

# THE ACCUMULATION OF FUTURE VALUES

## THE BASIS FOR MULTIPLE INVESTMENTS FOR REDEVELOPMENT OF NON-SANITARY LANDFILLS

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**Fourth interregional exchange of experience meeting of COCOON**

# THE COSTS AND BENEFITS OF SHEEP ON THE DIKE

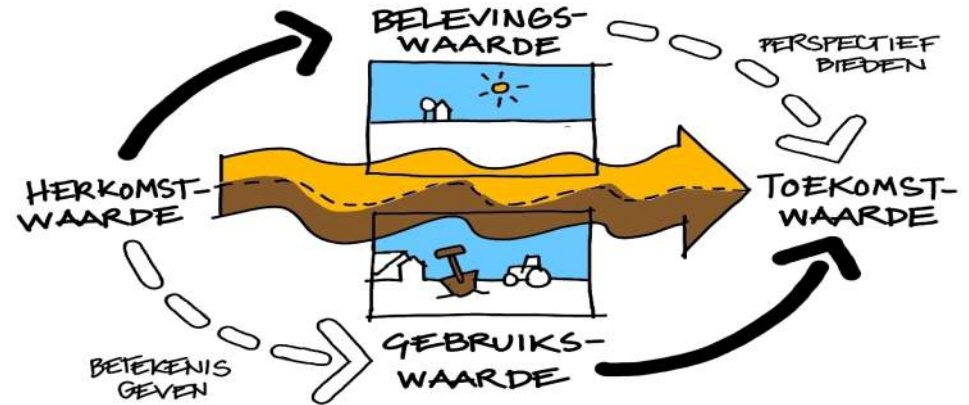
## The Economics and Finance of Multiple Benefits Business Cases

2016 – 2018: results of two years of  
cooperative research of fifty professionals in  
the fields of soil, water, energy and climate



# Future values, the principle

KARAKTERISTIEK



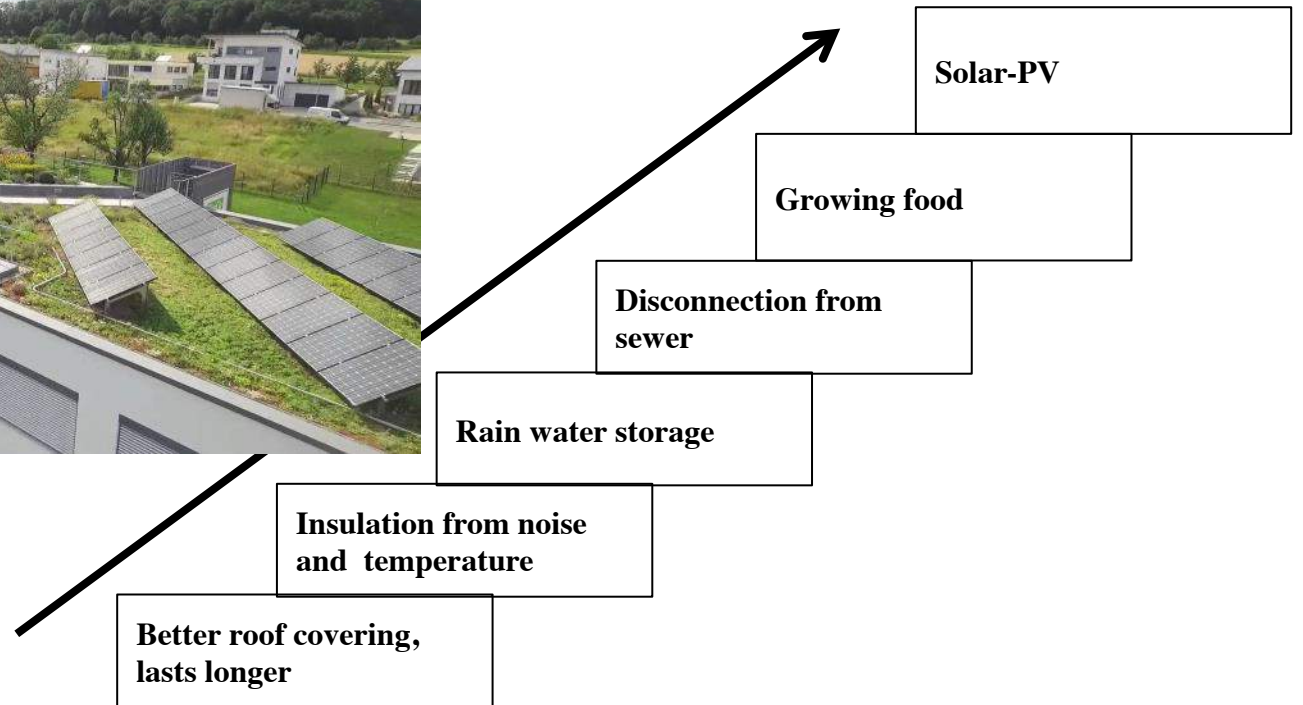
The future value concerns the valuation of spatial functions over time: **DYNAMIEK**

- Can the use value and the experience value be guaranteed in the future?
- Can they still be increased, or in any case be adjusted to future changes or wishes?
- How can participation with residents be increased?

The future value is that each design proposal must leave enough possibilities open to meet future demands.

The starting point is no longer the area, but its users. "Project development is about making the right connections."

# THE FUTURE VALUE LADDER: GREEN ROOF, AN EXAMPLE



# The many functions of green roofs

**Green roofs have up to forty functions such as these ten, and amongst those some with effect on climate change adaptation and resilience\*:**

- |  |                                    |
|--|------------------------------------|
| <b>1 Better roof covering, lasts longer</b>    | <b>6 Growing food</b>              |
| <b>2 Insulation from noise and temperature</b> | <b>7 Solar-PV</b>                  |
| <b>3 Rain water storage*</b>                   | <b>8 Disconnection from sewer*</b> |
| <b>4 More biodiversity</b>                     | <b>9 Clean air</b>                 |
| <b>5 Combat of urban heat island effect*</b>   | <b>10 Roof terrace</b>             |

# Green roofs evolve step by step

**A single green roof can combine six maybe more functions at a time.**

- **Most often this is the result of an incremental process.**
- **There is an evolving business case**
- **The next step creates a platform for the subsequent step: it creates future value.**

# Kanaalpark



# Cost-effective energy generation



Hoeveelheid afval bij volledige scheiding

Omschrijving	Kwaliteit	Massa
Grond	Wonen / Industrie	53.572 ton
Zand	Wonen / Industrie	97.519 ton
Fractie Grond 0 - 16 mm	Extractief reinigbaar	73.292 ton
Ijzer 0-40 mm	Herbruikbaar	332 ton
Ijzer fractie > 40 mm	Herbruikbaar	2.131 ton
Puin > 40 mm	Herbruikbaar	19.181 ton
Puin , Grind < 40 mm	Herbruikbaar	76.170 ton
Hout (C-kwaliteit)	C-kwaliteit	5.868 ton
Hout / organisch / GFT	Herbruikbaar / stort	32.245 ton
Asbest > 40 mm	Stort	55 ton
Spil/vocht	Verdamping	3.266 ton
Kunststoffen	Herbruikbaar/stort	34.293 ton
Textiel	Herbruikbaar/stort	11.929 ton
Glas	Herbruikbaar	8.940 ton
Papier	Herbruikbaar/stort	1.550 ton
Rubber	Herbruikbaar/stort	4.456 ton
Divers	Stort	3.072 ton
<b>Totaal</b>		<b>427.871 ton</b>

De totale omvang van de voormalige stortplaats "Kanaalpark", bedraagt

427.821 ton, in grote lijnen bestaande uit:

- teelaarde; 53.572 ton (ca 12 %)
- zand; 97.519 ton (ca 23 %)
- afval; 276.681 ton (ca 65 %).

34%, 7%, 33%, 26%



# Reevaluate old investment



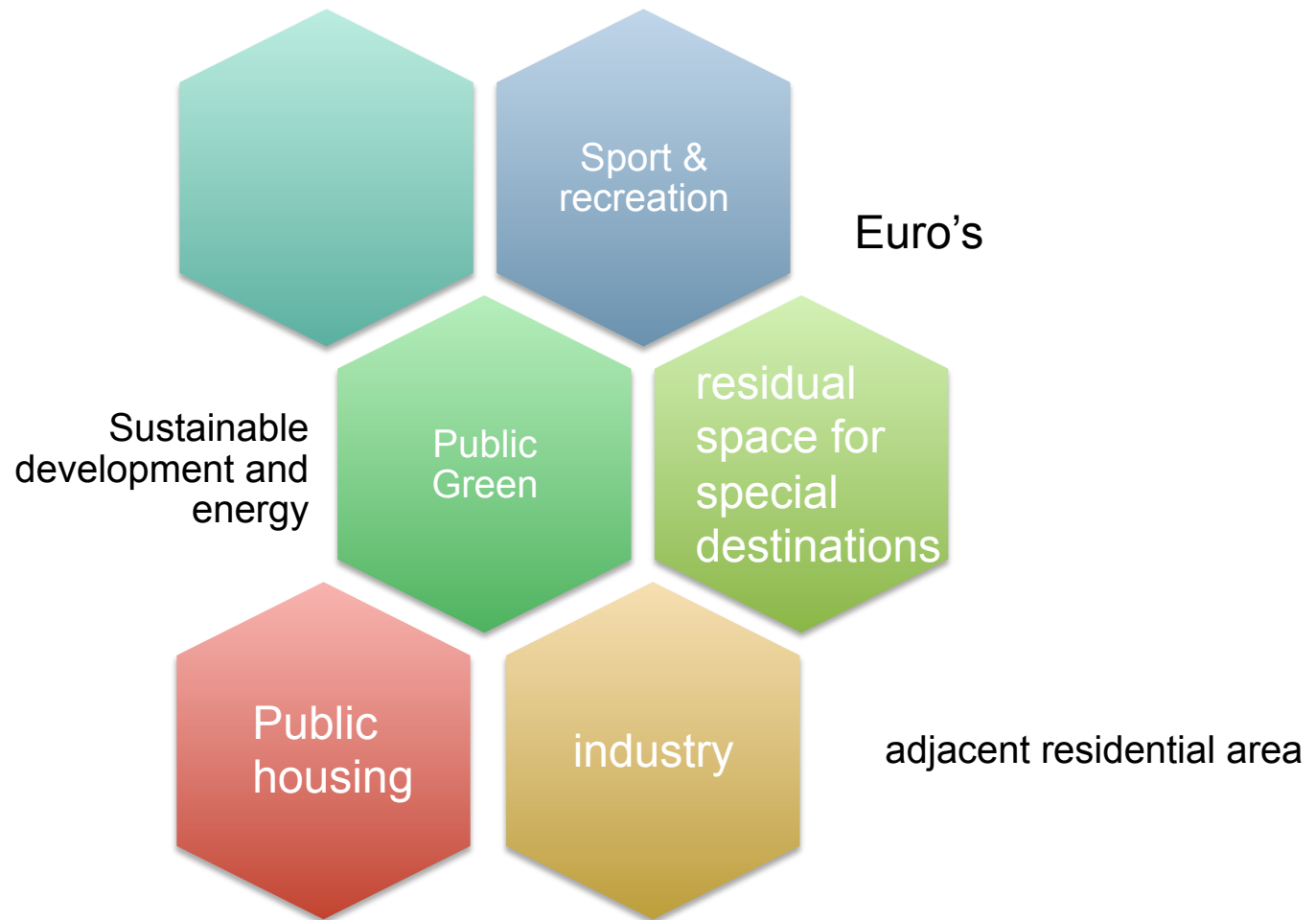
Problems Kanaalpark: unpleasant environment;

- Insufficient top layer of landfill material
- Risk of leaching of contaminants is constantly present
- Socially unsafe park
- Stops connection with the city

First solution direction aimed at redesign and further remediation of the former landfill by;

- Excavate the landfill and re-use secondary raw materials.
- Reorganize the landfill material and cover it responsibly.

# Goal report for determining added values



# Added values



Waste incineration plant / biomass power station / Mound more concentrated and stabilized



Watersport activities pond channel / Facilities and activities for young people (educational, cradle to cradle) / Commercial wellness and health care complex/ dog training center



Pilot: houses with new energy techniques / Special residential development / city camping / Area for events organization on a Dutch mountain

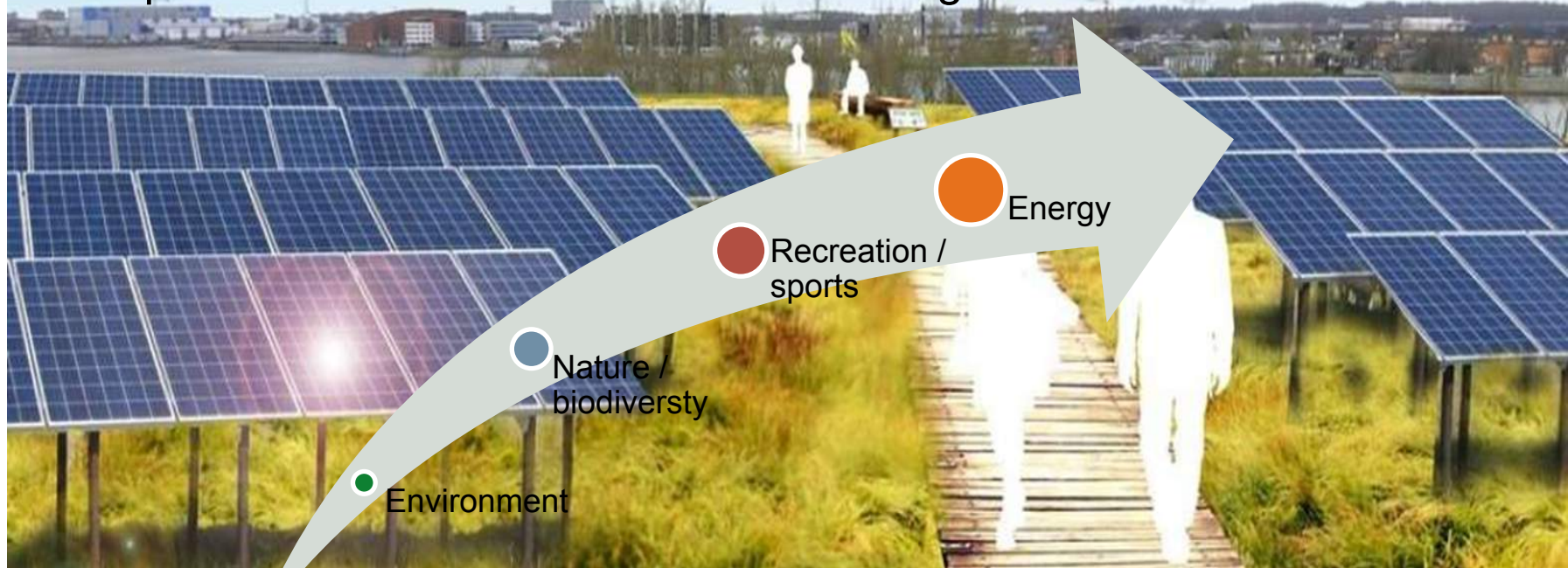


Strengthen park function through refurbishment / Improvement cycling and walking paths / network with associated lighting, with bicycle bridge connecting cross functions on the other side of the channel



# Redeveloping 4000 non-sanitary landfills, a challenge

Landfills developed into energy parks: by using landfill gas and placing of solar cells and windmills. Which add more values. More parties can enter and share costs and generate benefits.



But it is possible to block the accumulation of future values. That happens when a choice is made early on in the process which conflicts with the creation of new future values. A lock-in is created.

# Cooperation and learning

- The re-users of old landfills learn to cooperate and are able to involve other parties like the municipality concerned with generation of renewable energy and sustainable area developments.
- Will residents / initiators of the redevelopment of a closed landfill adopt the area again? In the period when it was a landfill: it was avoided! And now it will be embraced!
- Learning means transaction costs, but these will decrease with the involvement of each next partner,
- The parties which enter also share costs and generate new benefits.

# Collective development

Collaboration between energy care and connections of local energy cooperatives offer local residents a clear share. This can increase the support of the residents.

A collective also has more advantages;

- The collective holds knowledge
- The collective can exert pressure, for example in order to give space to the redevelopment of landfills in Environmental Vision and Environmental Plans
- Parties in the collective can give arguments for local residents to participate in redevelopment, for example by participating financially
- Waste care is one of the problems of the collective, however besides problems the collective also share the benefits.

# Risks ?

Learning, decreasing transaction costs, more parties to share costs with, and more benefits make for robust business cases.

- Although multiplicity feels like more risk for investors and financiers the opposite is the case.
- Most investors and financiers are not on this page yet.





# Towards a financial solution

Can a dedicated investment fund built up experience with the risks of investment and exploitation ?

A fund like that is ready to take risks by investing in these kind of multiple benefit projects.



# Fund for multiple benefit business cases

Develop a special fund, dedicated to multiple benefit business cases regarding soil, water, energy and climate, that can help investors and financiers cross the threshold.

For professionals from the financial world, municipal and water board executives, it is interesting to explore the possibilities of an investment fund focused on multiplicity. Even if we assume that such a fund will primarily target social returns, a financial business case is nevertheless in order.

The fund manager is a repeat player with knowledge of what multiple benefit business cases are.

Purpose of this fund is to help realize more multiple benefit projects that are good for climate change adaptation and resilience.

# Fund on the multiple business case

Projects can benefit from each other because a fund :

- Makes (part of) money revolve
- Accumulates knowledge: it aids one time players to become a repeat player
- It is an external party which, as an outsider, can contribute its own (and new) insights
- Can spread risks
- Can think and work with vision to the future
- Can help finance various bigger projects at the same time by attracting sufficient financial volume from different parties



# Thinking in future values helps multiplicity and future set-ups of multiple benefit business cases

- Thinking in future values is a way of **getting parties** to the place where you can realize involvement in your initiative and **make them shareholder instead of stakeholder**.
- Thinking in future values for the place and the community forces us to make **maximum use of the properties and context** of the place.
- Perception from the perspective, the interests, wishes and activities of 'the community' is far less obvious, so perhaps we already get a lot of profit if we **do not talk about 'the place and the community' but about 'the community and the place!'**
- Thinking in terms of future values means that we do not regard an investment as the culmination of a process but as **the start of more investments** and new future values.
- Thinking in terms of future values **makes a planning framework more urgent**, whilst this approach this also creates more time.



For Your Attention