Holistic Management of Brownfield Regeneration - HOMBRE

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Meeting of Coordinators, Brussels
Strategic goals

- Holistic Management of Brownfield Regeneration
- Re-use of brownfields in urban, industrial and mining areas
- Preventing an increase in our carbon footprint

Through:
- Better understanding why, how, where and when BF’s are formed
- Better planning and more attractive communication technologies
- Better operations, better implementation of state of the art technologies
- More creative solutions for long-term land use of current and potential future BF’s.

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‘Classes’ of BF sites

A Sites - Driven by private funding
B Sites - Funded through public-private co-operation
C Sites - mainly public sector or municipality projects

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HOMBRE approach

Based on a basic set of concepts:

- Land-use life cycle
- Intermediary land use
- Added value by combining technologies: “Technology Trains”
- Offering synergies between services and opportunities
- Zero Brownfields “dream”

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Circular land management
HOMBRE roadmap 1.0

- Cessation of use
- Planning
- Reintroduction
- Interim use
- Avoiding abandonment
- Cessation of use

release of Greenfields

pre-project, generic, existing/available data
project specific, stakeholder defined

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Technology Trains are integrated processes
Starts with the remediation/restoration of a site – ends with new site maintenance / operation / management

A MEAN TO BRIDGE THE GAP BETWEEN A SITE IN ITS CURRENT STATE AND A SPECIFIC OBJECTIVE FOR LAND-USE (IN THIS CASE A REDEVELOPMENT PROJECT WITH SPECIFIC OBJECTIVES PLANNED BY STAKEHOLDERS)

A MEAN TO PROVIDE SERVICES (VALUE) IN THE REGENERATION PROCESS
• REMEDIATION / REGENERATION PHASE
• NEW LAND-USE (OPERATION, MAINTENANCE, MANAGEMENT)

IN SOME CASES WHERE NO PROJECT HAS BEEN PROPOSED, AN UNLOCKER TO LONG TERM BF (TYPICALLY C-SITES)

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Technology Trains

Train 1: **Energy and water:**
Energy re-use and contaminated water restoration

Train 2: **Building materials and soil:**
Resource efficiency and contaminated soil management

Train 3: **Soil and water:**
Remediation and sustainable urban drainage and soil capacity building

Train 4: **Urban greening and restoration:**
Benefits of remediation and urban green space

Train 5: **Bio-energy and remediation:**
Organic matter recycling and bio-energy production provides a solution and a revenue for abandoned land

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The size larger than 2 mm is already suitable, as the leaching test was in line with the national requirements for reuse in environmental recovery operations (i.e. backfilling).

Possibly sieving/crushing may be required to get materials of suitable size.
Soft re-use

Examples:
• unchanged use because of the ecological value of the site,
• adapted use on sites that offer a basis for touristic or leisure related activities,
• use as community asset such as parkland,
• return to agricultural production or forestry (e.g. urban farms and urban woodland),
• interim or final use for the production of renewable resources (biomass, solar power, wind power…).
• interim recovery of land before urban development.

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SOFT RE-USES ➔ SERVICES

- Temperature regulation
  Urban climate - comfort
- CO2 absorption
  Climate change
- Carbon sequestration
  Climate change
- Contaminant stabilization
  = risk management
- Landscape improvement
  amenities
- Biomass production
  Bio-energy
- Green cover
  Flood mitigation
- Nutrient buffering capacity
  Soil improvement

 ACTIONS ➔ EFFECTS / BENEFITS ➔ SERVICES

Low inputs
Maximize effects

HOMBRE’s FOCUS

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The Brownfield Navigator (BFN)

- Helps stakeholders to navigate towards a successful BF regeneration
- Assess key aspects (environmental, economic, social)
- Different scales
- Combination of DSS-GIS-Effect tools

- Early warning
- Stakeholder participation
- Inspiration for successful regeneration

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Process

1. Identification
   - Results: Identification of current and future brownfields
   - Tools in BFN: Early indicators
     - Multi Criteria Analysis tool

2. Scoping
   - Results: Stakeholder and influence analysis
     - Vision on the location
     - For cluster of locations
   - Tools in BFN: Stakeholder / influence analysis method
     - Guidelines for formulation ambition
     - Default list success criteria for sustainable redevelopment of BF

3. Opportunities
   - Results: Conceptual site model
     - Opportunity plan, including scenarios for development
   - Tools in BFN: Guidelines for conceptual site model
     - SWOT tool
     - Info on technology trains
     - Template for opportunity plan

4. Assessment
   - Results: Feasibility plan including effects of development scenarios
   - Master plan with chosen scenario for redevelopment and how to get there
   - Tools in BFN: Link to external tools for test against regulation
     - Evaluation of vision
     - CBA
     - Template for feasibility plan
     - Template for masterplan

5. Evaluation & Monitoring
   - Results
   - Tools in BFN

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HOMBRE Cases

- **Solec Kujawski**, Poland
  Urban & post-industrial (80ha)

- **Terni**, Italy
  Industrial (10 ha)

- **Genoa**, Italy
  Industrial, Urban (22ha)

- **Turceni – Jiu**, Romania
  Mining, rural (250 ha)

- **Gelsenkirchen**, Germany
  Former coal mine (22ha)

- **Halle** (Saale), Germany
  Urban (3ha)

- **Rejuvenate II cases**: Crop based sites, Sweden

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HOMBRE consortium

- 14 partners + International Advisory Board
- Coordinator: Deltares (NL)

Partners and case-study countries

![Partners and case-study countries map]
Thank you

Questions please!

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