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HOlistic Management of Brownfield REgeneration

Re-use of land: possibilities, decision making and stakeholders

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CABERNET www.cabernet.org.uk

GLOCOM Global Partners in Contaminated Land Management MARIE CURIE ACTIONS www.dais.unive.it/~glocom

GREENLAND www.greenland-project.eu

HOMBRE www.zerobrownfields.eu

timbre www.timbre-project.eu

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Focus on “Soft” Re-Use

- “Hard” and “soft” land use
- Collaboration between HOMBRE and Greenland
- Land recycling and value
- Services and value
- Overall value and the investment case
- Improving overall value from soft re-use (BOM)
- The process of design and decision making (as stages)
- Engaging stakeholders in decision-making

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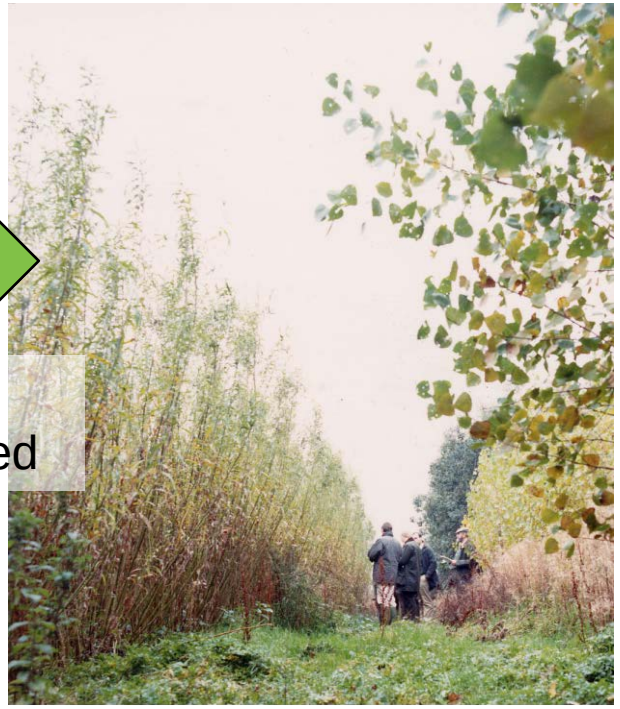
Types of re-use for brownfields

- “Hard Re-Use”
- “Soft-Re-Use”

Building or infrastructure

Often combined



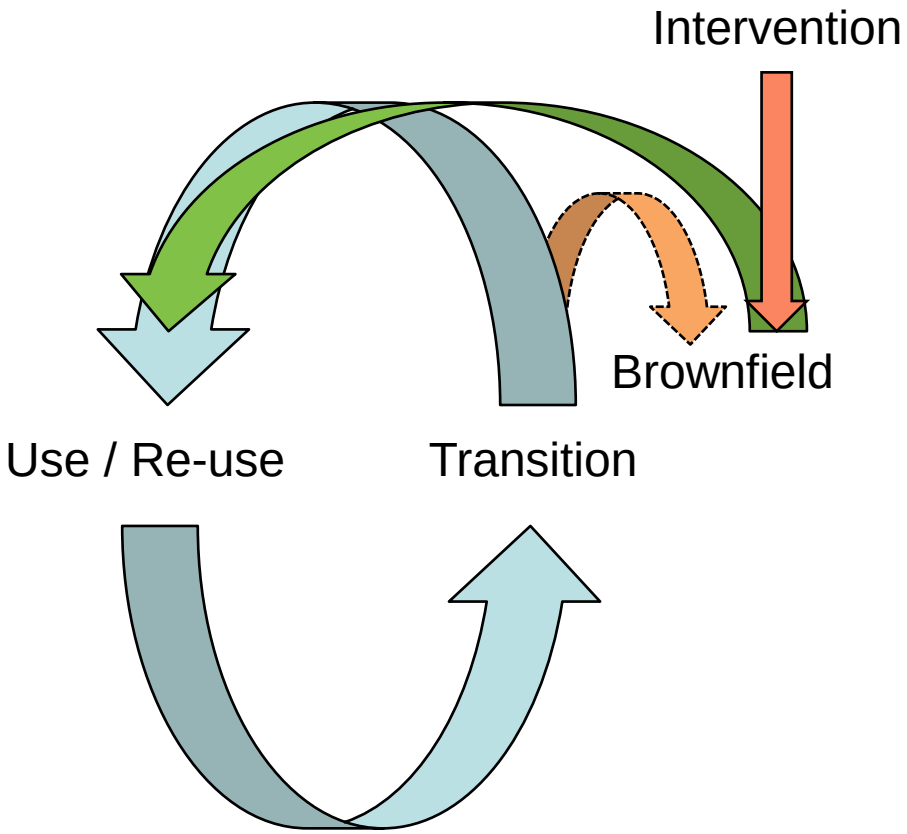
Unsealed soil

HOMBRE and Greenland

- HOMBRE
  - Understanding the land management & use cycles
  - Prevention (early warning indicators)
  - Brownfield re-use (tools to support transition)
    - WP5 Soft Re-Use
  - Case studies and technical information
  - Brownfield Navigator linking tools across the land cycle and making them available on line
  - www.zerobrownfields.eu

- Greenland
  - "Gentle remediation" (use of low input techniques) is a natural fit with soft re-use of brownfield sites
  - Case studies and technical information from work executed at realistic scales
  - Guidance on engaging with stakeholders
  - Tools to support decision making for the use of gentle remediation
  - www.greenland-project.eu

Land recycling



- Interventions have successfully supported BF transition in many cases
- But for many other BF sites:
  - Costs of intervention are prohibitive
  - Returns do not justify investment
  - Interest in making an intervention is insufficient
  - Durability of solutions has been limited
- So BFs remain a problem
  - Especially if we want zero net land take for built development by 2050

The significance of poor durability

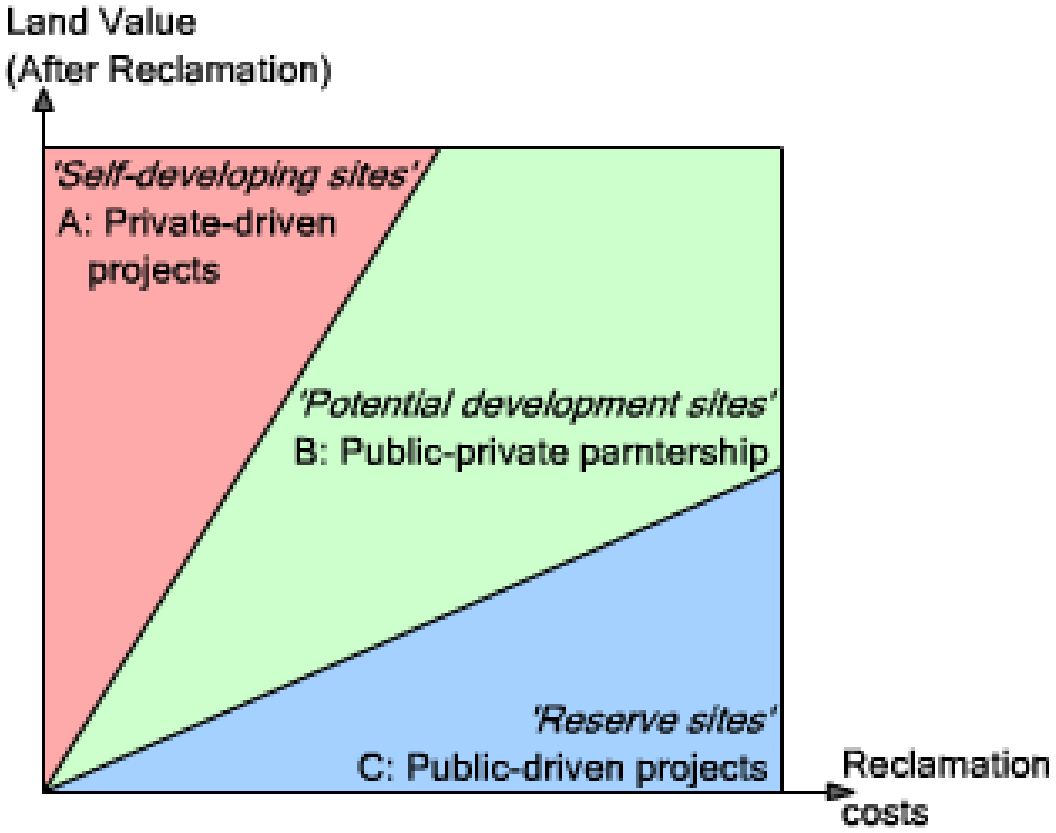
Originally restored in the early 1980's here is a view of the Liverpool Garden Festival site after it fell into disuse in the 1990s (credit Euan Hall, Land Trust, UK)

The site has since been re-restored by Land Trust, and is back in use, see:

http://liverpoolfestivalgardens.com/about.html

www.thelandtrust.org.uk

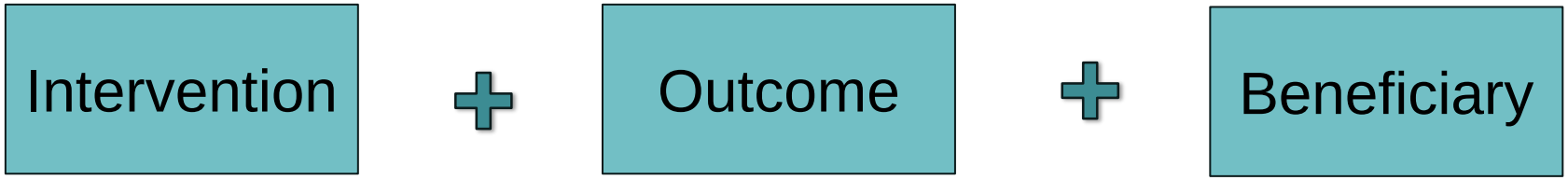
CABERNET “ABC” model



Regeneration is value driven…

Services deliver value for beneficiaries

- A project service has three main components:



- Some kind of intervention (e.g. development of parkland)
- That has a usable outcome, e.g.
  - The land is safe
  - The land is buildable
  - The view is fantastic
  - It grows biomass energy
- Where “someone” sees enough returned value to justify investment (the beneficiary / beneficiaries)

Soft re-use value derives from services (1)

- Traditionally (Private Sector)
  - Facilitating building and infrastructure
  - Site value uplift
- Traditionally (Public Sector)
  - Avoided land take
  - Job generation / inward investment
  - Open space / leisure / access
  - Community assets / education
  - Reduction of human health, ecological and water resource impacts (from contamination)
  - Protection or development of habitat and biodiversity

- But could also be?
- Area value uplift (halo effect)
- Improved health and wellbeing
- Tourism and leisure
- Education
- Framing built developments
- Improved soil function
- Improvement of water resources (e.g. For leisure, navigation etc.)
- Flood and capacity management
- Rehabilitation of water (e.g. Leachate)
- Improving urban soundscapes and air quality
- Limiting visual intrusion by landscaping (buildings, transport links etc.)

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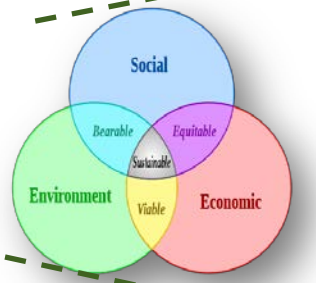
Soft re-use value derives from services (2)

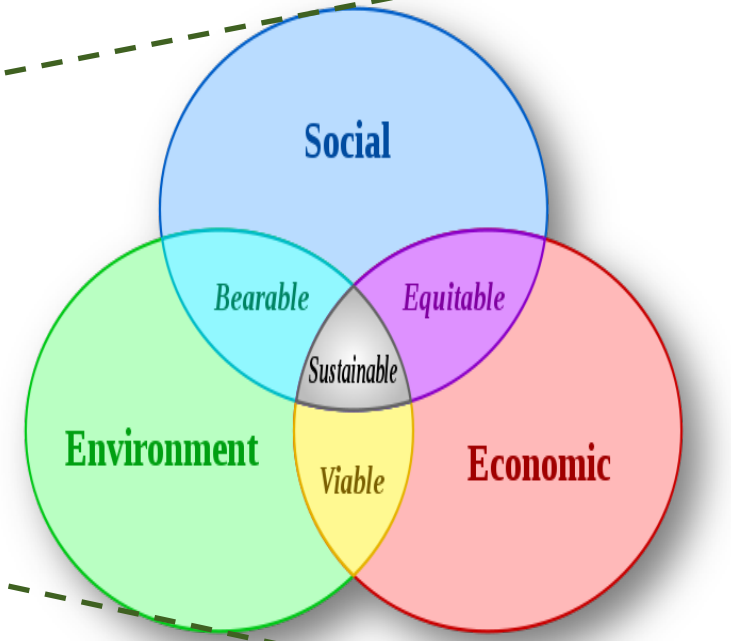
- But could also be?
- Urban climate management (such as mitigation of urban heat island effect)
- Renewable energy generation
  - Biomass based
  - Geothermal
  - Wind
  - Solar
- Renewable material generation
- Facilitation of recycling and resource recovery
- Greenhouse gas mitigation
- = an expanded range of stakeholder interests

But moving to an expanded perspective

- Traditional



- But could be



- As we design in a broader range of services

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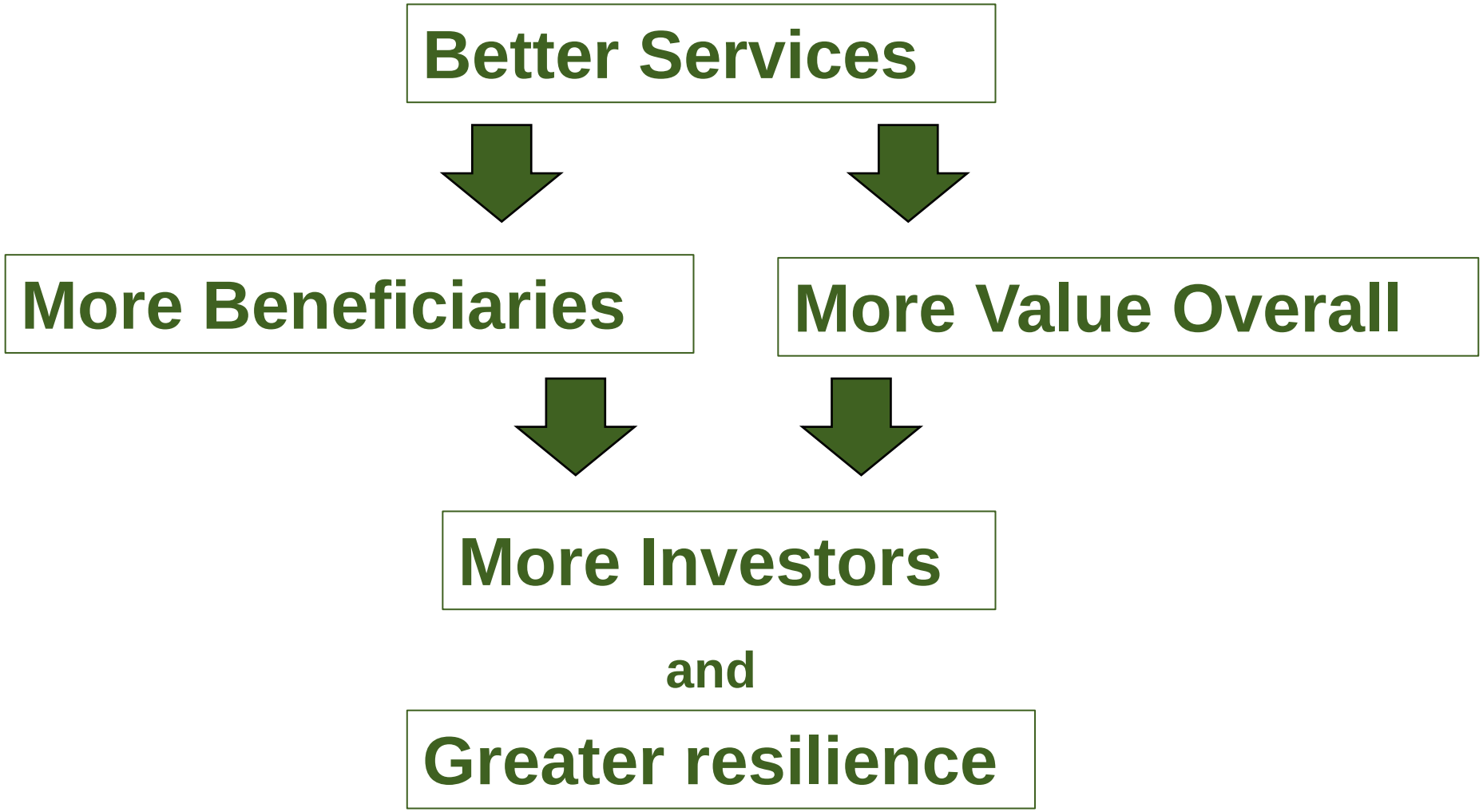
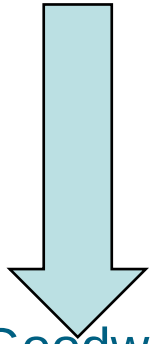
HOMBRE's hypothesis



Forms of value

- ***Direct Financial Value*** = returns from services such as site value increase, revenues; vs. direct costs
- ***Tangible Wider Value*** = wider sustainability benefits and impacts, broadly agreed to be monetisable
- ***Intangible Wider Value*** = wider sustainability benefits and impacts where monetary value is not easily agreed by stakeholders



- "Goodwill", -different for each stakeholder
  - Monetary value over and above component parts, e.g. brand, reputation, staff know-how etc

Examples of forms of return

- Financial
  - Appreciation (e.g. of site value)
  - Revenue (e.g. from renewable energy)
  - Expanded taxation base (from expanded communities and enterprise)
  - Reduced costs / liabilities (whether private or public)
- Economically tangible
  - Enhanced property values in surrounding areas
  - Improved connectivity
  - Improved health and well being
  - Increased employment and skills
- Economically intangible
  - Enhanced reputation
  - Enhanced sense of place
  - Social stability and cohesion

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Different things interest different investors

- A holistic approach to services may expand the range of beneficiaries, hence also investors
- Take a very simple “thought model”
  - Private Sector / site owner
  - Public Sector
  - Local Community

- Most not interested
- A few say “yes please”
- Most say “yes please”

Potential private sector / site owner interests

- Financial
  - **Appreciation (e.g. of site value)**
  - **Revenue (e.g. from renewable energy)**
  - Expanded taxation base (from expanded communities and enterprise)
  - **Reduced costs / liabilities (whether private or public)**
- Economically tangible
  - **Enhanced property values in surrounding areas**
  - Improved connectivity
  - Improved health and well being
  - **Increased employment and skills**
- Economically intangible
  - **Enhanced reputation**
  - Enhanced sense of place
  - Social stability and cohesion

Public authority / agency interests

- Financial
  - **Appreciation (e.g. of site value)**
  - Revenue (e.g. from renewable energy)
  - **Expanded taxation base (from expanded communities and enterprise)**
  - **Reduced costs / liabilities (whether private or public)**
- Economically tangible
  - **Enhanced property values in surrounding areas**
  - **Improved connectivity**
  - **Improved health and well being**
  - **Increased employment and skills**
- Economically intangible
  - **Enhanced reputation**
  - Enhanced sense of place
  - **Social stability and cohesion**

Local community

- Financial
  - **Appreciation (e.g. of site value)**
  - Revenue (e.g. from renewable energy)
  - Expanded taxation base (from expanded communities and enterprise)
  - **Reduced costs / liabilities (whether private or public)**
- Economically tangible
  - **Enhanced peripheral property values**
  - **Improved connectivity**
  - **Improved health and well being**
  - **Increased employment and skills**
- Economically intangible
  - **Enhanced reputation**
  - **Enhanced sense of place**
  - **Social stability and cohesion**

Investors (examples)

- Site owner
- Site purchaser / funder
- Service provider (e.g. PV installer)
- Local authority
- Other public agency
- Charity / trust
- Community organisation
- Financial companies

- People:
  - Public involvement has value
    - Safeguarding and security
    - Volunteering / donation of time
    - Avoided costs

Types of returns

- Often money does speak loudest
- Achieving public policy objectives
  - At a lower cost
  - In a more durable way
- Reputational
- Community benefit

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The Brownfield Opportunity Matrix: Exploring value for soft re-use of brownfields

- Key questions
  - How do we know which services add most value for most people and are most sustainable?
  - How do we maximise synergy and create opportunity?
  - Where do we find the greatest value overall?

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What is the Brownfield Opportunity Matrix?

- One of a number of decision support tools developed by HOMBRE

- The Brownfield Opportunity Matrix is a simple *MS Excel* based screening tool to help decision makers find an expanded overall value for **soft end uses** in their project
  - What services can they get?
  - How can these add value to a regeneration project?
  - What interventions deliver desirable services?
  - How do different interventions and services interact (synergies/antagonisms)?
  - What previous examples and further information is available?
- It is available for download via the BFN

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Broad classes of services and interventions mapped

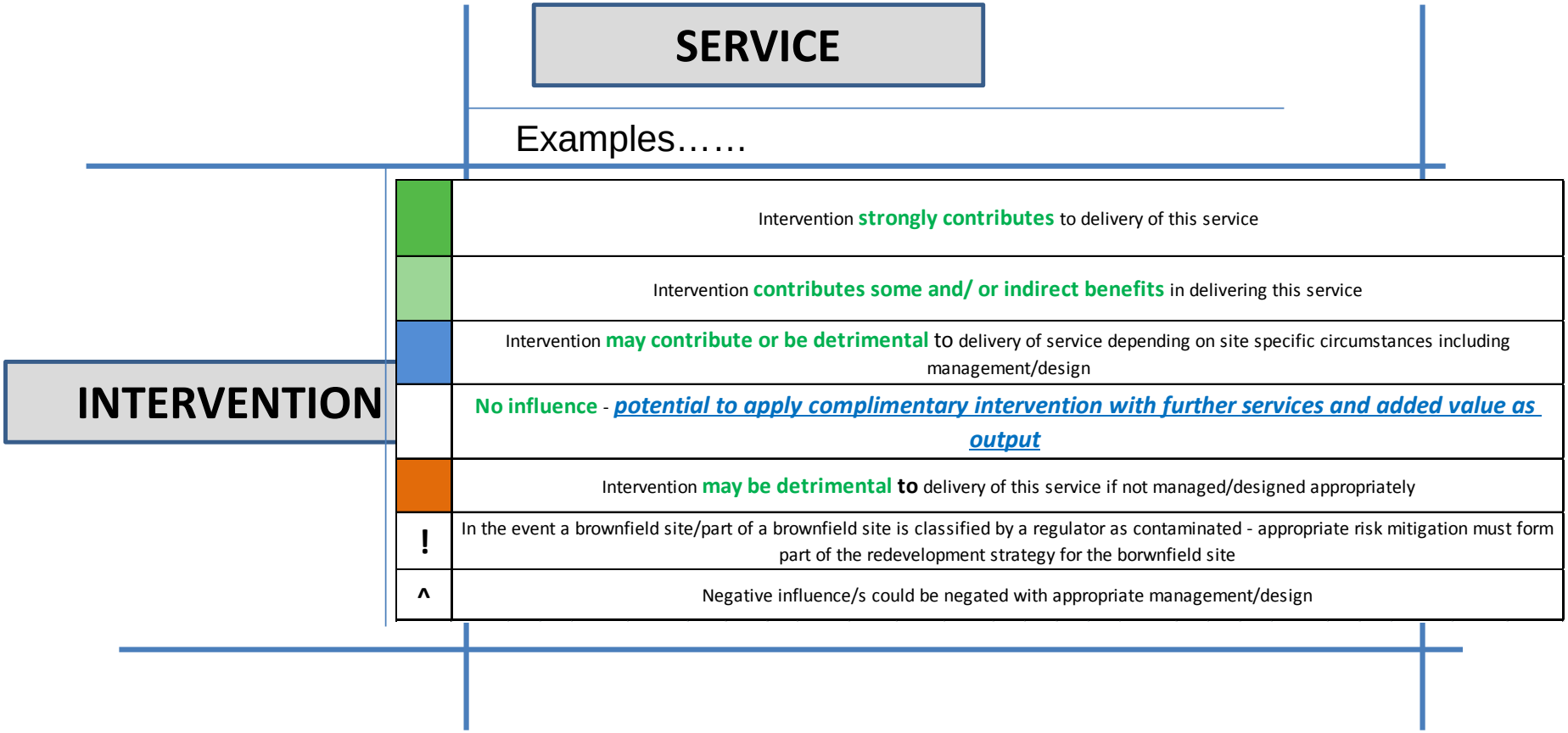
Services	Interventions

• Mitigation of Human Induced Climate Change (global warming)
  o Including renewables
• Provision of Green Infrastructure
• Risk Mitigation of Contaminated Land and Groundwater
• Socio-Economic Benefits
  o Amenity
  o Economic assets
• Soil Improvement
• Water Resource Improvement
	• Water Management
	• Sustainable Land Planning and Development
	• Soil Management
	• Renewables (energy, materials, biomass)
	• Other Remediation Options
	• Implementing Green Infrastructure
	• Gentle Remediation Options

Describes where and how value is created

- Financial
  - Revenue generation / capital appreciation
- Tangible economic gains
- Intangible gains (goodwill = reputation, brand etc)
- Natural Capital
- Cultural Capital
  - May be particularly relevant to non-commercial investors

How it works:


SERVICE
Examples……
INTERVENTION
Intervention strongly contributes to delivery of this service
Intervention contributes some and/ or indirect benefits in delivering this service
Intervention may contribute or be detrimental to delivery of service depending on site specific circumstances including management/design
No influence - potential to apply complimentary intervention with further services and added value as output
Intervention may be detrimental to delivery of this service if not managed/designed appropriately
!
In the event a brownfield site/part of a brownfield site is classified by a regulator as contaminated - appropriate risk mitigation must form part of the redevelopment strategy for the borwnfield site
^
Negative influence/s could be negated with appropriate management/design

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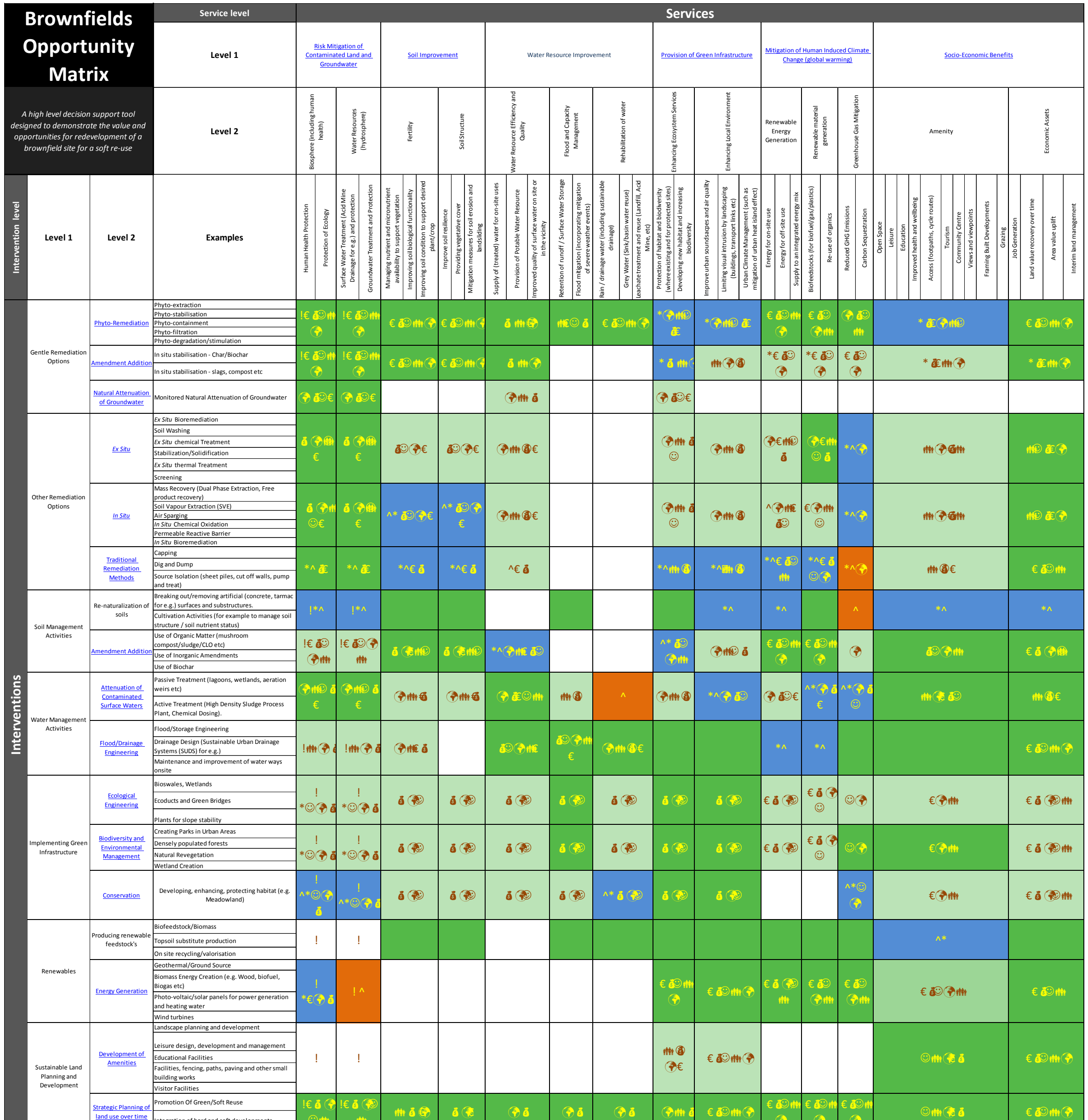

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Engaging stakeholders improves the value proposition

- Effective stakeholder involvement has been widely identified as a key requirement for sustainable brownfields regeneration (CABERNET, REVIT, RESCUE)
- There is an enormous literature on stakeholder engagement, recently reviewed for the FP7 Greenland Project:
  - Cundy, Bardos et al. (2013) Developing principles of sustainability and stakeholder engagement. JEM 129 (2013) 283-291, www.sciencedirect.com/science/article/pii/S0301479713005112

- But also we get an expanded value proposition:
  - Expands the range of possible service offers and users
  - Expands the range of potential investors
  - Mitigates project risks

General principles for engagement

1. Identify and engage early in the process
2. Be proactive
3. Engage stakeholders at all stages of the process
4. So plan for long-term stakeholder engagement
5. Develop effective communication structures that allow a reciprocal, two-way dialogue
6. Ensure engagement is transparent and recorded
7. Recognise that criteria for assessing may be subjective OR objective
8. Set out all assumptions clearly at the start of each engagement
9. Follow a logical, stepwise approach to avoid circular arguments and clearly address subjective issues

From Cundy *et al*. 2013

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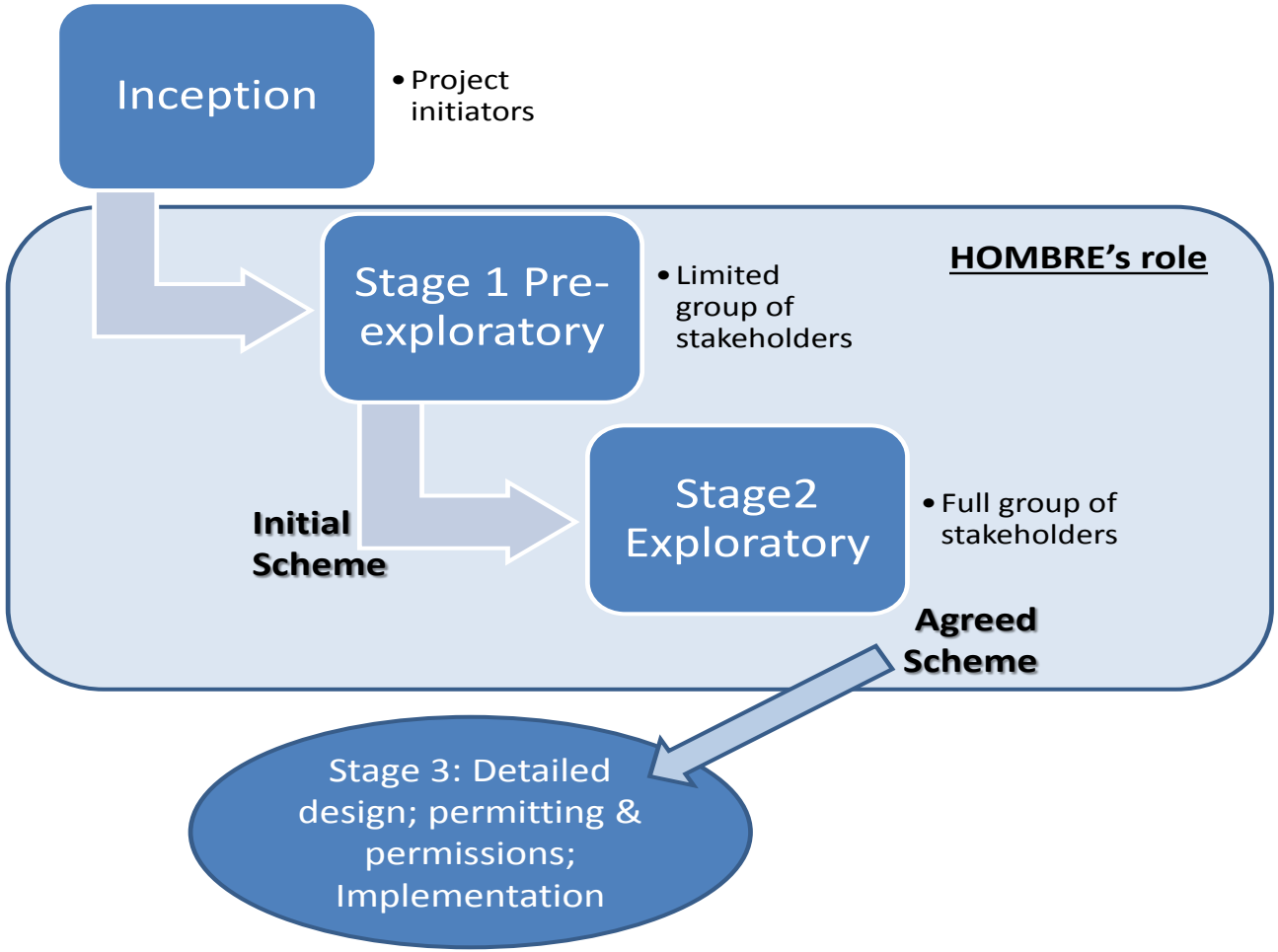
When is the Brownfield Opportunity Matrix used?



Who Do We Involve?

Pre-exploratory

- Landowner
- Consultants / contractors
- Regulators
- Planners
- Insurers

Exploratory

- Community bodies
- Public
- Service providers
- Service users
- Investors

BOM applications

- For project initialisation
  - A comprehensive prospectus to find a starting point
- For developing project designs
  - A means to check value is maximised
- For established designs
  - A framework to present ideas to stakeholders such as planners
- For existing projects
  - A framework against which to consider sustainability and outputs (e.g. for communication, verification?)
- For ALL projects
  - Signposting to examples and further information
  - A framework for approaching discussions between different stakeholders

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Some general conclusions

- What stops Brownfields transition being routine
  - Lack of interest, lack of value, lack of return, limited durability
- A better value proposition → greater chance of Brownfields re-use
- Value derives from services
- Expanding the range of services under consideration
  - Increases beneficiaries
  - Improves value
  - Improves attractiveness / interest
  - Improves “investability”
- Providing the means of supporting this expansion for soft re-uses has been a major part of the HOMBRE and Greenland effort
- But fits into an integrated package of decision support measures across the land use cycle

HOMBRE tools to support engagement across the land cycle

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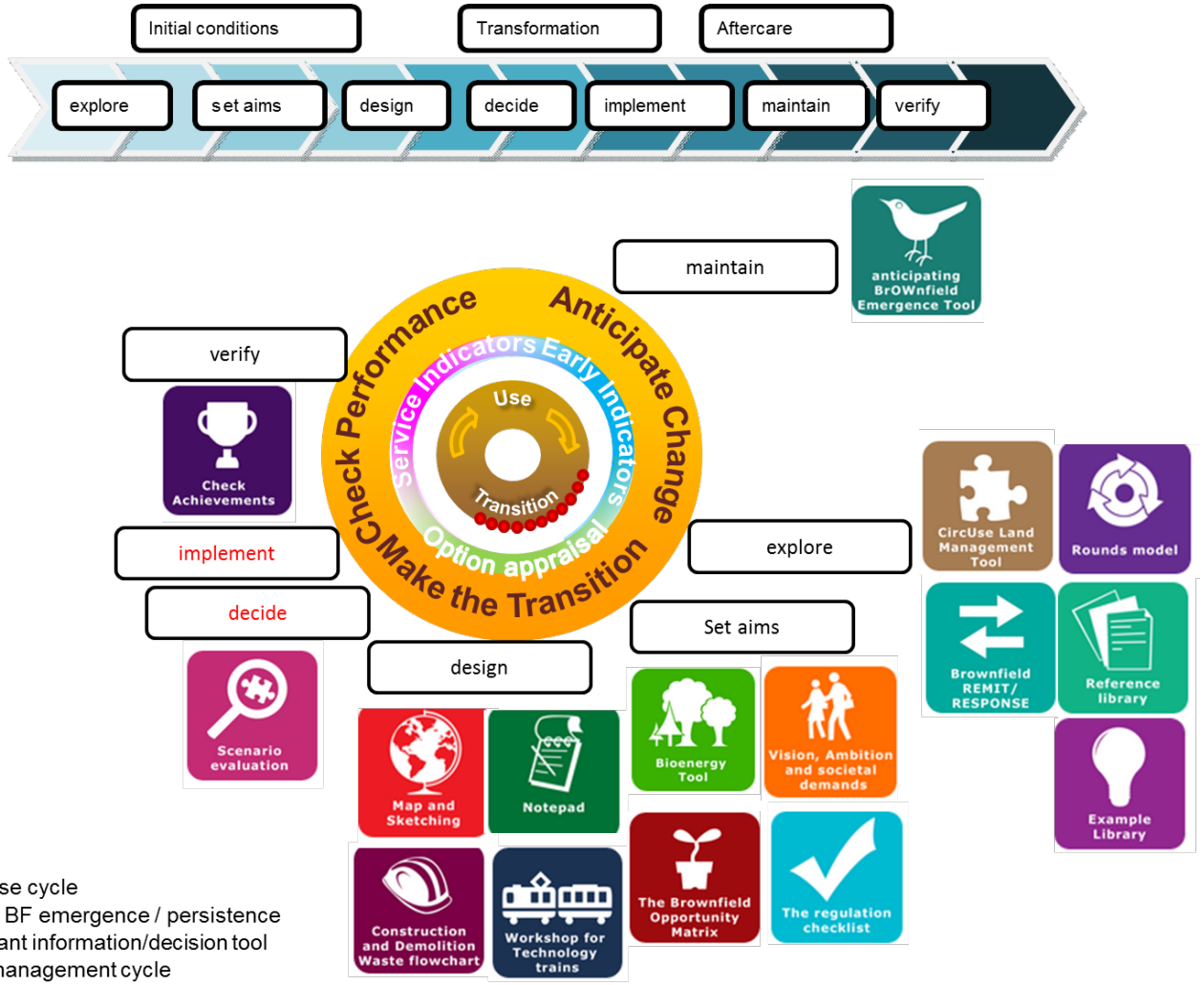

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Thank You

- Contacts:
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  - Andy Cundy, A.Cundy@brighton.ac.uk, www.brighton.ac.uk
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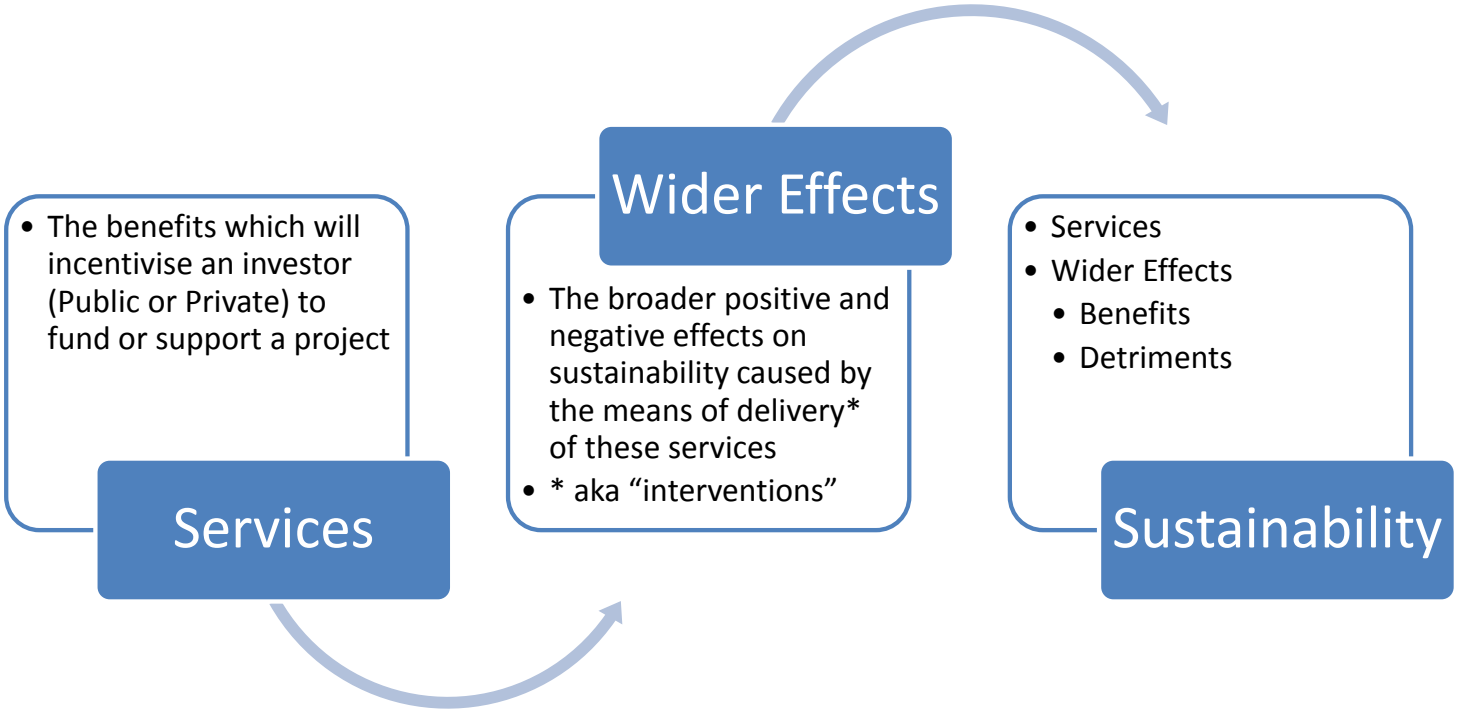
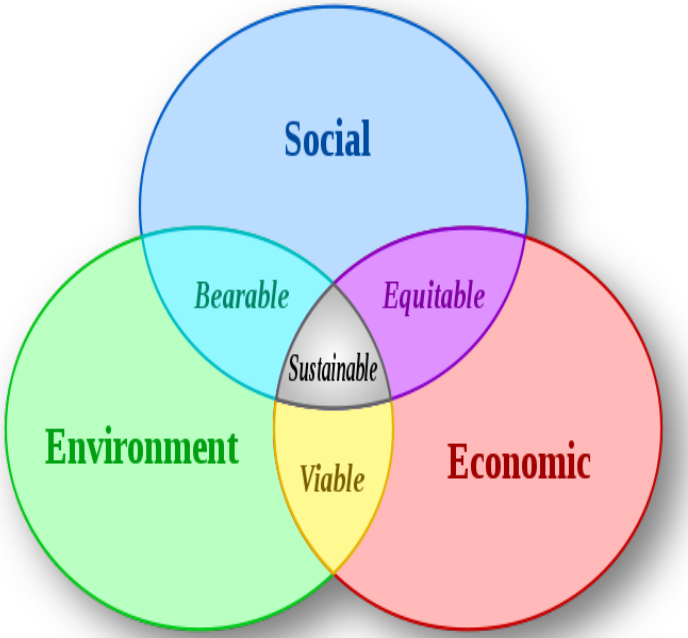
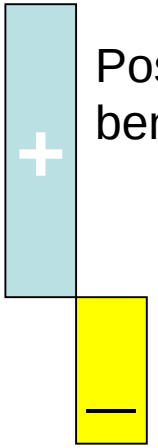
  - Paul Nathanail, Paul.nathanail@nottingham.ac.uk, www.nottingham.ac.uk/geography

Achieving broader services is also part of improving sustainability



Sustainability has been part of the BF picture for many years

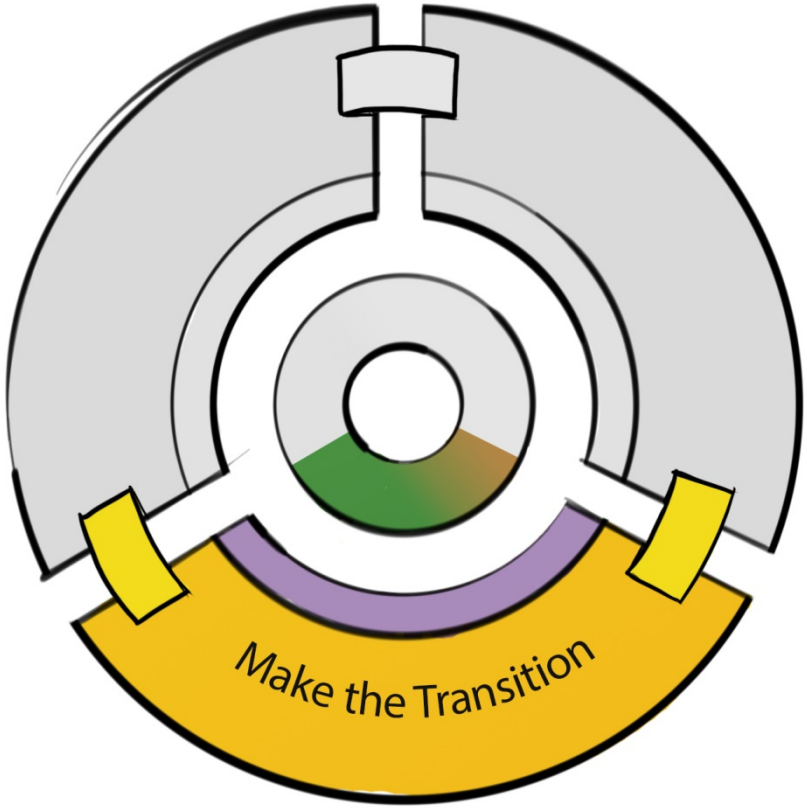




Positive benefits

Negative impacts

….a net benefit


Make the Transition