

WORLD RESOURCES FORUM

CLOSING LOOPS

TRANSITIONS
AT WORK

FEB 2019
24-27
ANTWERP
BELGIUM

FLANDERS MEETING
& CONVENTION
CENTER ANTWERP

WWW.WRF-ANTWERP2019.BE



WE MAKE
TOMORROW
BEAUTIFUL
OVAM



Flanders
State of the Art



Rijkswaterstaat
Ministry of Infrastructure
and Water Management



TOWARDS STEWARDSHIP AND CIRCULAR USE FOR SUSTAINABLE LAND AND SOIL MANAGEMENT

Margot de Cleen
Linda Maring
Sophie Moinier
Co Molenaar
Bernard VanHeusden



Programme land and soil stewardship

- 14.00 - 14.15 Introduction, program and aim by Margot, Linda and Bernard
- 14.15 - 14.30 State of affairs in Flanders and the Netherlands Margot and Bernard
- 14.30 - 14.45 Inspirational presentation by Daphina Misiedjan
- 14.45 – 15.30 World café on land and soil stewardship
- 15.30 – 16.00 BREAK
- 16.00 – 16.15 Wrap up 1st part introduction to circular use
- 16.15 – 16.30 Presentation on inspiring examples of circular use by Linda Maring & Nele Bal
- 16.30 - 17.15 World café on circular use
- 17.15 - 17.30 Wrap up and closure

Introduction

“How to achieve an added value for degraded soil and land by stewardship and circular use and management”

Aims of this workshop:

- To become aware of the possibilities to optimize value creation of degraded land and soil by connecting to circular economy and resource demand
- To get insight in the options and necessities for value creation and the management of degraded land and soil and stimulation of resource efficiency
- To get insight in the different roles of policy makers and experts, land owners and other stakeholders
- To identifying challenges and barriers in using LS as a concept



Land Stewardship definition

“In its broadest sense, Land Stewardship is the recognition of our collective responsibility to retain the quality and abundance of our land, air, water and biodiversity, and to manage this natural capital in a way that conserves all of its values..”

Canadian Centre for Land Stewardship www.landstewardship.org



Buzz to get to know your partner

- Why did you come to this session
- What is your personal goal
- What is your connection with soil, land and resources

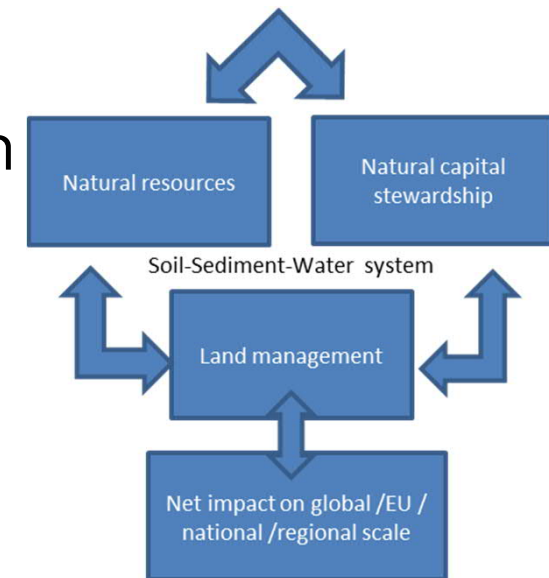
A robust soil as basis for the SDGs?

- Degraded land limits the sustainable use necessary for development and achieving the SDGs
- Land restoration and Land Degradation Neutrality are mutual goals of the Member States (SDG 15.3)
- Degraded land will not be restored if the value of soil and its services is not recognized
- A paradigm shift is needed: from protection towards sustainable use and management



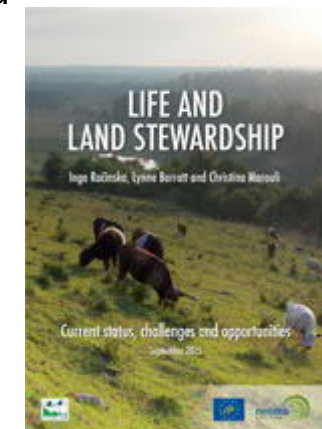
Current situation

- Increasing pressure on land by the SDGs, climate change etc.
- System services are over and under used
- Land mostly privately owned
- To achieve public values cooperation is necessary
- Land management is the key



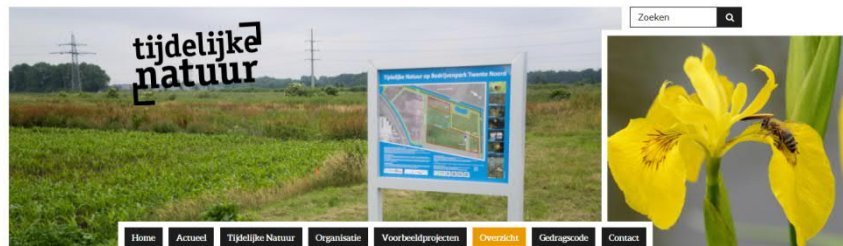
Land Stewardship as a policy instrument

- Land Stewardship is not new: EU toolkit designated for nature conservation and biodiversity
- What is the difference between LS and land management?
 - LS can be seen as a business model focussed on value creation
 - Public values are realised by private (or common) goods
 - LS is based on a joint vision in goals and implementation
 - Management, including monitoring and reporting, is a shared responsibility of land owner and stakeholders
 - Financing is public-private (€ or in kind)
 - Different formats possible for agreements



State of affairs in The Netherlands

- Advantages for authorities
- Advantages for land owners
- Advantages for nature organisations



Terug naar overzicht

Havenbedrijf Rotterdam

Havenbedrijf Rotterdam heeft veel hectaren aangemeld als Tijdelijke Natuur. Het gaat om terreinen die wachten op een bestemming en intussen braakliggen. Voorheen werd een terrein wel eens 'natuurvrij' gehouden, om te voorkomen dat beschermde soorten zouden opdaken en voor lange procedures natuurwetgeving zouden zorgen. Nu we van te voren al ontheffing hebben om soorten te mogen verplaatsen, geeft dat veel meer zekerheid over de beschikbaarheid en de planning. Terreinen kunnen met zekerheid uitgegeven worden aan klanten wanneer dat nodig is. Daarom kan het braakliggende terrein nu lange tijd gebruikt worden door soorten, die al dan niet tijdelijk in de haven aanwezig zijn. Zo gaan economie en ecologie zoveel mogelijk samen in het Rotterdamse havengebied.

Terrain: Havenbedrijf Rotterdam
 Oppervlakte: 8 hectare
 Status: Voorbeeldproject

“Terreinen kunnen met zekerheid uitgegeven worden wanneer dat nodig is.”

Covenant
 Temporary
 Nature
 Rotterdam
 Harbour

Honey
 highway



State of affairs in Flanders

- 2018: explorative exercise on Soil and Land Stewardship (SLS)
 - Initiated by OVAM (Flemish Public Waste Agency)
 - Supported by Hasselt University (Prof. dr. Bernard Vanheusden) and shiftN (Philippe Vandebroek)
- Goal:
 - See whether SLS principle can be a good instrument
 - to increase soil awareness
 - to decrease tension between societal value and land ownership

State of affairs in Flanders

- Used definition of stewardship (glossary of INSPIRATION project):
 - “the responsible use and conservation of natural resources taking full and balanced account of the interests of society, future generations and other species, as well as of private needs, and accepts significant accountability to society”
- Key moments:
 - Two papers:
 - ‘Three Perspectives on Soil and Land Stewardship’ of Kim Becher, Bram De Ridder and Philippe Vandebroek
 - ‘Soil and Land Stewardship and Property Rights’ of Bernard Vanheusden

State of affairs in Flanders

- Two workshops:
 - With international experts: 20 April 2018
 - With Flemish stakeholders: 13 June 2018
- Questions dealt with:
 - Any examples/experiences in Flanders or abroad?
 - How can SLS principle strengthen soil management policy?
 - How do we bring SLS principle in practice?
 - Which framework and which tools (certificates, labels, score tables, guidelines, visions, stories,...) could be helpful?
 - Which actors play a role?
 - How can we seduce, motivate, support, foster, oblige landowners/users to cooperate in taking care of soil and land?

State of affairs in Flanders

- Some conclusions:
 - Clear gap regarding concept, but very mobilizing concept
 - No consensus definition
 - Stewardship?
 - Soil and/or land?
 - Necessary?
 - A lot of willingness to engage

State of affairs in Flanders

- Concrete goals:
 - Writing a 'white paper'
 - To indicate 'soil crisis'
 - Describe applicable legal framework and shortcomings
 - Call for action
 - Create a 'community of practice' → exchange best practices
 - Continu process (WRF, IABR, AquaConSoil, future scenario's,...)

State of affairs in Flanders

- Still need for:
 - List of already existing measures (depending on number, exhaustive or examples)
 - → to be analyzed on effectiveness
 - Recommendations for (improved) measures and best practices
 - In parallel: how could be improve legal protection of SLS?
 - → need for comparative analysis
 - For example: add general duties of care, limit property rights (or more positive, shift from property rights to user rights), foresee very concrete obligations based on efficient best practices,...



Inspiration by Daphina Misiedjan



World café on land and soil stewardship

Cases:

Eg. a diffuse contaminated rural or urban area, Industrial area, a landfill

Discussion 35 min, change table 5 min, change table 5 min:

Topics:

- Sustainable Development Goals
- Which SDGs are relevant, and discuss use versus avoiding degradation

Conditions and requirements

- What is needed (conditions and requirements such as financing, juridical agreements, stakeholder involvement and knowledge) to realize and monitor LSS?

Stakeholders

- What is the role of land owners / industries? Which conditions and actions are needed for from stakeholders to realize LSS?

Thank you for your attention.
Are there any questions?

See you after the break!!!





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Deltares
Enabling Delta Life



UHASSELT

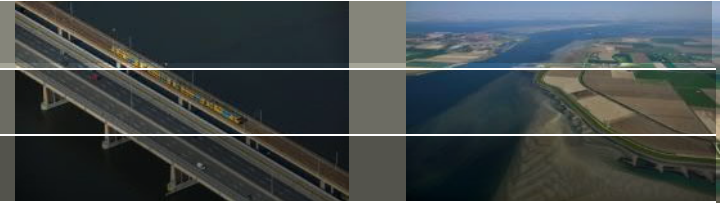
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Introduction



10 minuten. Sophie

Wrap up part 1

And objective / Message of this session

Looking at soil and land in a more circular way is one of the strategies of land and soil sustainable management.

Technical cycle is in many cases addressed in CE but do not forget the biological cycle, because it serves a multitude of opportunities!



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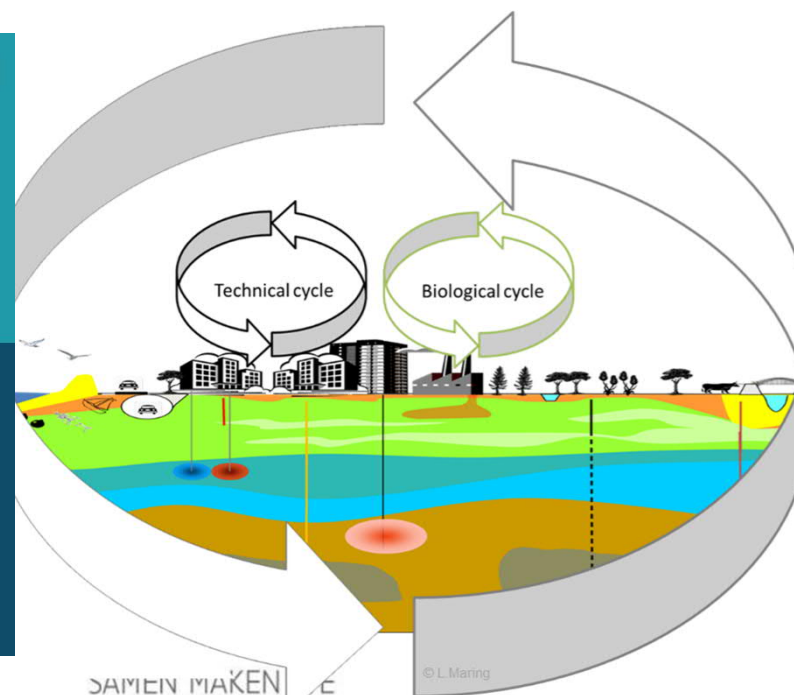
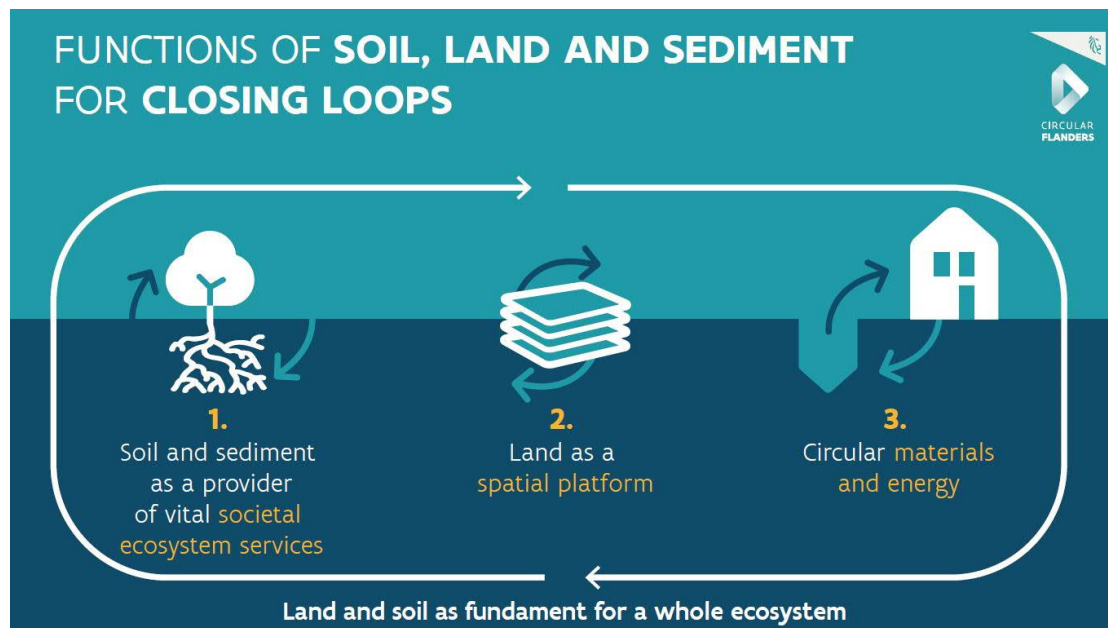
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Soil and land play an important role in circular economy

ALSO LOOK AT NATURAL CYCLES THAT NEED TO BE SAFEGUARDED



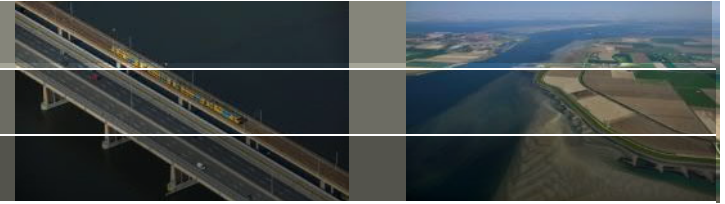
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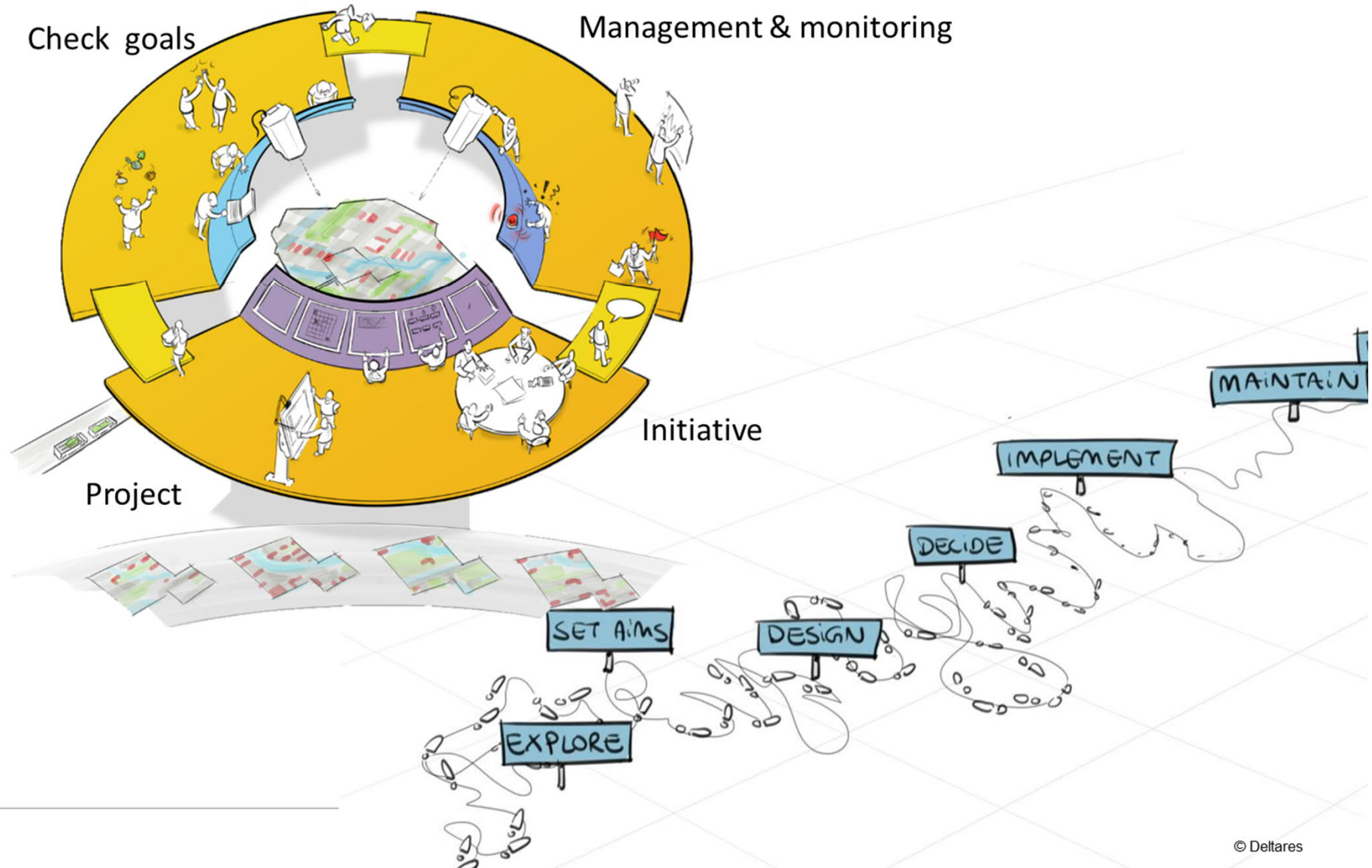
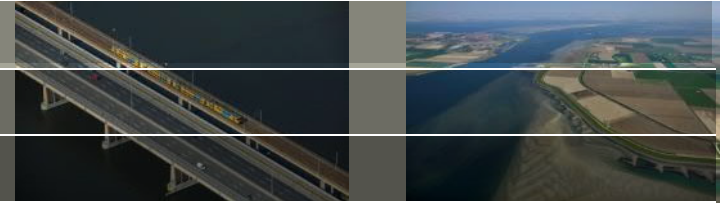
Examples urban soil and land



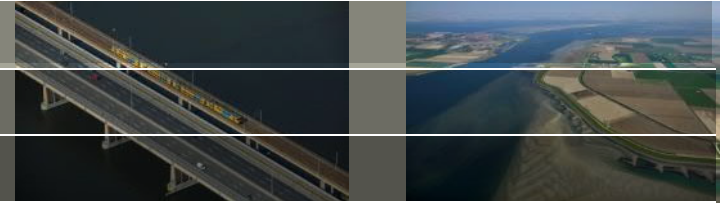
- “Circular land use”
The regeneration of derelict or underused urban or brownfield land towards beneficial use.
- “Soil inclusive urban planning”
To maintain the beneficial use of land in cities, ‘smart’ planning of cities is needed, with innovative solutions where soils / subsurface play an important role.



“Circular land use”

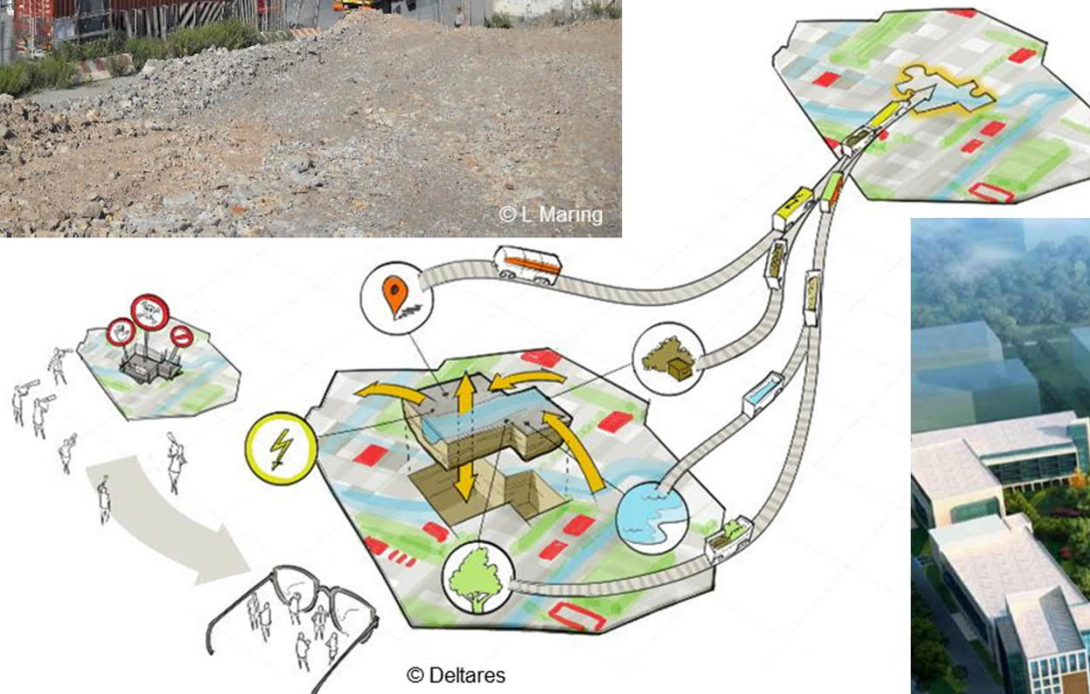


“Circular land use”

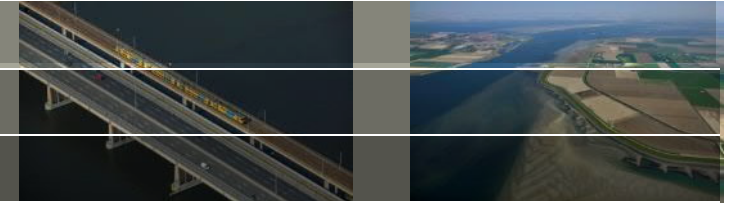


Brownfield regeneration

eco-industrial parks (EIP)



“Circular land use”



Use of subsoil open space:

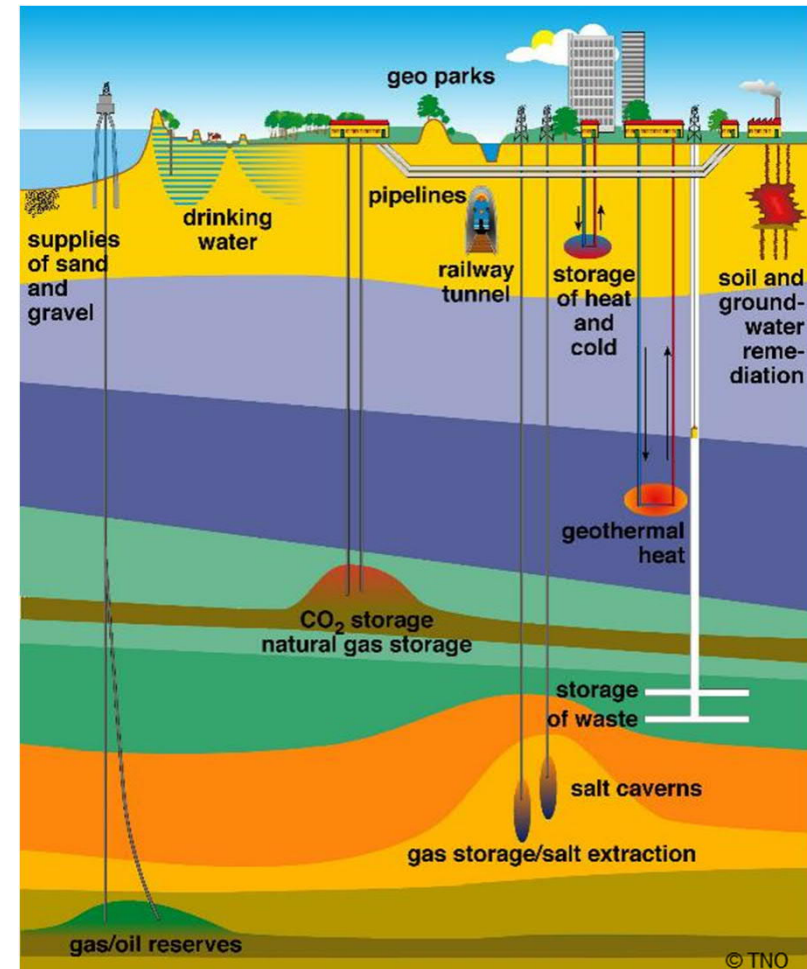
- Empty salt caverns
- Storage of waste, CO₂, methane

Clean up of landfill sites

- regaining minerals from waste



<https://makeweathistory.org/2013/03/13/scotland-investigates-landfill-miting/>



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“Soil inclusive urban planning”



Cultural historical identity



Secure gas and electricity supply



Healthy and attractive environment



Food supply



Water supply



dry feet



Resources



Safe infrastructure & construction



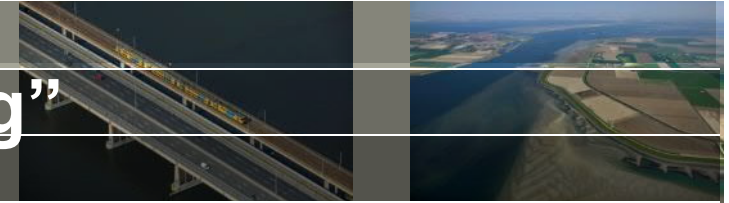
Sufficient (parking) space

VERBODEN ZICH ONDER DE WANDEN TE BEGEVEN
VALLEND GESTEENTE

1 april 2019

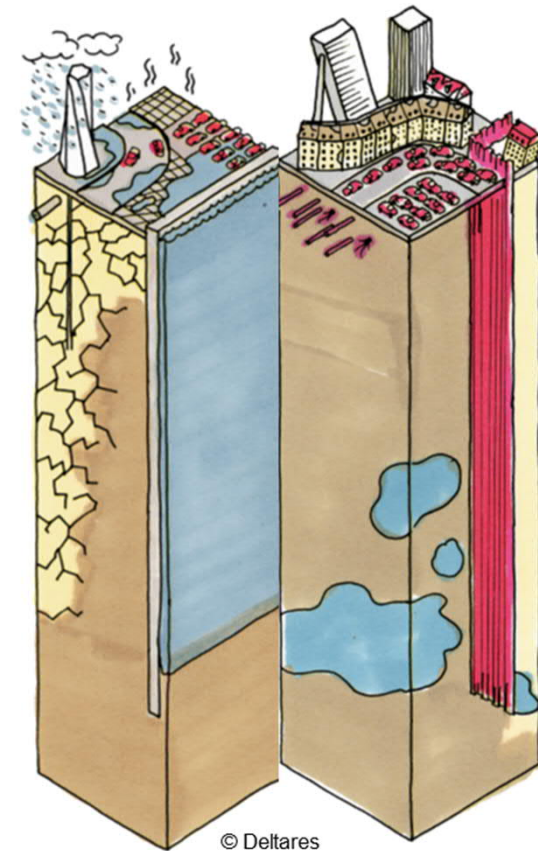
© L. Maring

“Soil inclusive urban planning”



Urban challenges e.g.

- Increasing pressure on cities
 - Overcrowding
 - Brownfields
 - Urban flooding
 - Shortage to space
 - Increasing demand of resources
 -
- Climate change
 - Urban flooding
 - Shortage of freshwater
 - Flood protection
 - Soil subsidence
 - ...



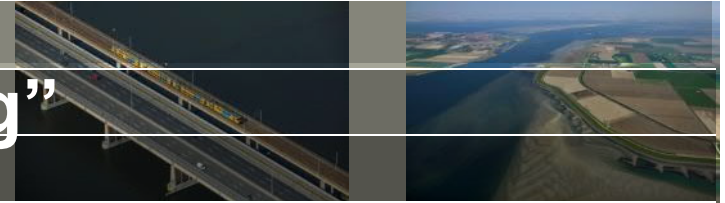
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“Soil inclusive urban planning”



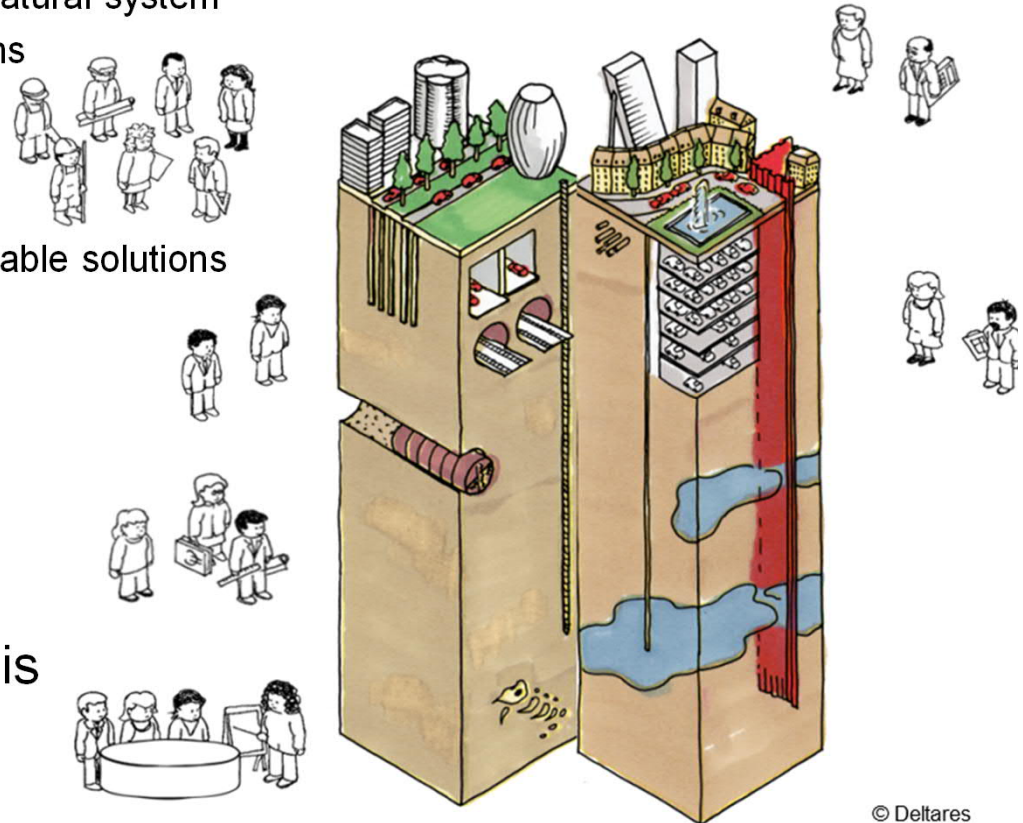
Need for:

- Linking systems
 - Know and acknowledge the urban and natural system
 - underground planning for urban ambitions

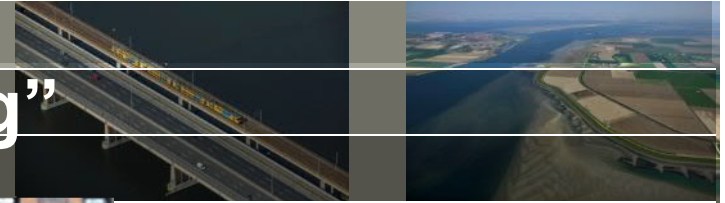
- Ecosystem services:
 - Deployment of natural capital for sustainable solutions

- Area based approach
 - Right scale for the right issue
 - With the right people

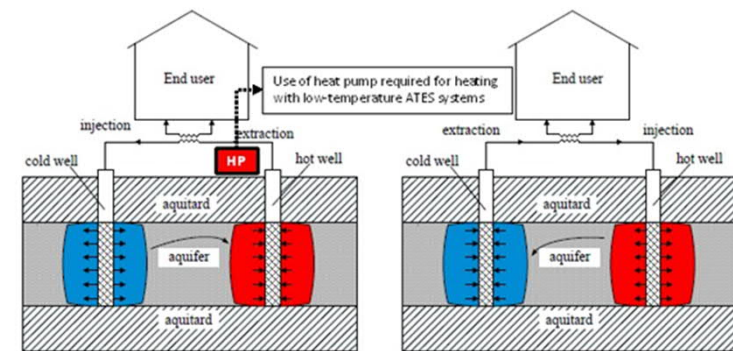
- The tools and language to do this
 - CE?
 - Asset management?



“Soil inclusive urban planning”



Water & energy



In winter

In summer

<https://www.circonomist.com/water-energy/the-netherlands-leading-in-aquifer-thermal-energy-storage/>

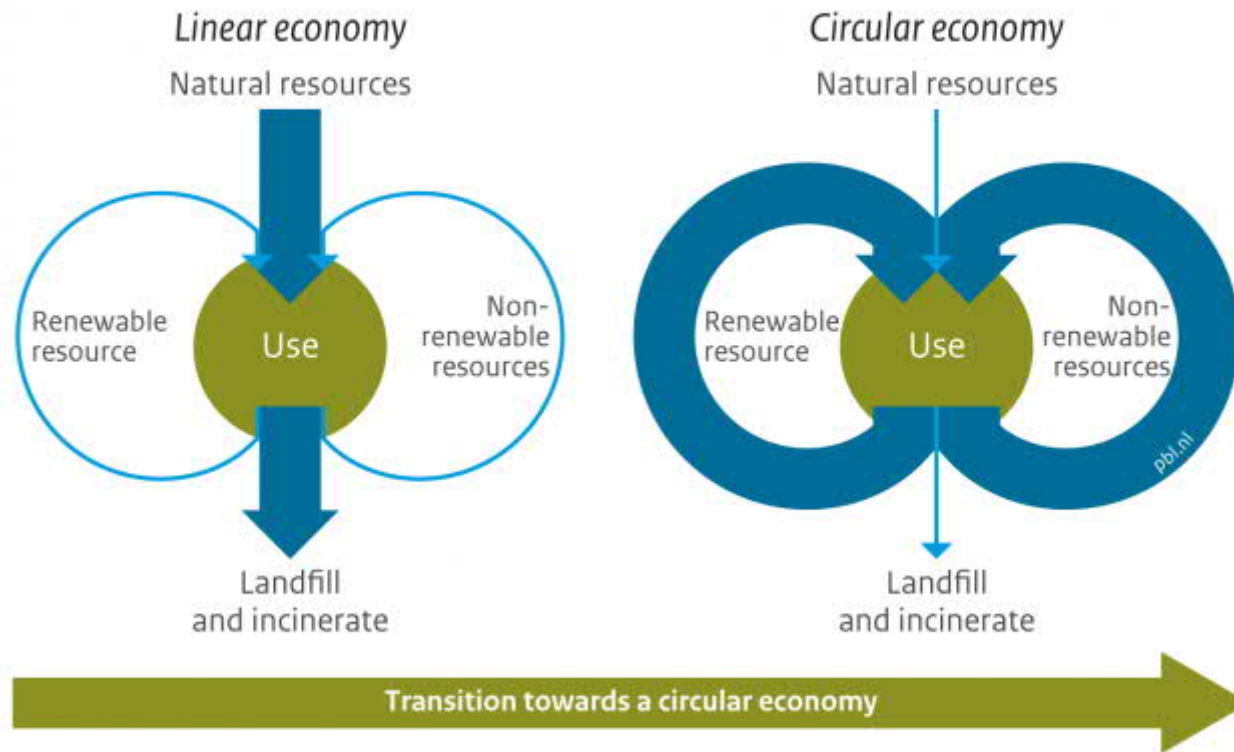
Examples 2 circular soil and sediment management



Dirk De Decker

Circular soil and sediment management

From a linear to a circular economy



Source: PBL 2016

www.pbl.nl

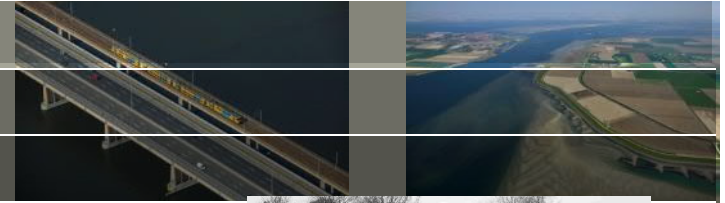
Planbureau Nederland



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Soil materials



2015 - Monitoring use of materials in Flanders		
Material	ktonnes	%
Primary materials - Flanders	6.200	9
Primary materials - Import	22.000	33
Excavated soil	14.700	22
Dredged sediments	6.800	10
Granulates (demolition)	13.800	21
Other secondary materials	3.200	5
Total	66.800	100



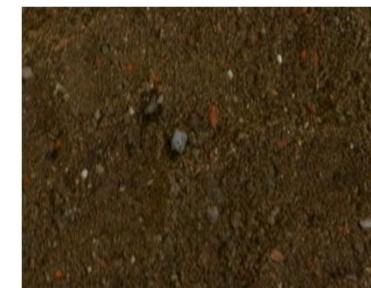
Sediment



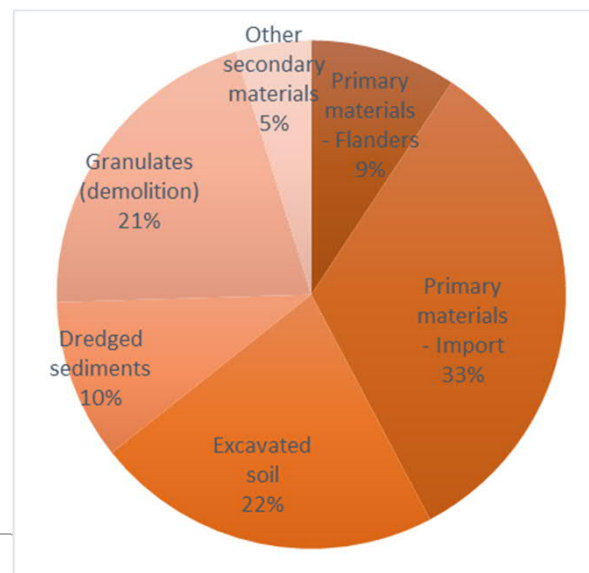
quarry sand



Excavated soil

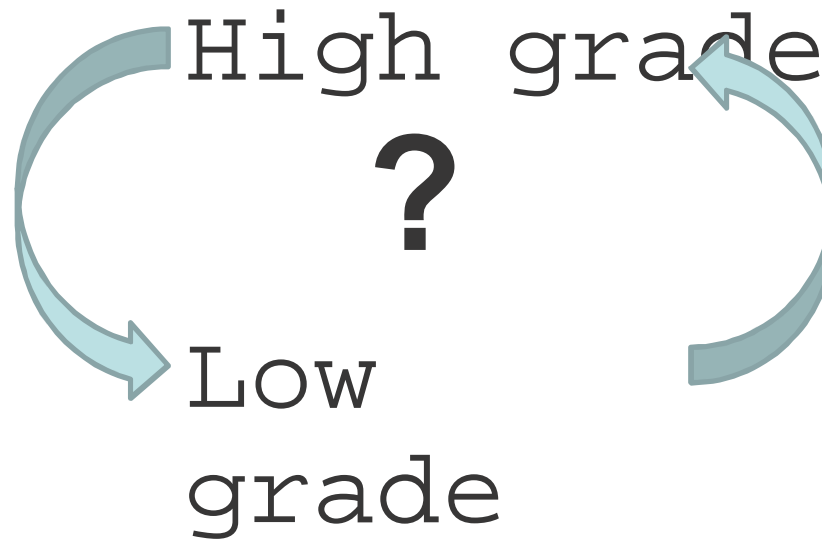


Recycled sand

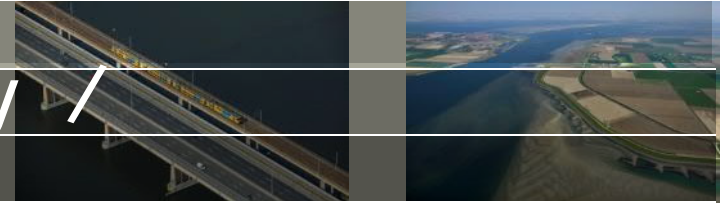


Soil materials - European Directive

Uncontaminated excavated soils and other naturally occurring material which are used on sites other than the one from which they were excavated should be considered in accordance with the definition of waste and the provisions on by-products or on the end of waste status



Soil materials – Policy / Liability



The use of the soil leads to overall adverse environmental or human health impacts.

→ the criteria shall include limit values for pollutants where necessary and shall take into account any possible adverse environmental effects

> human, **As soil** ecotoxicological risks



fulfills the technical requirements for the specific purposes

purposes

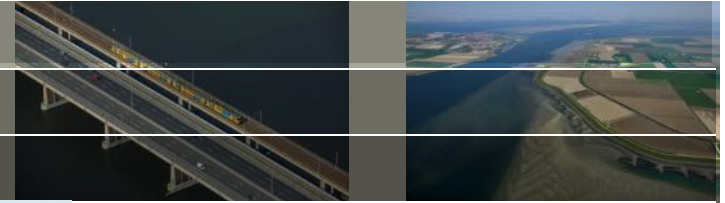


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Soil management - Trust



Excavating



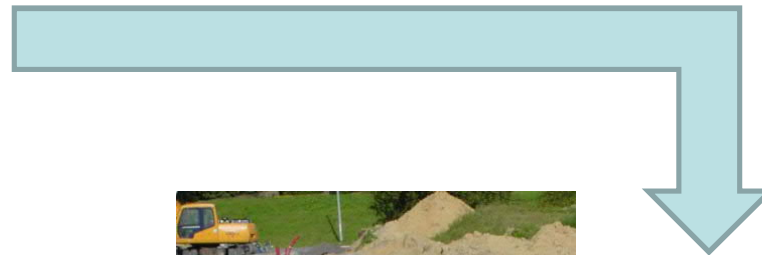
Transport



Storage



Dredging



Use



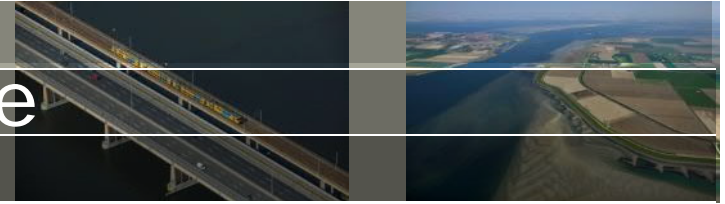
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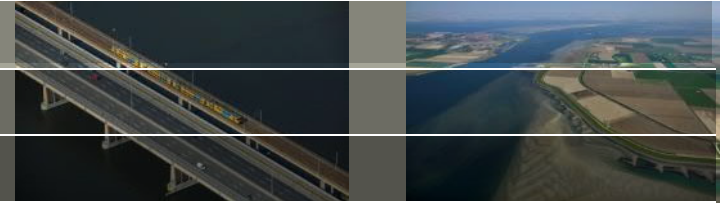
DELTAres

Soil materials - Reuse



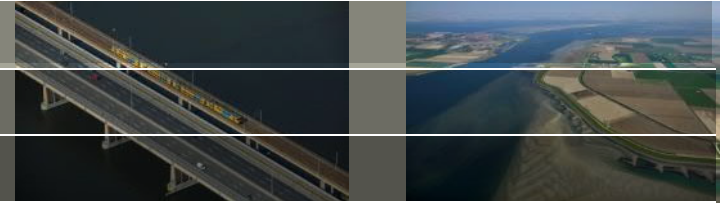
- Market driven
 - Projectzone
 - Construction materials : upgrading - liming
- Factors
 - Transport (max. 25-30 km)
 - Type of contract
 - Time <-> Selective excavation
 - Supply / Demand
 - Quality
 - Continuity

Reuse - Cases



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Reuse - Cases



Reuse of sediment in landscapes dikes
Risks, opportunities and management of dikes made of brackish sediment
Frederic Piesschaert en Jan Mertens Oktober 2005
Sponsor Port of Antwerp



Reuse - Cases

USAR: Using Sediment

As a Resource

Interreg 
EUROPEAN UNION
2 Seas Mers Zeeën

USAR

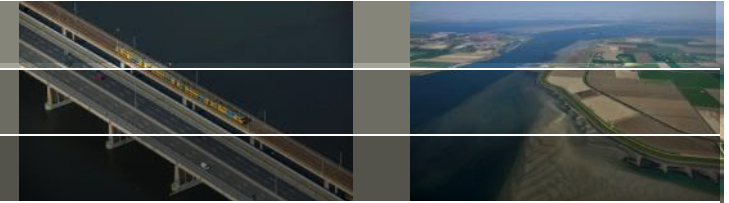
European Regional Development Fund



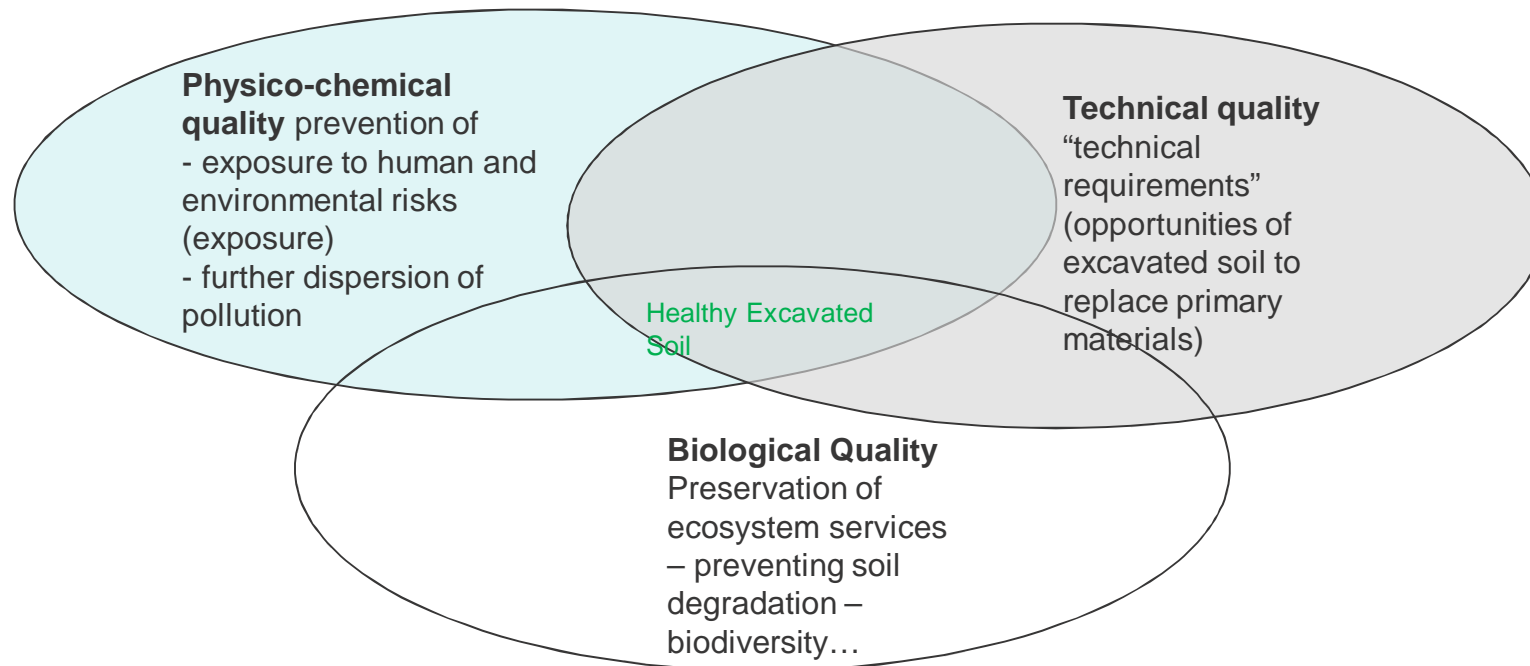
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Reuse - Cases



Focus on exchange of **healthy** soil:



Partners: Immoterrae vzw, VCB vzw,
Grondbank vzw, Vlaco vzw, Agro Energiek bvba,
GLDC bvba

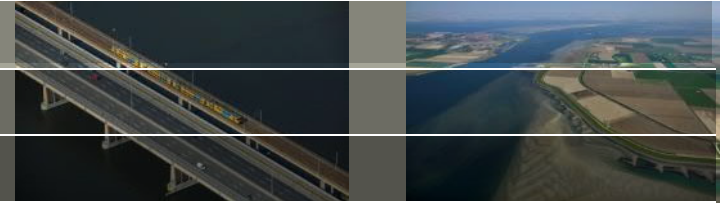


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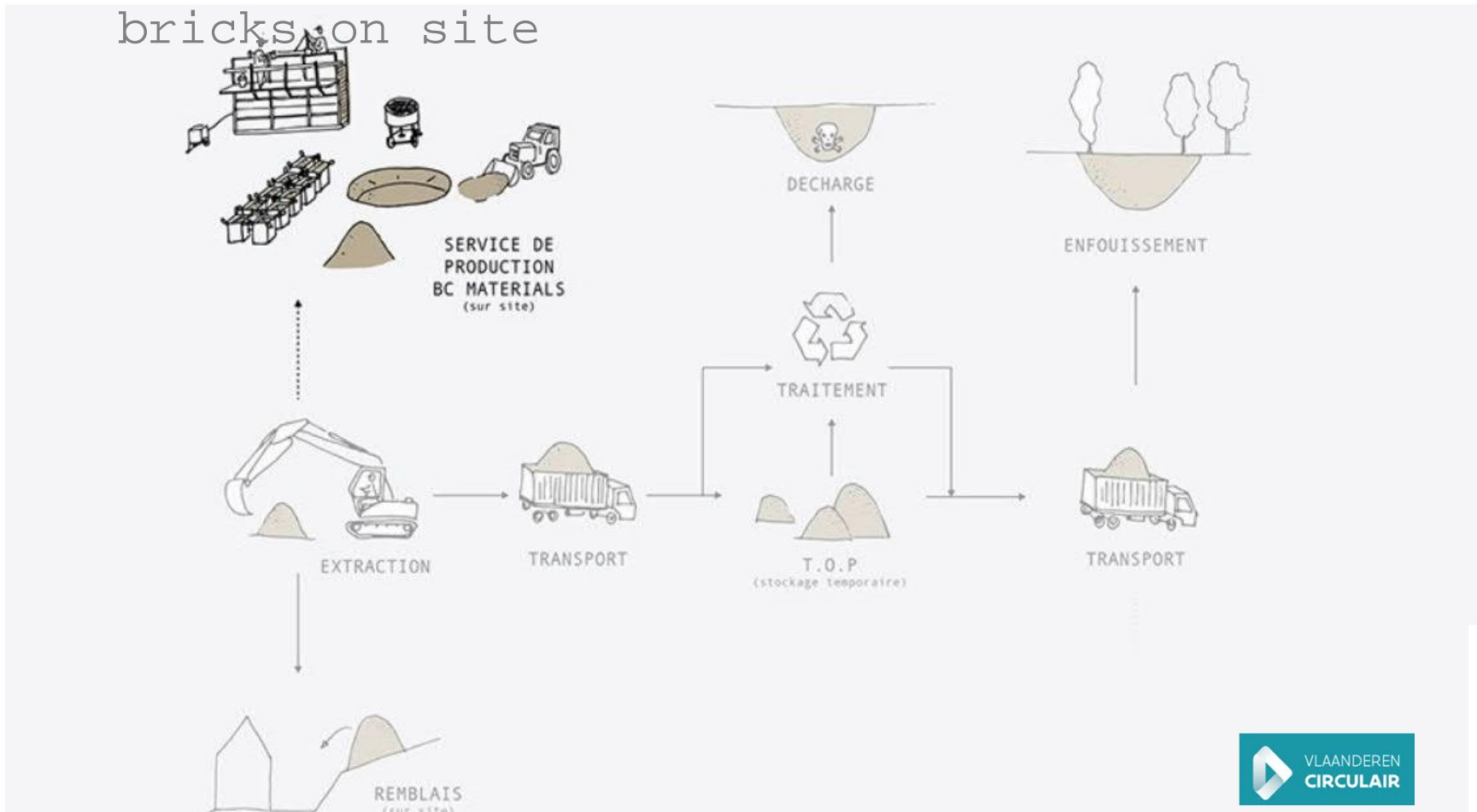
Reuse - Cases



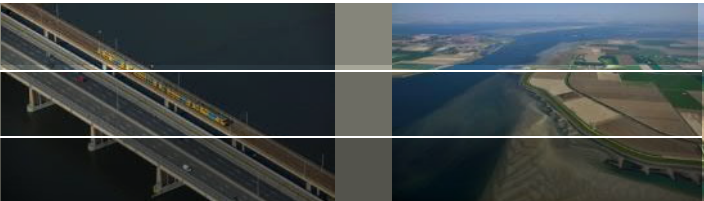
BC Materials & Partners:

**Het Leemniscaat, Vlaams Architectuur Instituut,
De Meuter, Technologicampus Gent, KULeuven**

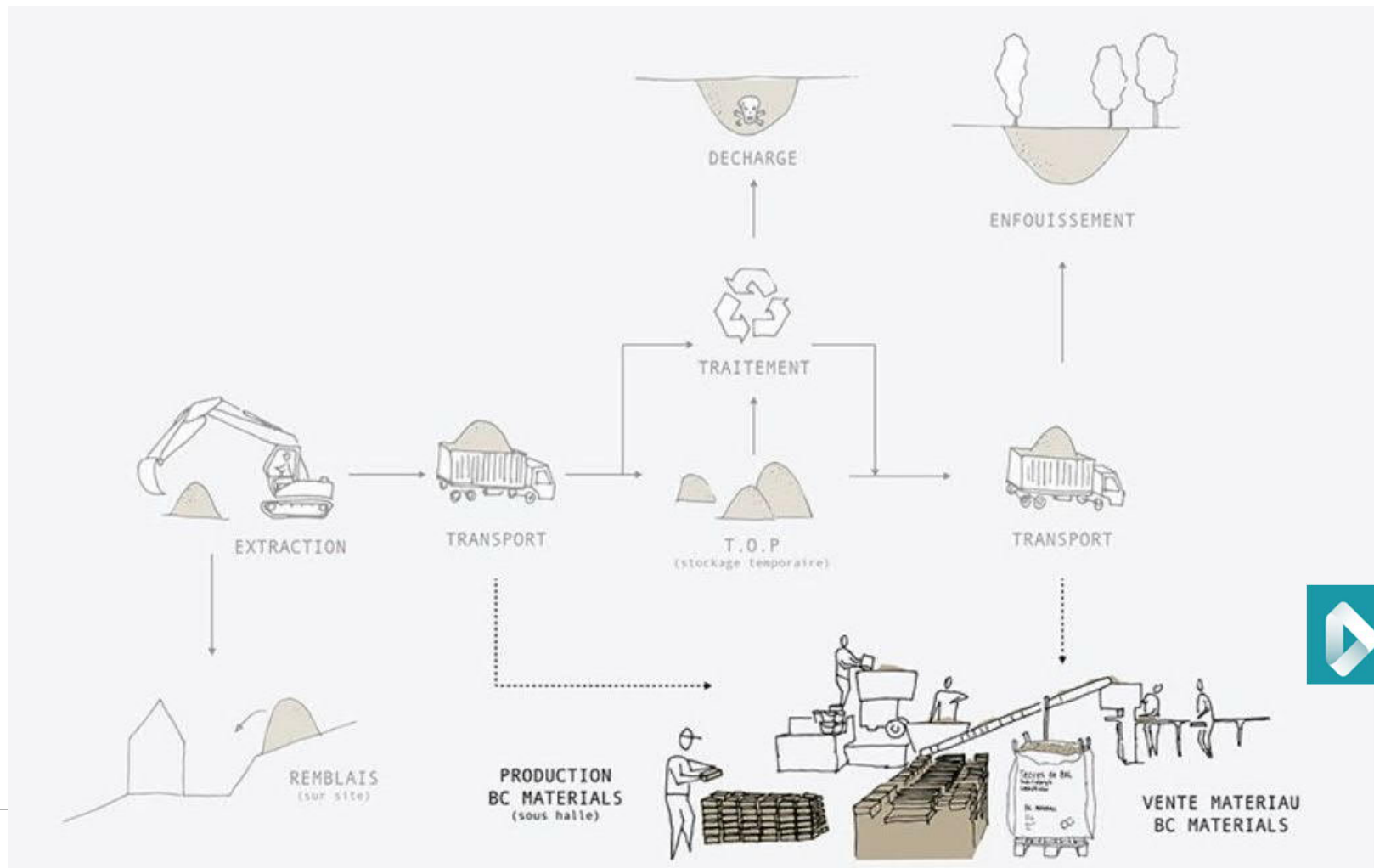
Using excavated material to make building bricks on site



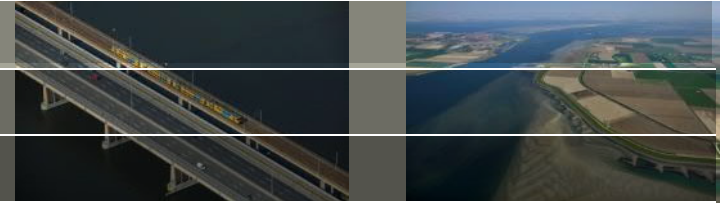
Reuse - Cases



BC Materials & Partners:
**Het Leemniscaat, Vlaams Architectuur
Instituut, De Meuter, Technologicampus**



Reuse - Cases



Why Smartsediment?

The Scheldt delta has a rich ecosystem. Since rivers flow into the sea in this area, it's full of transitions: from fresh to salt, from dry to wet and from high to low. Each area has its own specific plants and animals. At the same time, the Scheldt basin inhabits more than ten million people and the area is experiencing strong economic growth. This makes it hard to ensure that all interests are served.



Interreg
Vlaanderen-Nederland
Europees Fonds voor Regionale Ontwikkeling



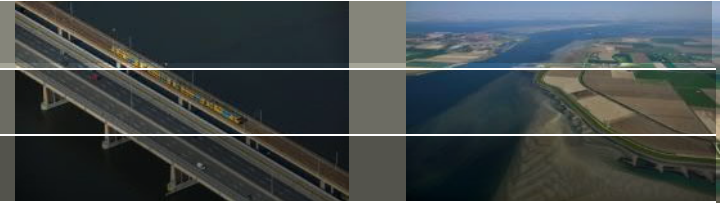
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DELTA
Deltagates

Reuse - Cases



AMORAS exploitation of a silt treatment and storage installation in the Antwerp harbour



Kleirijperij – Clay ripening

Interessegebied

Filters

elike resoluties

1.5m 4.8m 6m 10m

en filter uitschakelen (0)

am: Einddatum:

13 14-12-2018

200.000 m³
from
Havenkanaal



Depot Delfzijl

Depotlocation Kwelder at Breebaart



35.000 m³
from
Klutenplas

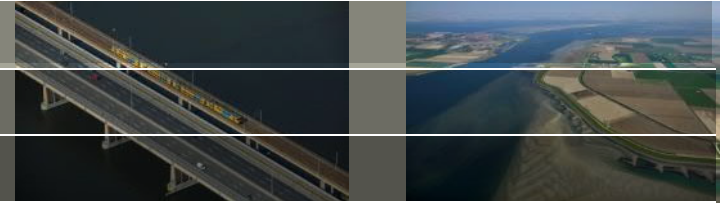
Kwelderdepot

Brede Groene
Dijk

70.000 m³ from
polder Breebaart +
consolidated
sediment



World cafe



people divide in 2 groups and go to topic 1 and topic 2 in two 15 minute rounds
(if there are too many people, we can divide in 4 groups)

Topics

- 1 Opportunities for urban soil and land **Linda, Bernard**
 - > Give existing Examples
 - > Exchange opportunities (that have not been implemented)
- 2 Opportunities for circular soil and sediment management **Nele, Co**
 - > Give existing Examples
 - > Exchange opportunities (that have not been implemented)

2 of 4 tafels, ligt aanwezigheid mensen
We have now mentioned leaders for the
discussion groups, but we can change.
Sophie will walk around and answer
questions, do time management
Margot, Dirk and Ellen en evt Sophie
kunnen ook als tafelleider

3rd round (15 minutes): Choose your topic of preference to discuss Q3

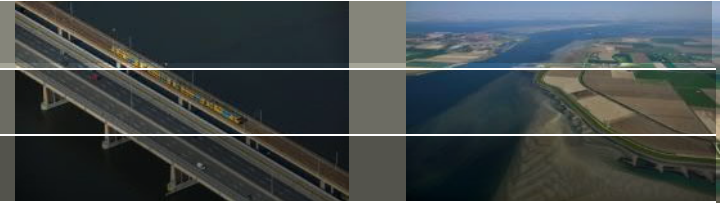
- Q3 What is needed in terms of requirements and conditions, knowledge, stakeholder involvement to get “new” opportunities into practice?
- Formulate 1 take home message

Needed:

Flipovers, stiften

2 colours postits examples and opportunities

Wrap up



presenter Sophie together with Bernard/Margot

Wrap up + where do the results end up?

Herhalen “lessen” uit sessie 1

Per groep 1 message uit sessie 2, door een deelnemer

Resultaten Wat gaan we ermee doen?

Artikel (Bijv Bodem?)

Sessie 1 Common Forum en Nicole (juni bijeenkomst) netwerk

Sessie 2 Deltares neemt CE zaken mee in Deltares strategisch onderzoek

SEDNET

AquaConSoil (kleirijperij, CE)

Thank you for your attention.
Are there any questions?

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