



DE CEUVEL

FROM POLLUTED BROWNFIELD TO CREATIVE ECO-OFFICE PARK

Sanderine van Odijk | GMF Workshop Detroit | APRIL 16, 2015

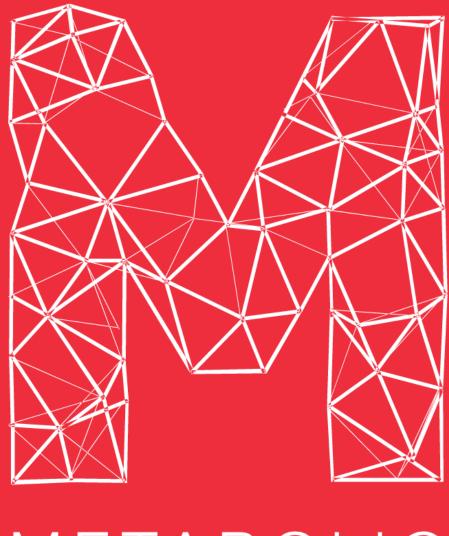
sanderine@metabolic.nl

TALK OVERVIEW

INTRODUCTION

 $\langle X \rangle$

- brief background
- ABOUT DE CEUVEL
 - key features
 - design & development process
- IMPACT & RESULTS
- LESSONS, KEY TAKE-AWAYS



METABOLIC

Metabolic is an engine for societal transformation. We want to design holistic and replicable systems for agriculture, cities, and industry.

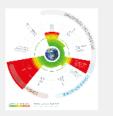
cable systems for agriculture, ci

We believe in disruptive innovation that democratizes technology and empowers people. We work with universities, utilities, research institutes, governments, and businesses to implement holistic and replicable building blocks for a resilient society.



OUR GLOBAL SYSTEM: THE SUSTAINABILITY CHALLENGE

PLANETARY SYSTEMS

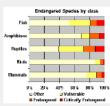


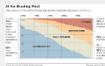






BIODIVERSITY













RESOURCES













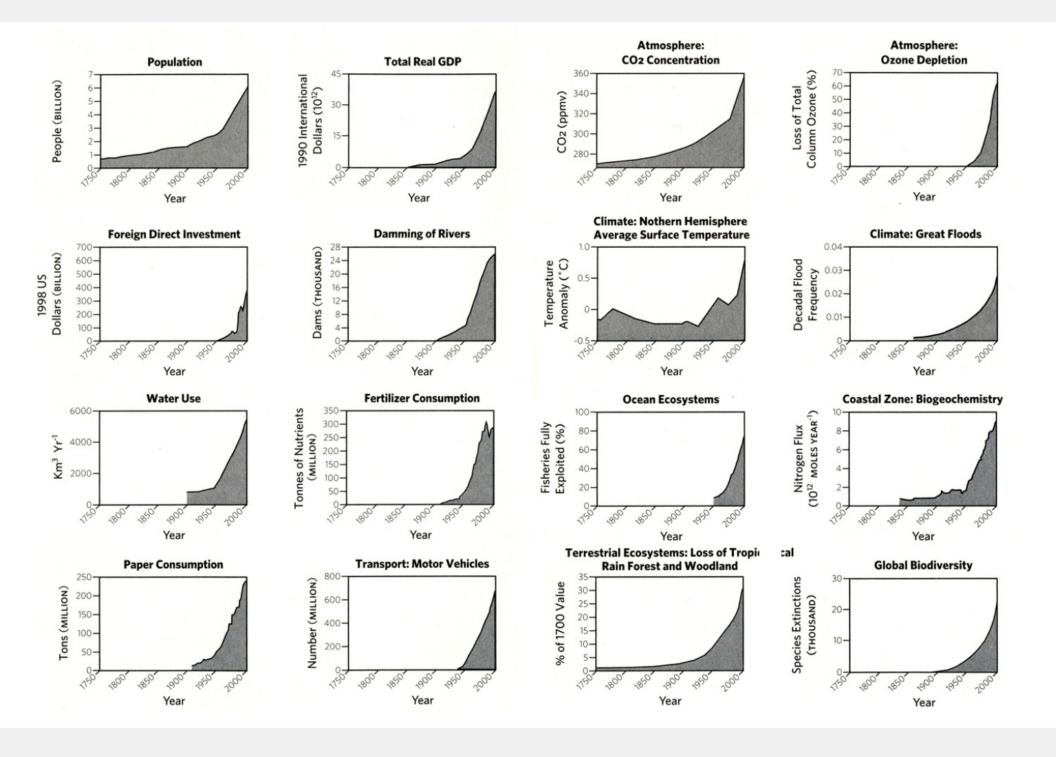


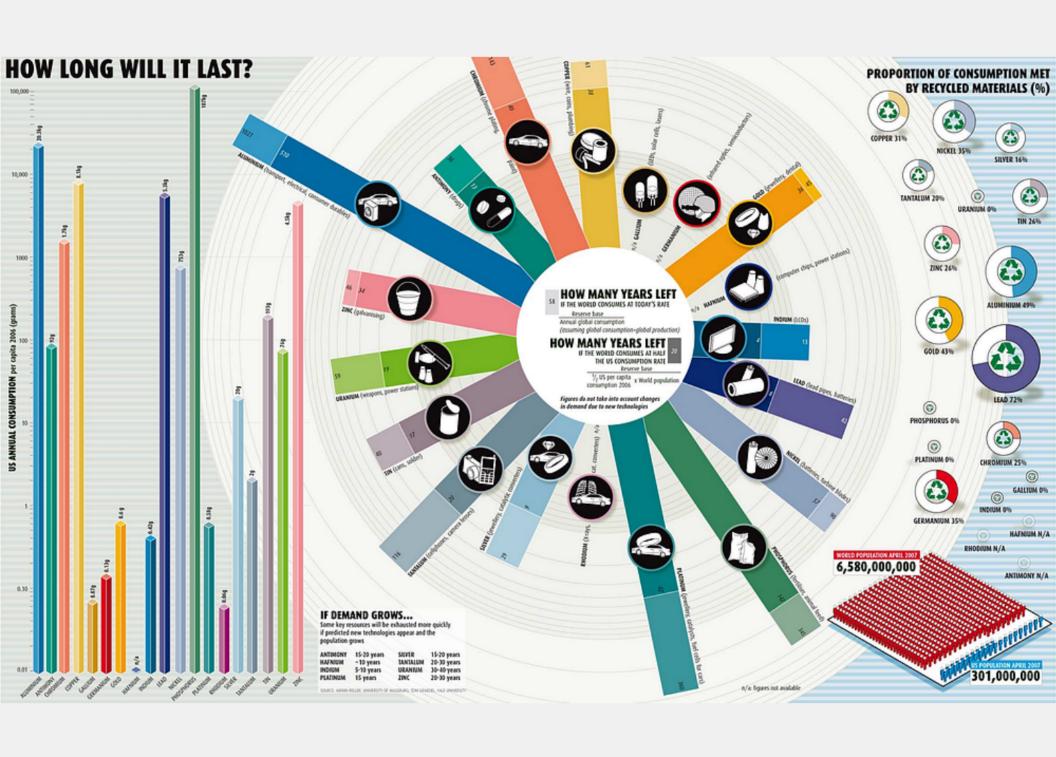


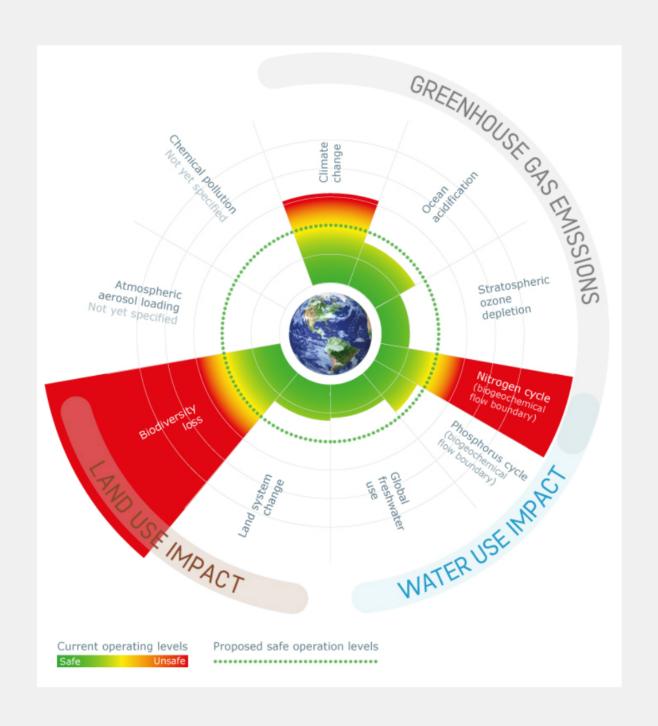






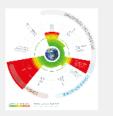






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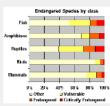


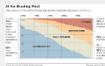






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RESOURCES





























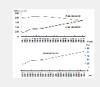


KEY INTERVENTION POINT: CITIES









Cities:

- occupy 3% of global land area
 produce 80% of global GDP
 are responsible for 90% of innovation
 produce 50% of global waste
 consume 75% of natural resources
 account for 80% of global GHG emissions







dwellers

1 million people

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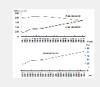


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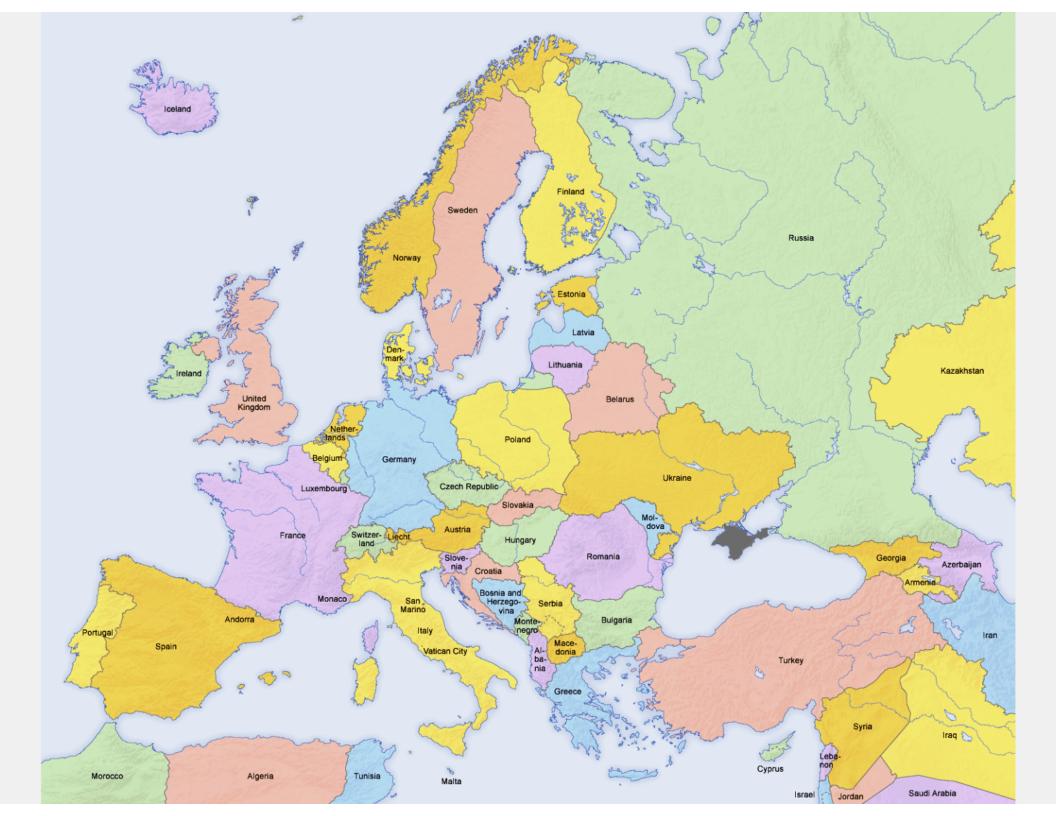


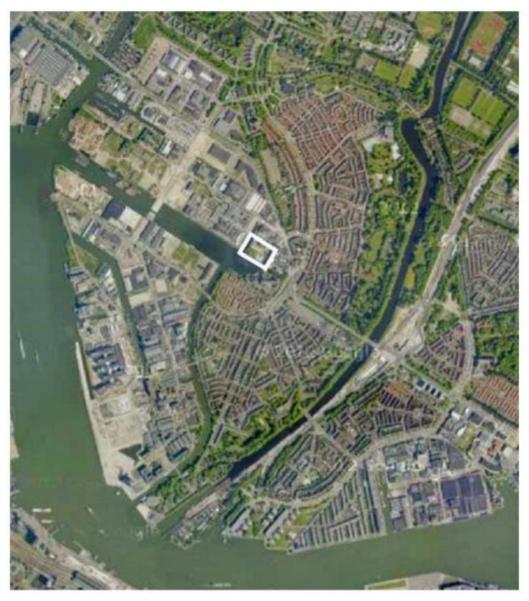
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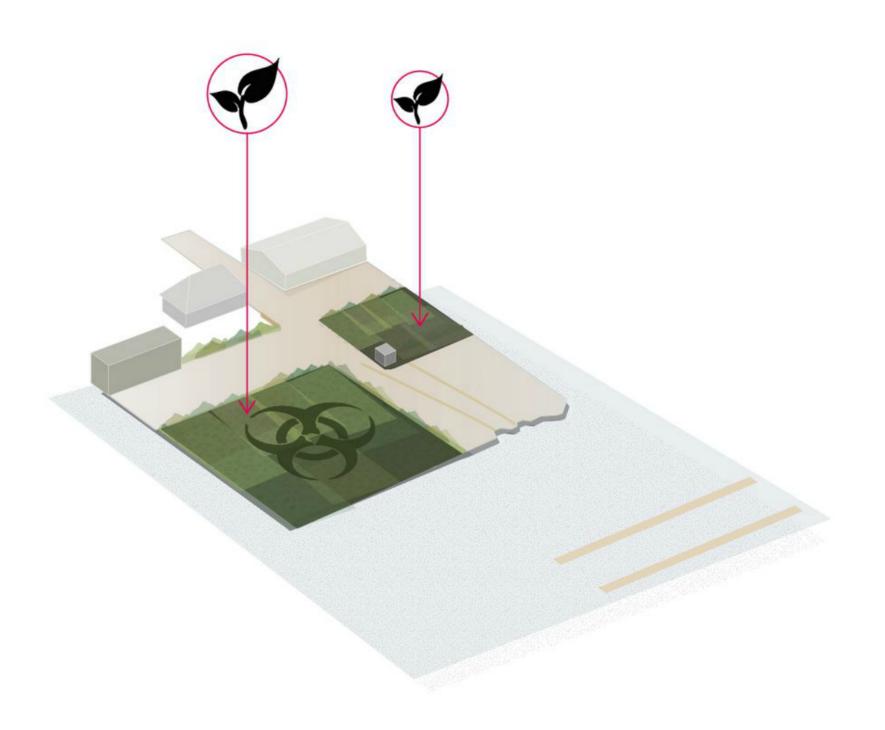


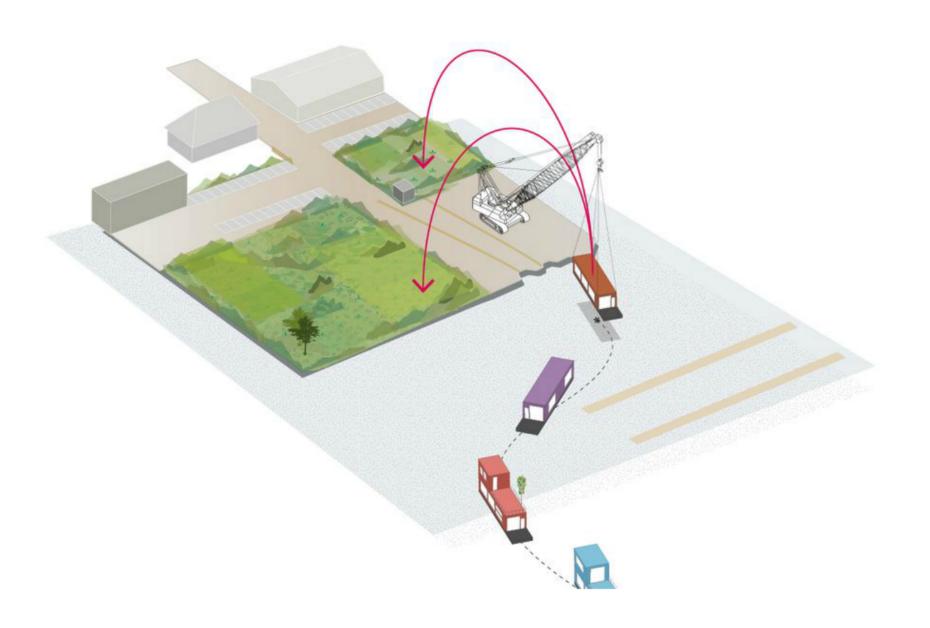


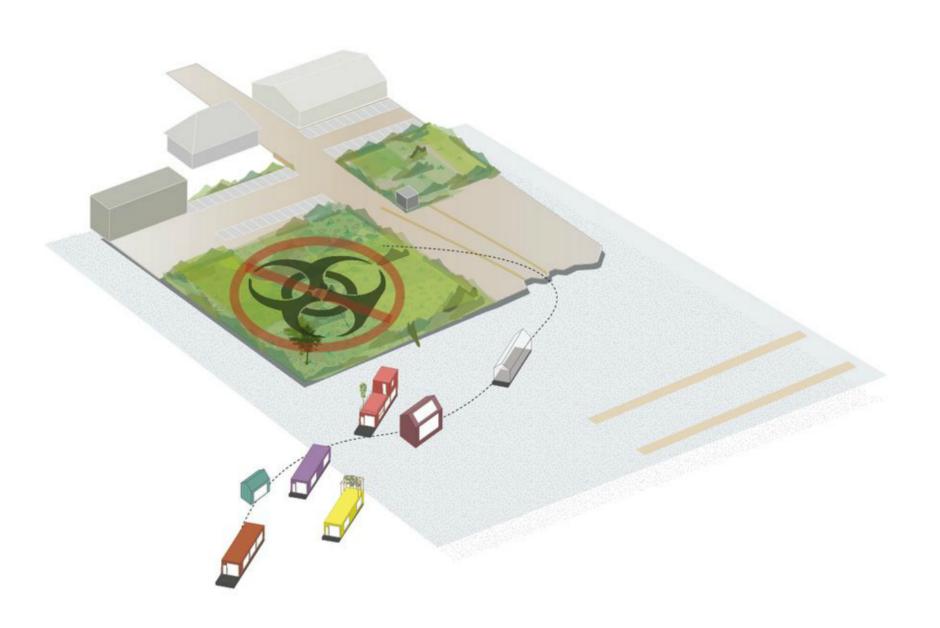


Brief background

- Tender put out by municipality
- 10 years temporary development
- Access to grant of €250.000
- Guarantee by municipality for additional loan of €250.000
- (total budget: €0.5M)







DE CEUVEL design & development process



Design Process

Technical Design







Community & Stakeholder Engagement











Intermediate Design Scenarios







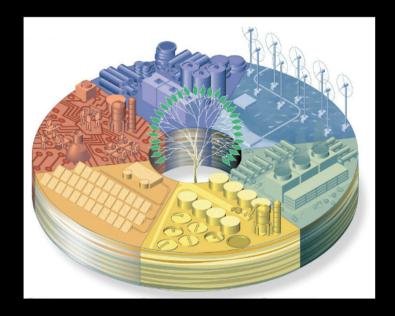
Execution



Regulation & Technology



Government



Cleantech Companies

Design Process

Technical Design







Community & Stakeholder Engagement











Intermediate Design Scenarios







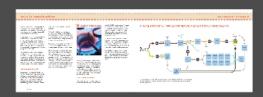
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CONCEPT DESIGNS



PHASE II



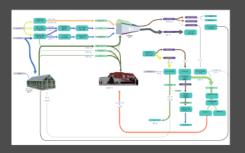


PHASE III





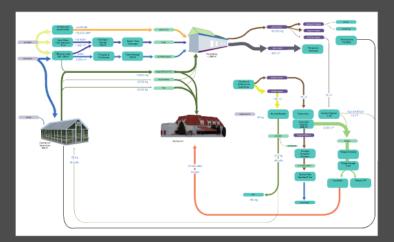
END RESULT AFTER PHASE II



- 100% renewable energy
- 70% local nutrient recovery
- 100% water self sufficiency
- 80% produce production
- · monitoring & feedback systems
- · community program
- financially feasible



END RESULT AFTER PHASE II



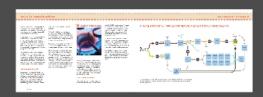
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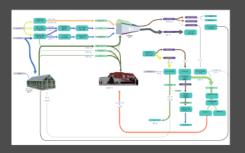


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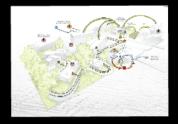


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Execution





















Also..

- Securing additional financing
 In-kind donation of tech
 (Research) partnerships

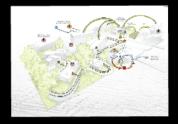








Execution





















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RESULTS & IMPACT



























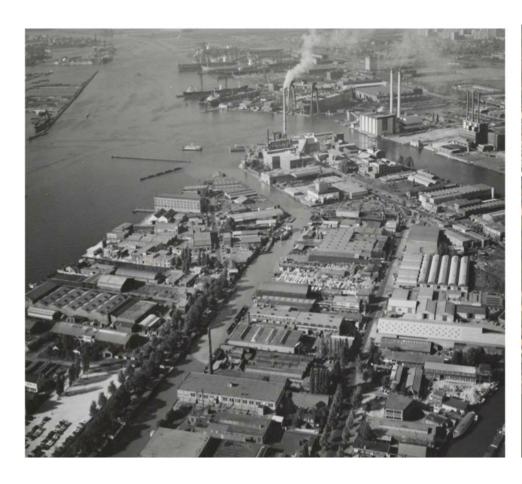


CLEANTECH PLAYGROUND









M. 2



Wall Qu

















Studioninedots



RESULTS & IMPACT





















SHIS BE CAUCED

KEY LESSONS & TAKEAWAYS



CITIES ARE A KEY INTERVENTION POINT FOR GLOBAL SYSTEMS CHANGE.



CREATING SPACE AND GIVING INCENTIVES TO EMPOWER BOTTOM-UP DEVELOPMENT IS KEY.



A SYSTEMIC & INTEGRATED APPROACH WILL UNLOCK MAXIMUM BENEFITS.



WE NEED TO BE WILLING TO TAKE SOME RISKS, TRY NEW APPROACHES, AND ACCEPT THAT THERE MIGHT BE SOME FAILURE.



CHALLENGES ALMOST ALWAYS HOLD THE KEYS TO THEIR OWN SOLUTIONS.



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