



Utrecht University

Wie betaalt er voor natuur?

Een analyse van stedelijke nature-based solutions

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Natuur – een publiek of een privaat goed?



De zoektocht naar de “business case” voor (stedelijke) natuur

- Europees Horizon project “NATURVATION” 2017-2020
- 3 jaar City Deal Openbare Ruimte (werkgroep integrale business case en financiering)
- Europees Horizon project “Naturescapes” (2023-2027)
- En allerlei publicaties
- Vorige maand een prijs!



Water Fund, Cape Town



Isar river, Munich



Naturcent, Hamburg



Parc Marianne, Montpellier



Eco-Valley, Tianjin



Pla Buits, Barcelona



Tree adoption, Leipzig



m2 for butterflies, Edinburgh



Schoolgardens, Győr



Food for Good, Utrecht



Newcastle Parks

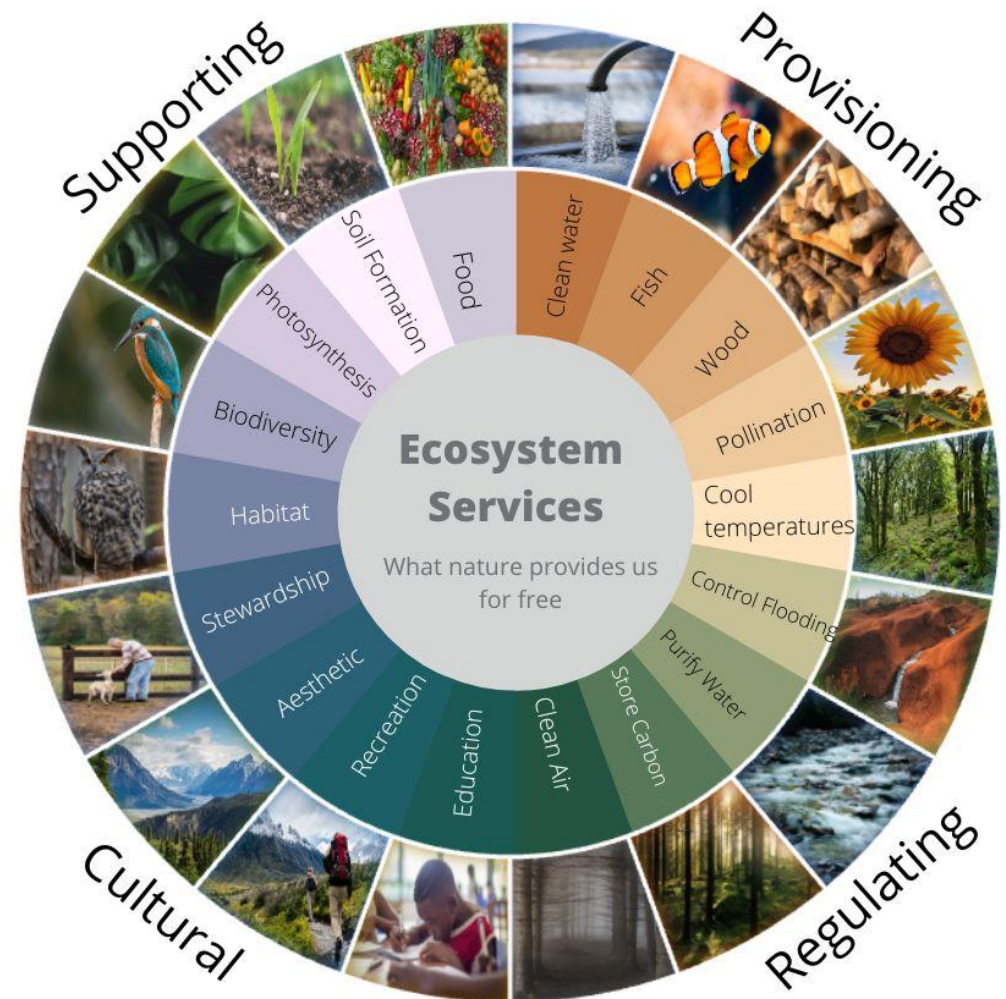


Chinampas, Mexico City

Het berekenen van de 'waarde' van natuur kan helpen het te beschermen

- Ecosysteemdiensten
- Maatschappelijke Kosten-Baten Analyse (MKBA)
- Natural Capital
- True Price

- .. Nature-based solutions (NbS)



Energietransitie ≠ natuur



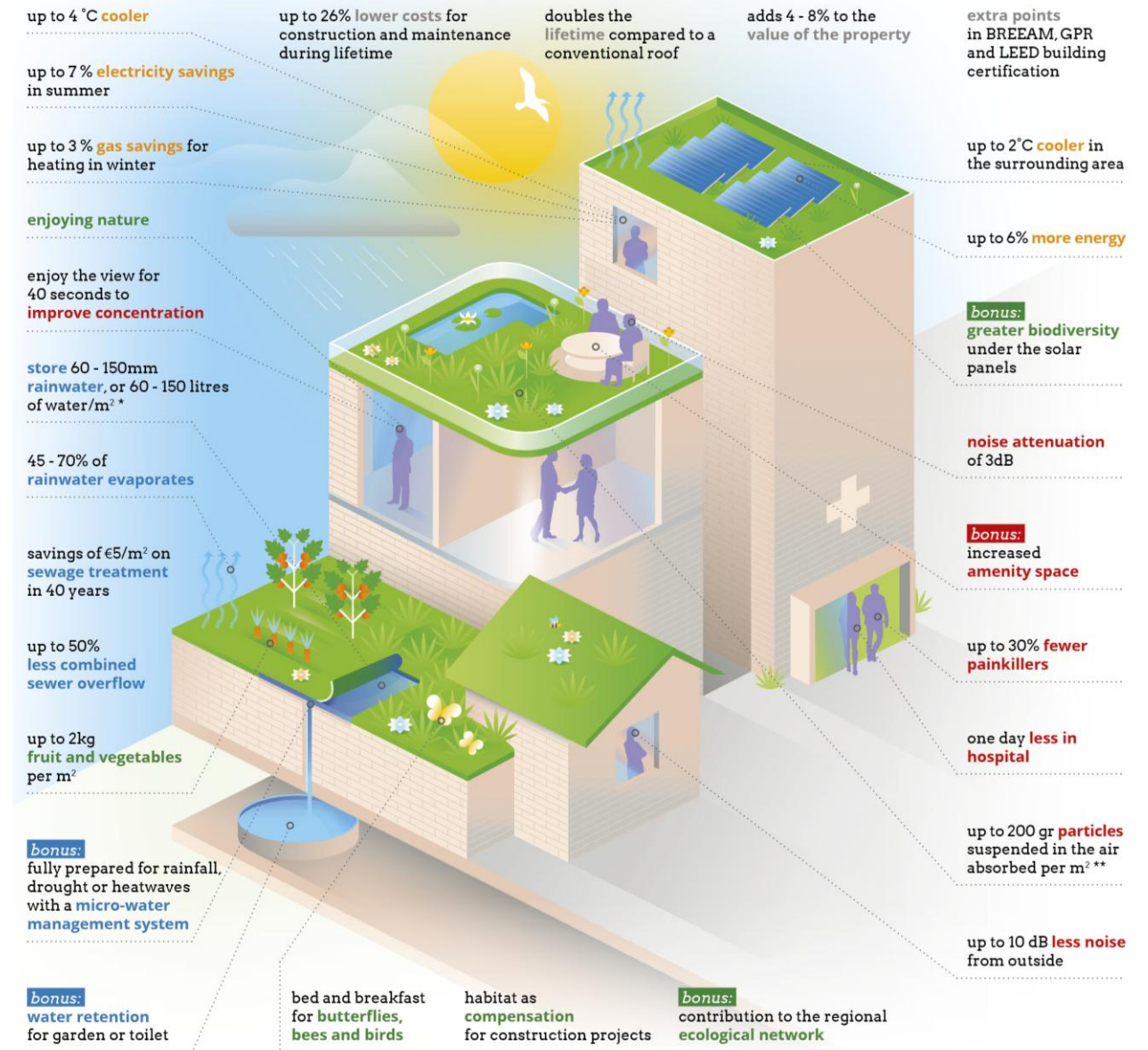
Energietransitie ≠ natuur

- **Locatie-specifiek**, moeilijk te ‘vermarkten’ (Beverdam et al., 2025)
- **Baten** van natuur zijn lastig in geld uit te drukken en te appropriëren door individuele actoren (want publiek/gemeenschapsgoed)
- **Verschillende actoren** zijn betrokken bij natuur op een specifieke plek, om verschillende redenen en met verschillende waarden.



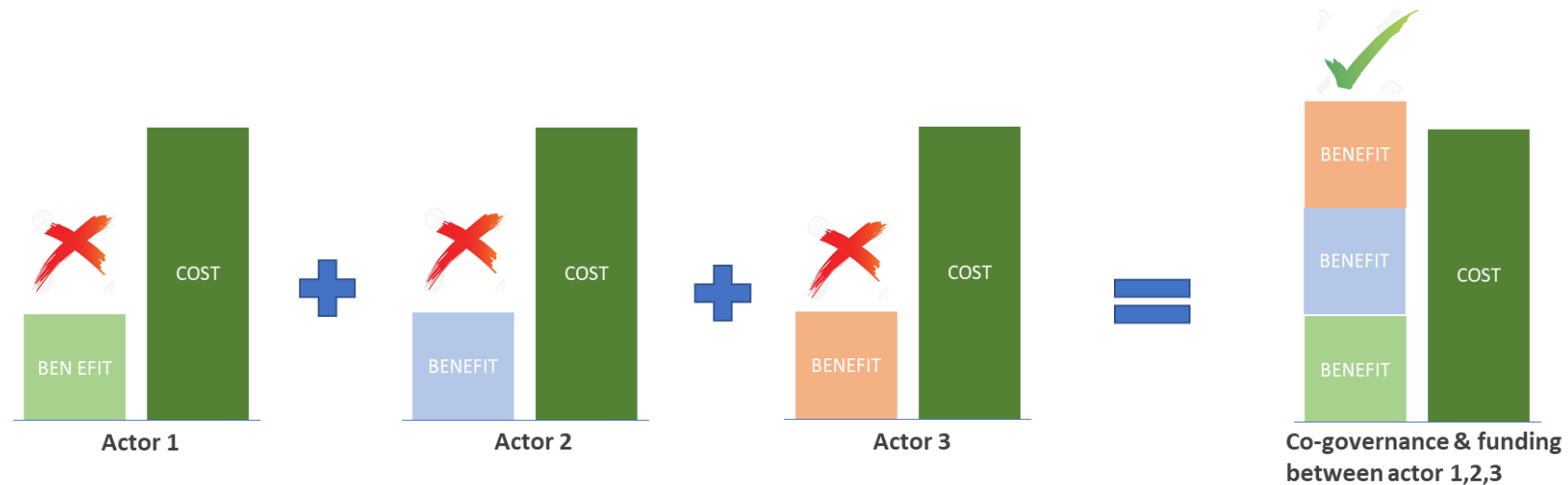
Eerst alle 'waardes' boven tafel krijgen... en dan de hamvraag

- Voorbeeld: groene daken
 - *infographic: Green Deal Green Roofs*
- Economische, sociale, ecologische en energie waardes
- Ok, dan hebben we alle cijfers.
- **Wie gaat er voor betalen, en waarom?**



Een individuele actor ziet de 'business case' van natuur niet

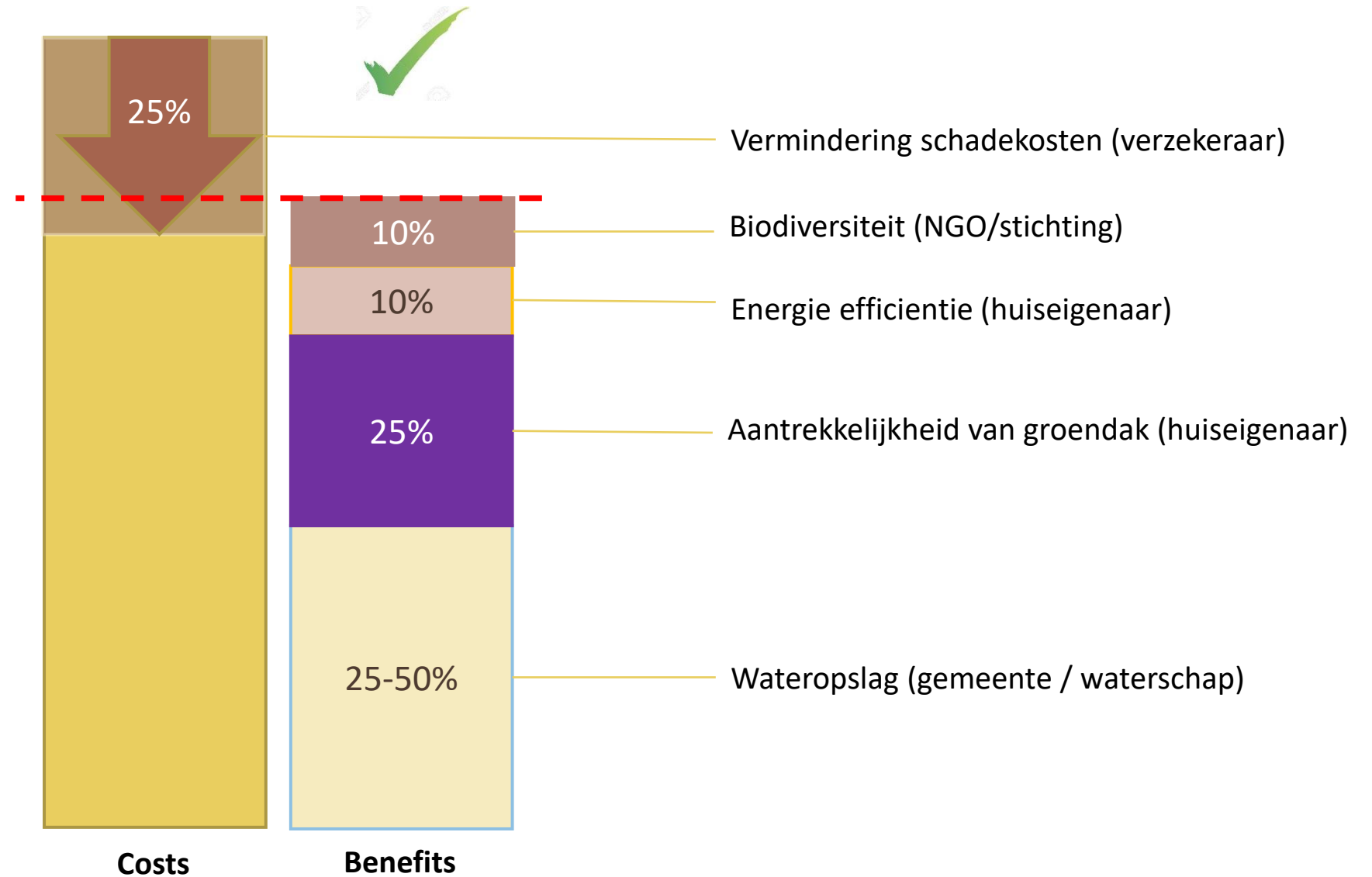
- Stedelijke natuur levert een veelheid aan baten
- De 'business case' zie je pas als je verschillende baten meeweegt
- Verschillende actoren (met eigen budgetten & logica) hebben interesse in verschillende soorten baten (en vaak maar 1 of 2)
- Op het 'meso' niveau kun je laten zien dat de baten hoger zijn dan de kosten
- Maar daar ontstaan afstemmingsvraagstukken / coordinatiekosten: verschillende baten-actoren, 'talen', tijdslijnen en logica's



Waarom zou een verzekeraar meebetalen aan groene daken?



De "~~business case~~" voor (stedelijke) natuur



(Duurzame) en stakeholder - based business modellen

The Business Model Canvas		Designed for:	Designed by:	Date:	Version:
Key Partners Who are our Key Partners? Who are our key suppliers? Which Key Resources are we acquiring from partners? Which Key Activities do partners perform? WHY HAVE WE AGREEMENTS? Optimization and economy Reduction of risk and uncertainty Acquisition of particular resources and activities	Key Activities What Key Activities do our Value Propositions require? Our Distribution Channels? Customer Relationships? Revenue Streams? CHANNELS Production Problem Solving Platform/Network	Value Propositions What value do we deliver to the customer? Which one of our customer's problems are we helping to solve? What bundles of products and services are we offering to each Customer Segment? Which customer needs are we satisfying? VALUE PROPOSITIONS Revenue Performance Customization "Cutting the Job Done" Design Brand/Status Price Cost Reduction Risk Reduction Accessibility Convenience/Usability	Customer Relationships What type of relationship does each of our Customer Segments expect us to establish and maintain with them? Which ones have we established? How are they integrated with the rest of our business model? How costly are they? EXAMPLES Personal assistance Dedicated/Personal Assistance Self-Service Communities Co-creation	Customer Segments For whom are we creating value? Who are our most important customers? Also listed: How Market Segment Government Multi-Sector Markets	
	Key Resources What Key Resources do our Value Propositions require? Our Distribution Channels? Customer Relationships? Revenue Streams? TYPE OF RESOURCES Physical Intellectual (Brand patents, copyrights, etc.) Human Financial		Channels Through which Channels do our Customer Segments want to be reached? How are we reaching them now? How are we reaching them next? Which ones work best? Which ones are most cost efficient? How are we integrating them with customer routines? CHANNEL TYPES 1. Awareness 2. Evaluation 3. Purchase 4. Delivery 5. After sales How do we integrate them with customer routines?		
Cost Structure What are the most important costs inherent in our business model? Which Key Resources are most expensive? Which Key Activities are most expensive? IS THIS BUSINESS MODEL? Cost Driver (Fixed or variable costs, average unit volume) SCALE ECONOMIES Fixed Costs (Rent, energy, utilities) Variable Costs Economies of Scale Economies of Scope		Revenue Streams For what value are our customers really willing to pay? For what do they currently pay? How are they currently paying? How would they prefer to pay? How much does each Revenue Stream contribute to overall revenues? TYPE Asset sale Usage fee Subscription fees Licensing/Leasing Advertising Brokerage fees Advertising	Channels List Price Product feature dependent Customer segment dependent Location dependent Volume dependent	Revenue Streams Subscription (SaaS) Asset sale Real-time stream	

A Stakeholder Theory Perspective on Business Models: Value Creation for Sustainability

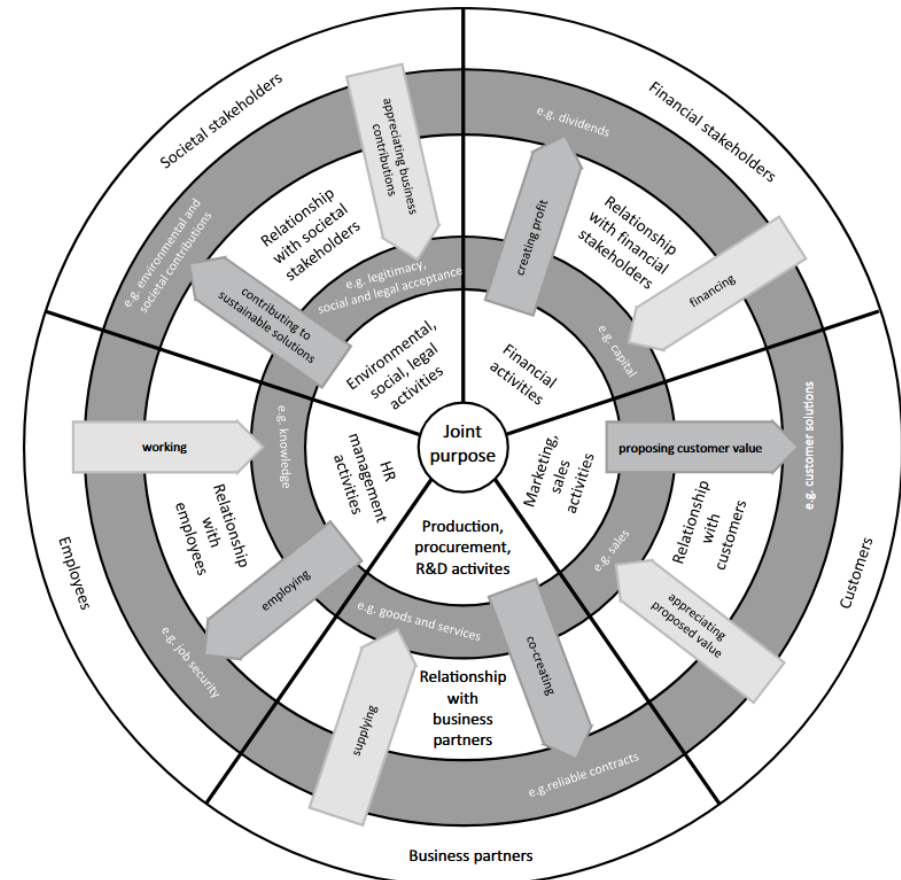






Fig. 2 Stakeholder value creation framework for business model analysis

'business modellen' voor stedelijke natuur

Business models	 Risk reduction	 Green densification	 stewardship	 Green health
Value Proposition What is being offered in the market? Who is the customer?	NBS interventions are valued for their ability to reduce climate risks (and costs) such as flooding, extreme heat and drought.	Urban real estate developers develop NBS along with housing and commercial buildings, targeted at quality of life of residents/employees (green roofs, gardens)	Local small plots of nature (and single trees) are valued by citizens who are willing to protect and support nature in their neighborhood.	The therapeutic and health value for citizens of interaction with urban NBS is valued by (mainly) non-profit and public actors.
Value delivery What resources are needed? What network? What is the strategy?	Targeted at municipalities, citizens, firms. Data / metrics needed to increase risk awareness and underpin investments.	Green development expertise or partnerships with experts are required (roofing firms, landscape architects, ecologists)	A coordinating mechanism is needed for individuals to contribute at large scale, i.e. tool that identifies individual trees to build value and monitor.	In the case of vulnerable citizens, expertise is needed to help them recover through their interaction with nature. Sometimes maintenance needs to be provided for, as well.
Value capture What costs are being made (or prevented?) What revenues, for whom?	High, irregular costs prevented in case of extreme weather; insurance products remain accessible and attractive, can grow the market.	Real estate projects often generate high returns; use part of this to integrate NBS into building project. Expectations of higher sale prices / rents / occupation.	Many donations from citizens and firms; transaction costs and campaign costs can be lowered by implementing digital monitoring/platform.	Investments into urban greening can help deliver health objectives, both preventive and recovery, thus lowering (other) health-related costs.
Enabling conditions & risks What conditions enable this business model to be effective? What risks are there?	Awareness of risk is crucial, as is availability of data. Municipality should help poorer citizens who cannot afford insurance & risk mitigation interventions.	Green tender procedures / requirements, land ownership and monitoring by the municipality speed up this business model. Subsidies may be needed for social housing to be included.	Accounting for the additional nature provided by local citizens and businesses is important to prevent 'double counting'. Campaigning is often needed, including funding.	This model requires expertise on how green spaces need to be designed and used to support citizen health. Just stating 'green is healthy' will not be enough.

'business modellen' voor stedelijke natuur



Risk reduction model

Isar plan, Munich
Atlantis Water Fund Pilot, Cape Town



Green densification model

Parc Marianne, Montpellier
Eco-Valley, Tianjin



Local stewardship model

Roadside tree concept, Leipzig
Square meter for butterflies, Edinburgh



Urban offsetting model

Urban Forest Fund, Melbourne
Beekeeping at AUDI Hungary, Győr



Vacant space model

Pla Buits urban gardens, Barcelona
Winter ice at The Forks, Winnipeg



Green health model

Food for Good, Utrecht
Newcastle Park Trust, Newcastle



Green education model

School gardens, Győr
Belvedere college urban farm, Dublin



Green heritage model

Park museum Vrana, Sofia
Chinampas agriculture, Mexico City

Van 'business model' naar publiek-private value bundles

- Business modellen gaan ervanuit dat een **bedrijf** central staat;
 - Ook duurzame/sociale business modellen
- Bij het maken van de 'case' voor natuur staat een **plek** centraal
- Publiek, private en gemeenschaps actoren spelen allemaal een rol, ontvangen baten, en dragen bij
- "joint purpose" → joint action
- Nature value bundles?

A Stakeholder Theory Perspective on Business Models: Value Creation for Sustainability

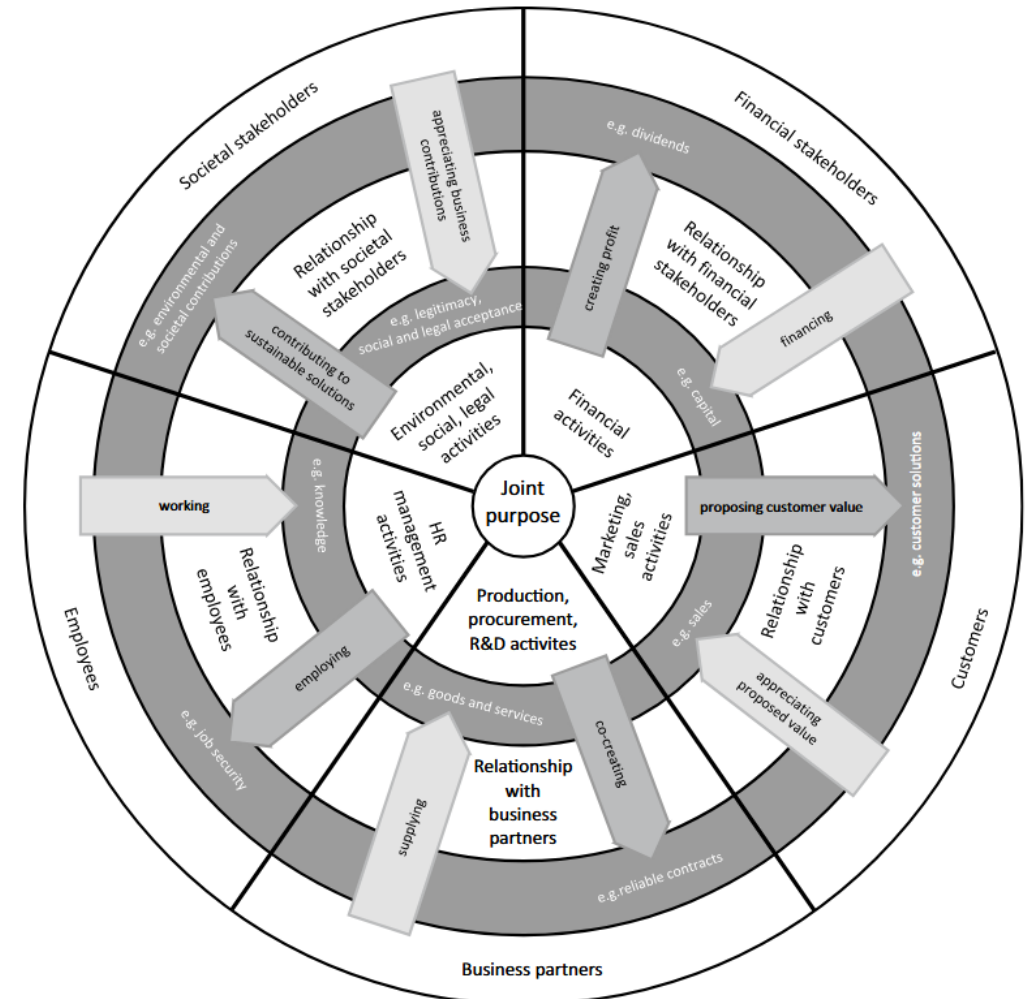
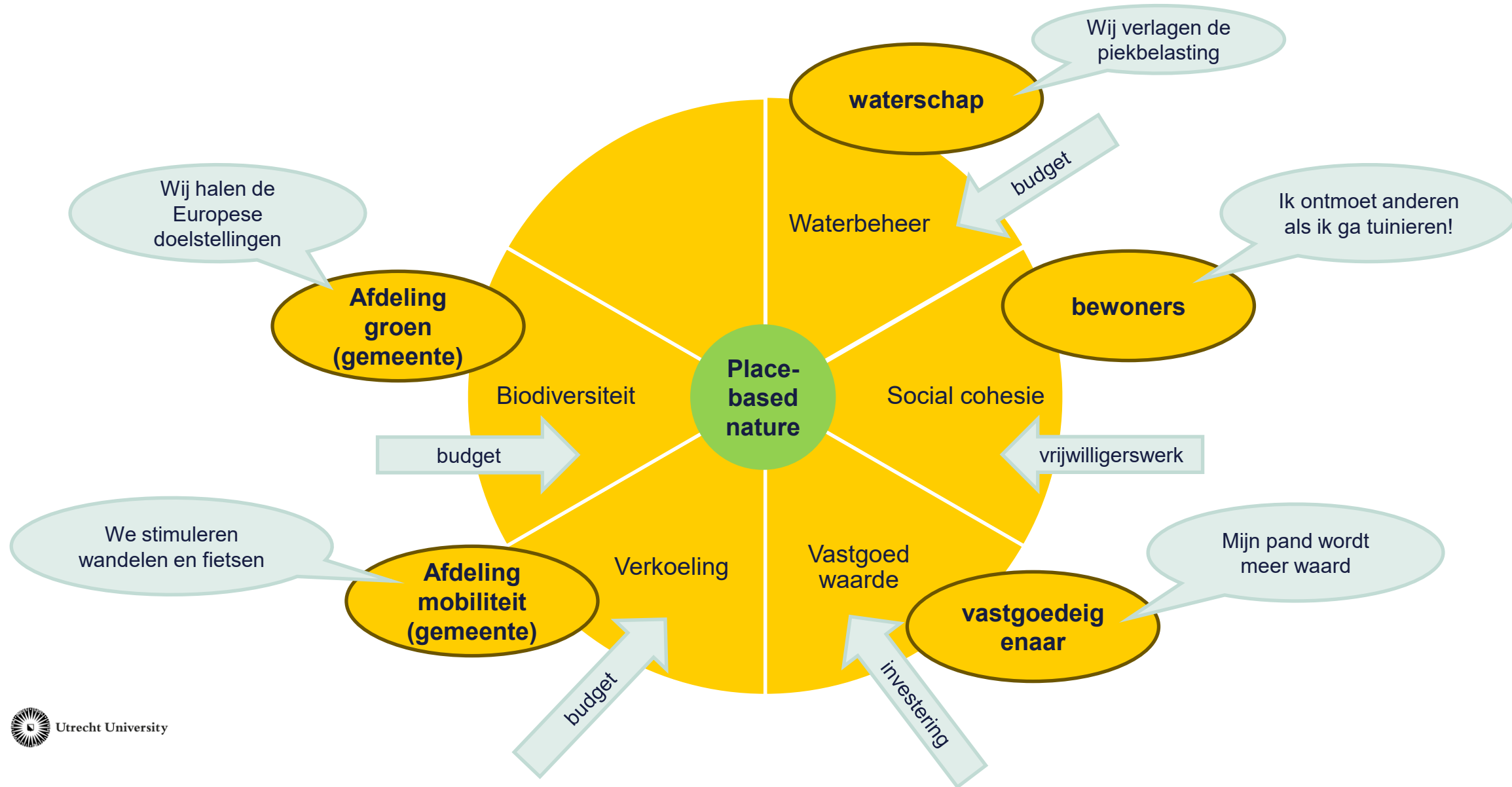


Fig. 2 Stakeholder value creation framework for business model analysis

Nature value bundles



Nature value bundles: coordinatie kosten (voorbeeld)

- Coral reefs provide **flood risk reduction** for coastal communities, as well as **tourism** income, **habitat** for many species
- The Nature Conservancy brought partners together by developing a **coral reef insurance policy** (Hawaii, Mexico)
- Kicks in **after a storm** for nature restoration





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Wordt vervolgd 😊

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