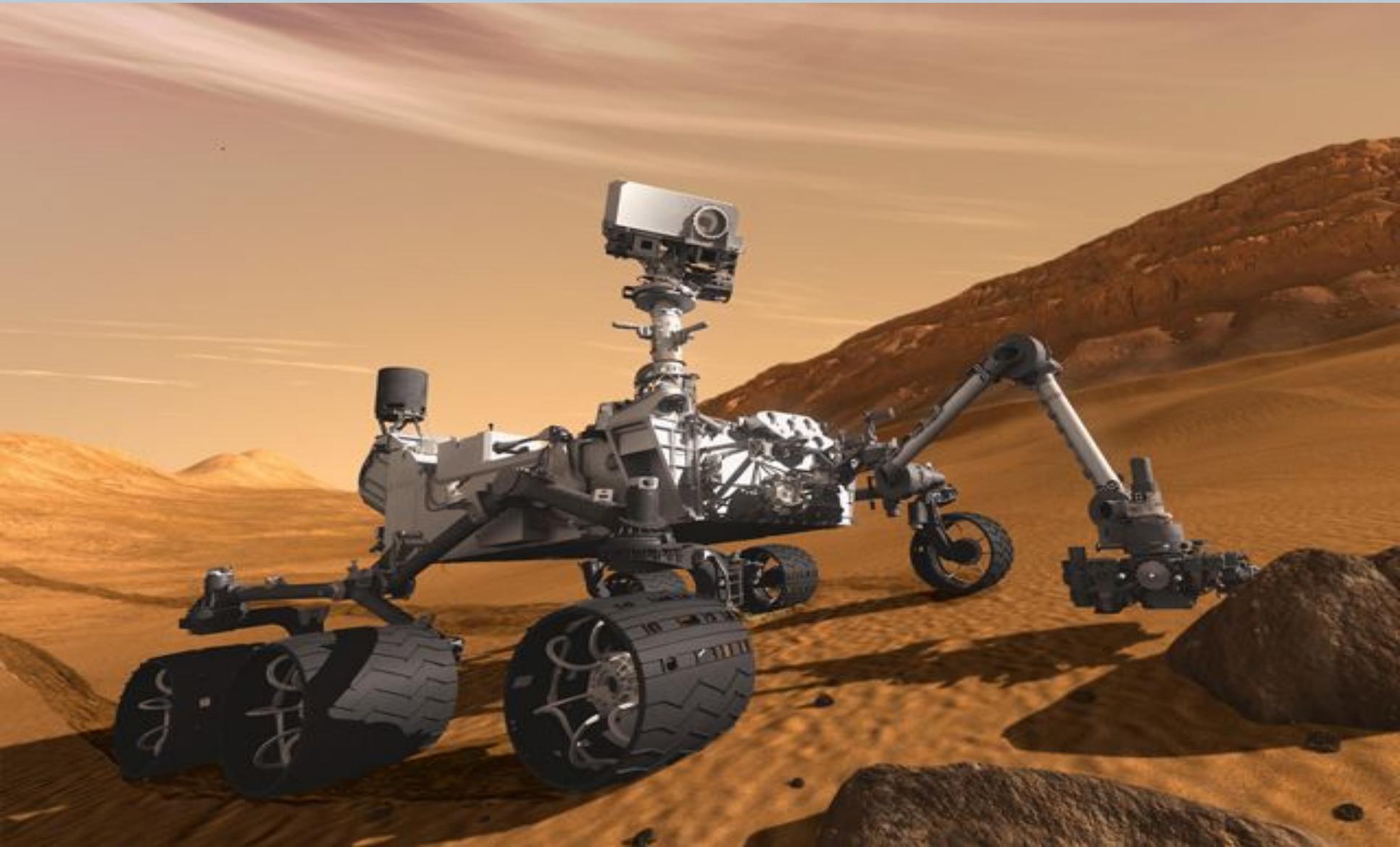
- > State of the Art Building Management
- > Extensive Use of Natural Light
- > Low Energy Mixed Mode Ventilation
- > Intelligent All Electric Building

- > Rainwater Harvesting and Recycling
- > Blackwater Recycling
- > Heating Designed for Maximum Efficiency
- > Multifaceted and Sustainable Landscaping

The building incorporates rainwater harvesting, black water treatment, solar heating and automated building management systems. The design of the building's structure, including its glass, provides

Curiosity

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Kansen zien, kansen pakken!

