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technology

An open discussion: alternative uses for brownfields to unlock sites and maximise their potential

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Welcome and house keeping

- ***Welcome***
- Catering
- Fire and security drills
- Toilets
- “Chatham House Rules” – only what is said will be reported NOT who said it
- Please turn off your mobile phones!
- Recordings may be used to help us keep notes
- A short report of the meeting will be sent to all who attended it

Aim of today

- To find a shared idea or vision for how we can re-use your brownfield area in a way that maximises benefits and value to the most people
- My job is to help you achieve this

Your facilitators

- <<Brief biographies of facilitators / person presenting>>



Contents

- 1 What will we be doing?
- 2 Getting to know each other
- 3 Introduction
 - What are soft re-use, interventions, services etc?
 - Services and value can be provided by soft re-use – examples from the UK
- 4 World Café™ –
 - What services do you want?
 - What value do they bring?
- 5 Brownfield opportunity matrix exercise
 - What interventions can bring these services
 - What is the optimal set of interventions (e.g. fewest)
- 6 Round table –
 - Have we got an initial vision?
 - What else do we need to know?
 - What might be the next steps?

What will we be doing?

- Technically speaking our meeting is a “design charrette”
 - A charrette is a planning session where citizens, designers and others collaborate on a vision for development. It provides a forum for ideas and offers the unique advantage of giving immediate feedback to the designers. More importantly, it allows everyone who participates to be a mutual author of the plan.
 - www.tndtownpaper.com/what_is_charrette.htm
- We will
 - Make sure we all have the same understanding of words like “soft re-use”, “services”, “value”, interventions
 - Discuss what kind of services we want from our brownfield and the value these might create
 - See what kind of interventions can deliver these services
 - Review where we got to, our “vision” and agree next steps

Getting to know each other

- Everyone gives an “elevator pitch”
 - How you would describe yourself in two minutes in a lift!
- Please tell us :
 - Your name & organisation
 - What are you interested to learn about in this meeting today?
 - What message do you bring to the meeting?



Introduction

What is soft re-use?

- “Hard Re-Use”



- “Soft-Re-Use”



Often
combined

**Urban greening, amenity, PV, biomass
and other renewables, flood
management etc.**

What is a service*?

- A “project service” provides benefits for specific users or “receptors” who receive the benefit, e.g.
 - Job creation for the local community
 - Improved biodiversity for nature
 - Renewable energy income for site owners.
- ** as described by the EC HOMBRE Project*

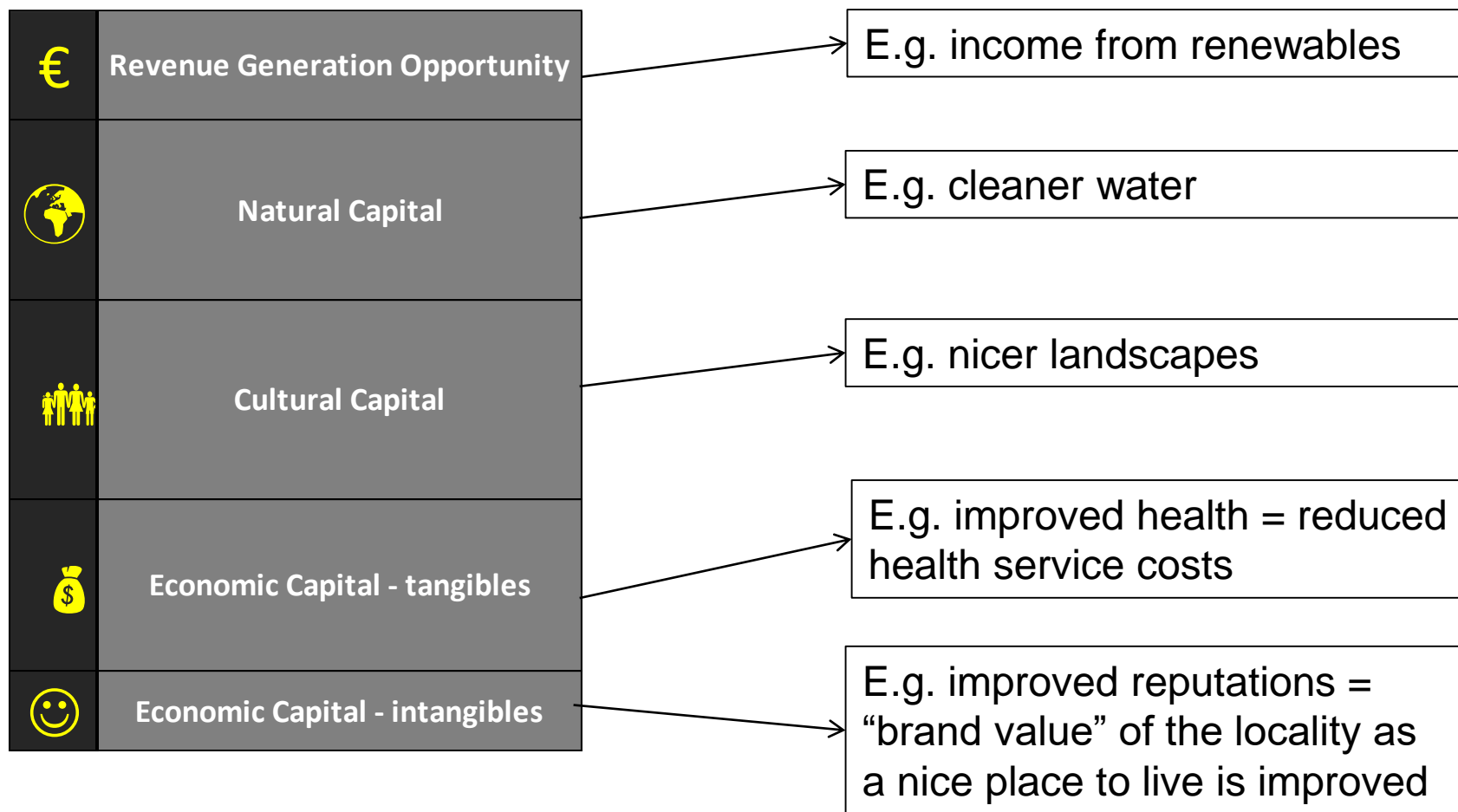


What services can we get from soft re-use

- Site value uplift / value uplift of surroundings / framing built development
- Renewable energy generation
 - Solar
 - Biomass based
 - Wind
 - Geothermal
- Renewable material generation
- Greenhouse gas mitigation (carbon offset revenue?)
- Synergies with waste processing and re-use, leachate management
- Shielding / sound-scaping
- Flood management – link with SUDS
- Amenity and leisure
- Urban climate management (such as mitigation of urban heat island effect)
- Air quality management
- Habitat and conservation
- Improved soil and water resources
- Improved health and well-being
- Opportunities for education
- Community involvement
- *Ecological system services*



What value can these deliver?



What are interventions?

- An intervention is a deliberate action carried out with the intention of modifying / managing a brownfield site
 - E.g. remediate contaminants by adding biochar
 - Improve soil quality by adding composts to intervene
- Hence there are three constituent elements for a project service to occur:
 - An intervention, in particular a process or technique (or a combination of thereof)
 - One or more beneficial outcomes of the intervention
 - A receiver



Interventions deliver services

- Gentle Remediation Options
- Other Remediation Options
- Soil Management Activities
- Water Management Activities
- Implementing Green Infrastructure
- Renewables
- Sustainable Land Planning and Development
 - (e.g. development of Amenities)



An overall aim

Opportunity to support potentially self-funding land management for brownfield and degraded areas unsuitable for built developments, such as former landfills, industrial sites or agricultural land damaged by diffuse pollution?

Economic leveraging for redevelopment with wider benefits.....



Soft re-use and benefits - examples

Beam Parklands, Dagenham, London

53 ha functional flood prevention area.

The Land Trust secured funding from a number of sources to enhance the space and to sustainably manage it as an attractive multi-functional community asset, alongside the Environment Agency's flood defence improvement works.



Land Trust ownership model allowed transfer of land and associated liabilities on long term lease to the Trust

Provides significant community benefits and is helping regenerate a deprived area.

<http://www.thelandtrust.org.uk/business/sites.html?SID=beamparklands>

Soft re-use and benefits - examples

Betteshanger, Kent

Former coal mining site of 120 ha. Regenerated between 2002 and 2011.

New use: Country Park with provision for walking, cycling, horse-riding and wildlife observation, plus warehousing, office and industrial space (inc parkland, “soft cover” and wetlands).

Complexity and profile of site meant need for long-term and extensive stakeholder collaboration, e.g. masterplan for regeneration revised significantly in response to public consultation



*Betteshanger Colliery 1933
(Dover District Council)*



<http://www.peterbrett.com/projects/betteshanger-colliery-kent.php>

So what services / what value?

- We'll discuss this in small groups of just four or five people
 - Say all the regulators
 - All the community representatives
 - All the local authority professionals etc etc
- Each group has a flip chart and a checklist of ideas for services that might be possible



Format for discussion

- 30 minutes: each group drafts answers on a flipchart and elect a rapporteur from your group
- Then in a **World Café style**, groups rotate to the next tables and have a quick review of the draft from the last group there. They may add comments - in a different colour (15 mins for each other group).
- **Rapporteurs** remain at the same tables and will report back to everyone at the end about the conclusions of the process for their table (5-10 min reports).
- A **facilitator** will remain at each table.



It is a “real” café!





Six soft reuse service groups considered

| Level 1 | Level 2 |
|---|---|
| Risk Mitigation of contaminated land and groundwater | Biosphere (including protection of human health) |
| | Hydrosphere (protection of water resources/environmental receptors) |
| Soil improvement | Soil fertility |
| | Soil structure |
| Water Resource improvement | Water resource efficiency and quality |
| | Flood and capacity management |
| | Rehabilitation of water |

| Level 1 | Level 2 |
|--|--------------------------------------|
| Provision of Green Infrastructure | Enhancing ecosystems services |
| | Enhancing local Environment |
| | Conservation |
| Mitigation of Human Induced Climate Change (Global Warming) | Renewable energy generation |
| | Renewable material generation |
| | Greenhouse gas mitigation |
| Socio-economic Benefits | Amenity |
| | Economic assets |

Plenary

- Each rapporteur reports back
- Open discussion to finalise an agreed list of desired services and the value they might deliver



Brownfield opportunity matrix

- The Brownfield Opportunity Matrix plots Soft Re-use INTERVENTIONS against SERVICES that an Intervention may provide in order to demonstrate the VALUE of applying the Interventions either on their own, or in synergy with other interventions.
- We will use this to see which interventions can most effectively deliver the services we want.

| Soft re-use | Service 1 | Service 2 |
|----------------|-----------|-----------|
| Intervention 1 | | |
| Intervention 2 | | |

- A colour shows what kind of linkage there is and where there is a linkage we can view an example (on line)

Linkage colour scheme

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 - <u>potential to apply complimentary intervention with further services and added value as output</u> |
| | 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 brownfield site |
| ^ | Negative influence/s could be negated with appropriate management/design |



Seven soft reuse intervention groups considered

| Level 1 | Level 2 |
|---|---|
| Gentle Remediation Options (GRO) | Phytoremediation |
| | Amendment addition |
| | Natural Attenuation of Groundwater |
| Other Remediation Options | <i>Ex Situ</i> Remediation |
| | <i>In Situ</i> Remediation |
| | Traditional Remediation Options |
| Soil Management activities | Re-naturalization of soil |
| | Amendment Addition |
| Water Management Activities | Attenuation Of Contaminated Surface Waters |
| | Flood/drainage engineering |

| <i>Level 1</i> | <i>Level 2</i> |
|--|--|
| Implementing Green Infrastructure | Ecological Engineering |
| | Biodiversity and Environmental Management |
| | Conservation |
| Renewables | Producing renewable feedstocks |
| | Energy generation |
| Sustainable Land Planning and Development | Development of amenities |
| | Strategic planning of land use over time |

There are simple and detailed versions

Simple

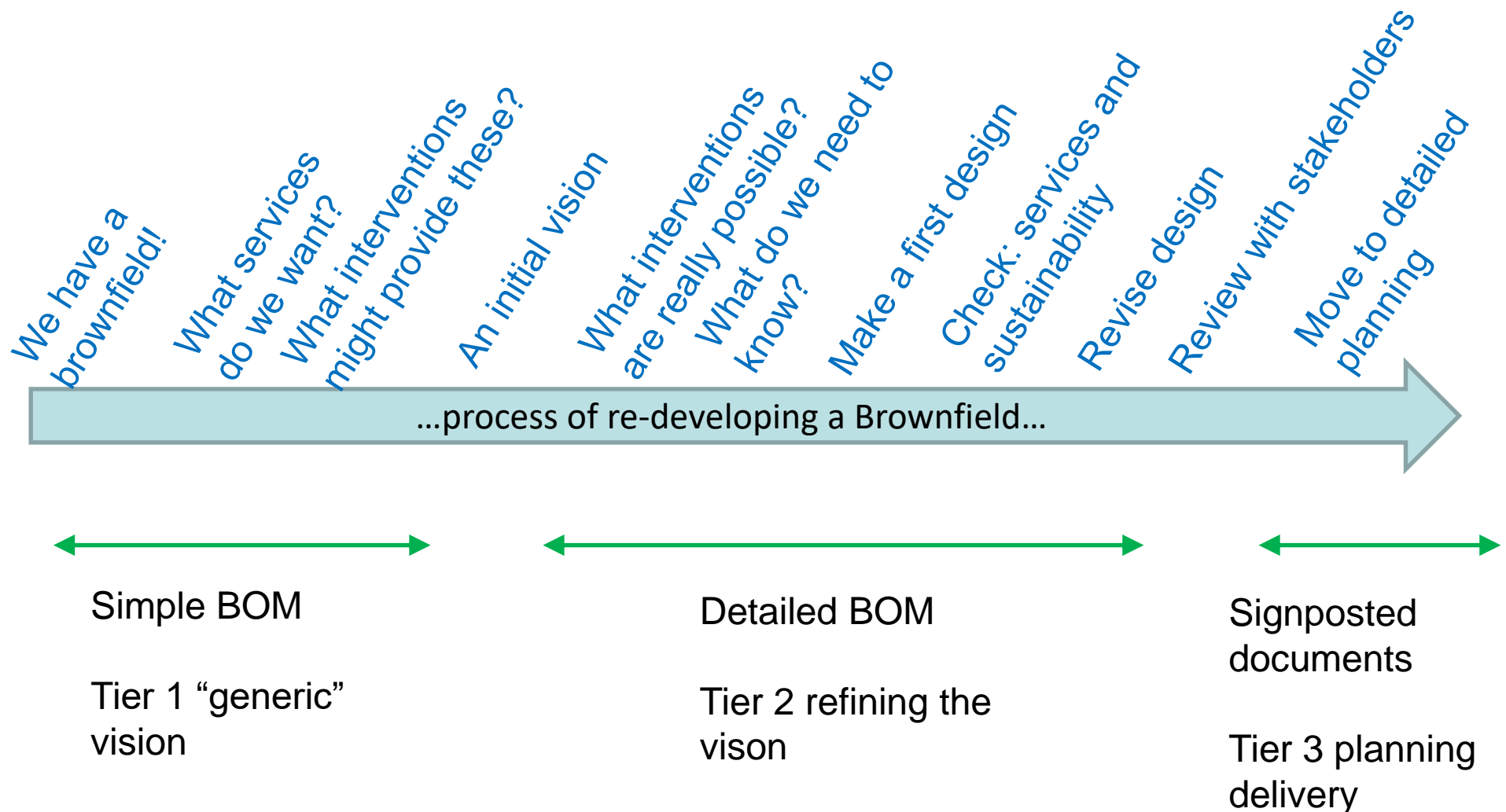
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Detailed

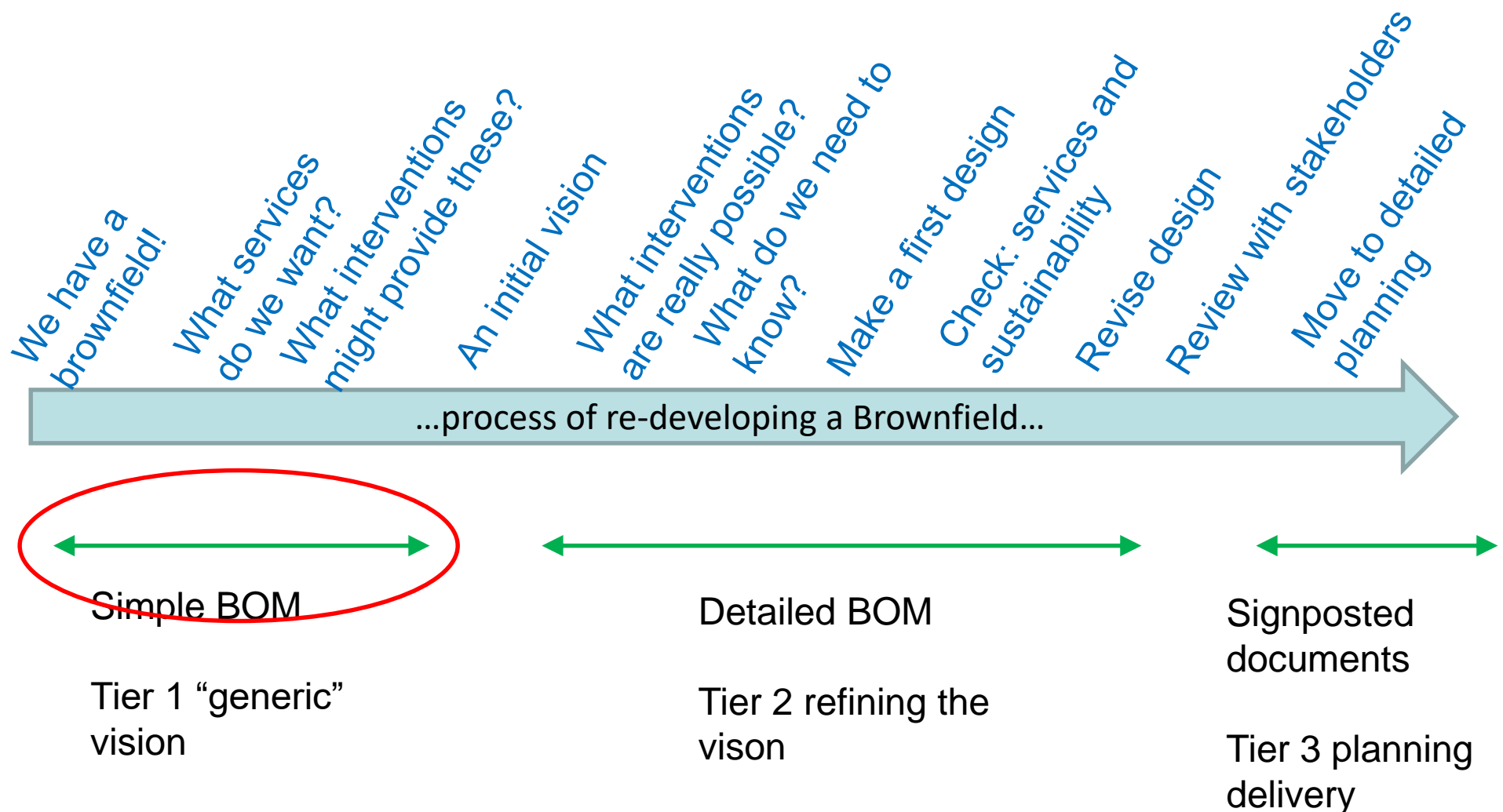
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For later design stages

When can we use the BOM?



We are here!





This is how it works

| Brownfields Opportunity Matrix | | | Risk Mitigation of Contaminated Land and Groundwater | | Soil Improvement | |
|--------------------------------------|-----------------------|--|--|----------------------------------|------------------|--|
| | | | Biosphere (including human health) | Water Resources (hydrosphere) | Fertility | |
| Gentle Remediation Options | Phyto-Remediation | | | | | |
| | Amendment Addition | | | | | |
| | Natural Attenuation | | | | | |

Mouse over the top
half of the box to get a
description of the
example

Click on the bottom
half of the box to go to
the example

So let's open the BOM and see which interventions deliver our services?

- May be a good idea to use the fewest interventions to get our services.
- But also we want as many “deep greens” as possible to have the strongest solution.
- Where we have light greens or blues (or orange) then we will not be sure we get the service until we have looked at the site and the intervention techniques in more detail.
- I will open the spreadsheet now and we will have an open round table discussion to pick our initial ideas for the best set of interventions for us using our LOCAL KNOWLEDGE

Round Table

- Round table –
 - Have we got an initial vision?
 - What else do we need to know?
 - What might be the next steps?
- Open discussion for each point
- “Round robin” for each participant to make closing comments



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www.zerobrownfields.eu



www.greenland-project.eu



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This presentation reflects only the authors' views. The European Union is not liable for any use that may be made of the information contained therein.





Drawing maps and the BOM

- The BOM is a simple concept
 - But it has been an enormous amount of work
 - Can be used to identify, and give case studies showing, potential wider benefits from soft re-use, supporting planning and decisional process through early to later stages.
 - Identifies synergies and potential for added value of soft re-use approaches: urban parkland, renewables etc
- The “BOM” is not a GIS system
 - And of course solutions will be integrated across areas
 - But the BOM works with the “Brownfield Navigator” BFN which supports geographical viewpoints to draw maps of how we might place different interventions across the site
 - <http://www.zerobrownfields.eu/Displaynews.aspx?ID=570>



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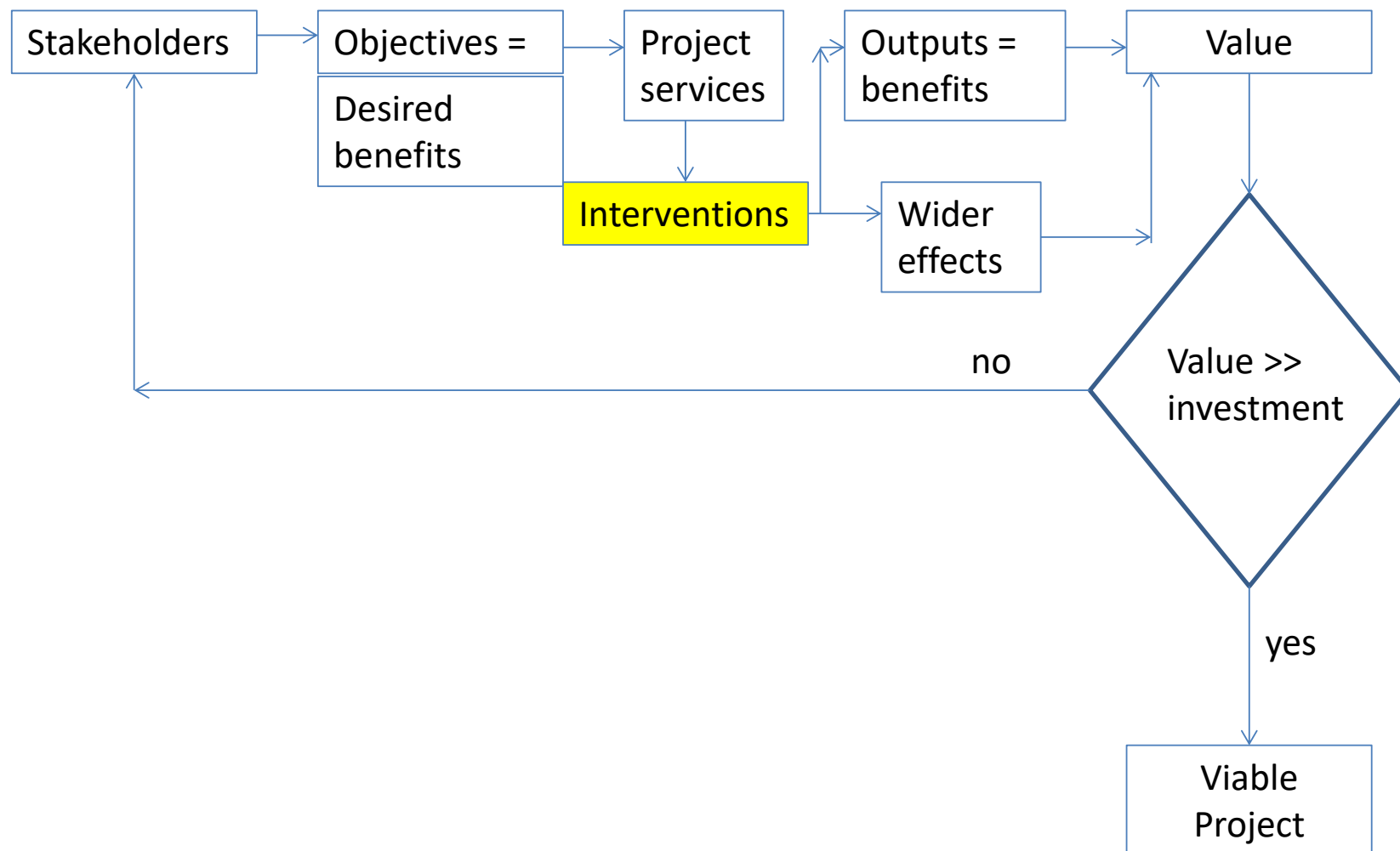
University of Brighton

Links



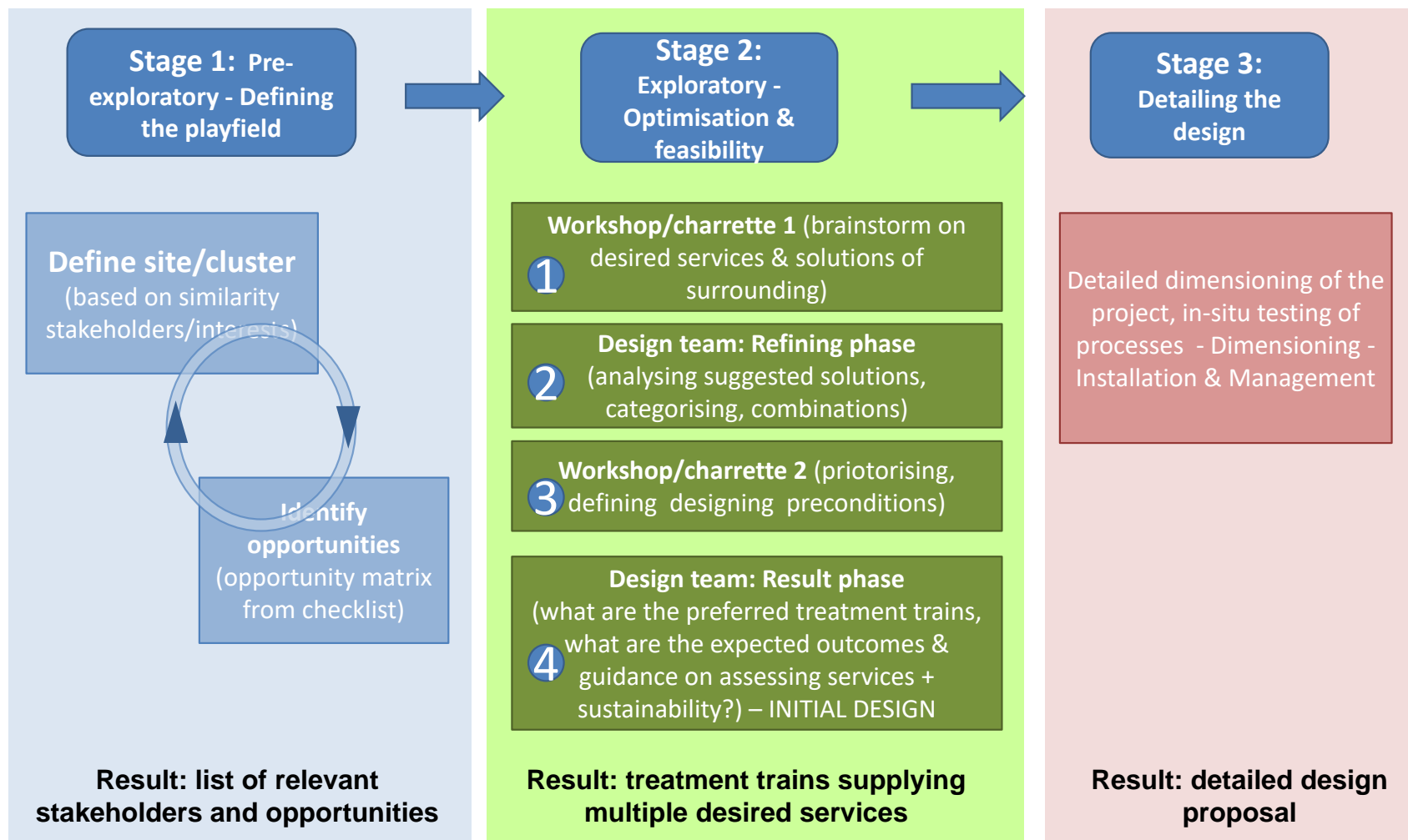
- HOMBRE project information: www.zerobrownfields.eu
- Brownfield Navigator: <http://bfm.deltares.nl>
- All public outputs of the EU funded HOMBRE project area available from:
<http://www.zerobrownfields.eu/content.aspx?wp=2&p=233>
- Decision support and case studies on gentle remediation can be found at:
<http://www.greenland-project.eu>

Rationale for selecting project interventions





Design tiers



Detailed informational format

| Brownfields Opportunity Matrix | | | Service level | | Services | | | | | | | | | | | | | | | | | | | | | | |
|---|---|--------------------------|--|---|---|--|---|-------------------------------|------------------------------------|--|--------------------|-----------------------|----------------------|-------------|-------------|-------------|-------------------------------|----------------------------------|-------------|------------------|----------------------|----------------------------|-------------|----------------|-------------------------------|-------------------|-------------------------|
| A high level designed to develop opportunities in brownfields | | | Level 1 | | Provision of Green Infrastructure | | Mitigation of Human Induced Climate Change (global) | | Service Significance Information | | | | | | | | | | | | | | | | | | |
| | | | Level 2 | | Enhancing Ecosystem Services | Enhancing Local Environment | Renewable Energy Generation | Renewable material generation | | | | | | | | | Greenhouse Gas Mitigation | Amenity | | | | Economic Assets | | | | | |
| Intervention level | Level 1 | Examples | Protection of habitat and biodiversity (where existing and for developing new habitat and increasing biodiversity) | Improve urban soundscapes and air quality | Limiting visual intrusion by landscaping (buildings, transport) | Urban Climate Management (such as mitigation of urban heat island) | Energy for on-site use | Energy for off-site use | Supply to an integrated energy mix | Biofeedstocks (for biofuel/gas/plastics) | Re-use of organics | Reduced GHG Emissions | Carbon Sequestration | Open Space | Leisure | Education | Improved health and wellbeing | Access (footpaths, cycle routes) | Tourism | Community Centre | Views and viewpoints | Framing Built Developments | Grazing | Job Generation | Land value recovery over time | Area value uplift | Interim land management |
| | Renewables | Energy Generation | Geothermal/Ground Source Biomass Energy Creation (e.g. Wood, biofuel, Biogas etc) Photo-voltaic/solar panels for power generation and heating water Wind turbines | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ |
| Interventions | Sustainable Land Planning and Development | Development of Amenities | Landscape planning and development Leisure design, development and management Educational Facilities Facilities, fencing, paths, paving and other | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ | € ☺ ☺ ☺ ☺ ☺ |