



MIE e NBS nella pianificazione e nelle operations: strumenti e pratiche

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Convegno
***Microinquinanti emergenti e soluzioni naturali in città:
dalla ricerca alla polis***

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Il "Purgatorio" dei Progetti Pilota

Perché le NBS rimangono solo "piloti"?



Le piante non muoiono per mancanza d'acqua, ma per mancanza di processi decisionali adeguati
(a tutti i livelli e attraverso i livelli)



D4RUNOFF

Fratture di governance

credit: waldemar brandt on unsplash



credit: alicia-christin-gerald on unsplash

Silos verticali (sul tema) mentre le sfide sono orizzontali

I MIE sono un tema **idrico sanitario**, le NBS riguardano l'**uso del territorio**

Senza dialogo specifico, c'è paralisi.



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Abbattere la torre di Babele



La prima barriera all'integrazione è linguistica.

A screenshot of the D4RUNOFF ontology interface. The top navigation bar includes 'Home', 'Menu', 'Add Term', and a search bar with the term 'policy'. The left sidebar has a tree structure with categories like 'AI-assisted platform', 'CECs (Emerging Pollution)', 'NBS (Nature Based Solutions)', 'Policy making', 'Assessment', 'Design Considerations', 'Innovation', 'Policy design', 'Policy implementation', 'Policy instrument', 'Level Of Support to NBS', 'Nature of support to NBS', 'Type of Policy Instrument', 'Directive', and 'Framework'. The main content area shows the 'Policy making' page with sub-sections for 'Term' and 'Metadata'. Metadata details include: Date of creation: 20-Jul-2023, Accepted term: 20-Jul-2023, Descendant terms: 69, ARK: arck:99152/l3q4v9e1omdz8p, More specific terms: 11, Alternative terms: 0, Related terms: 16, Notes: 2. Below this are buttons for 'Search' and file formats: BSB23-5, DC, MADS, SKOS-Core, VDEX, XTM, ZIMES, JSON, and JSON-LD. The bottom section is titled 'Central terms' with buttons for 'Siting Considerations', 'Technical Considerations', 'Type of Policy Instrument', 'Level Of Support to NBS', 'Nature of support to NBS', 'Urban area', 'Integrated assessment', 'Regulatory experimentation', and 'Policy practice'. A small 'Innovative Technology' button is also present.

Vocabolario, tesauro e ontologia per condividere significati

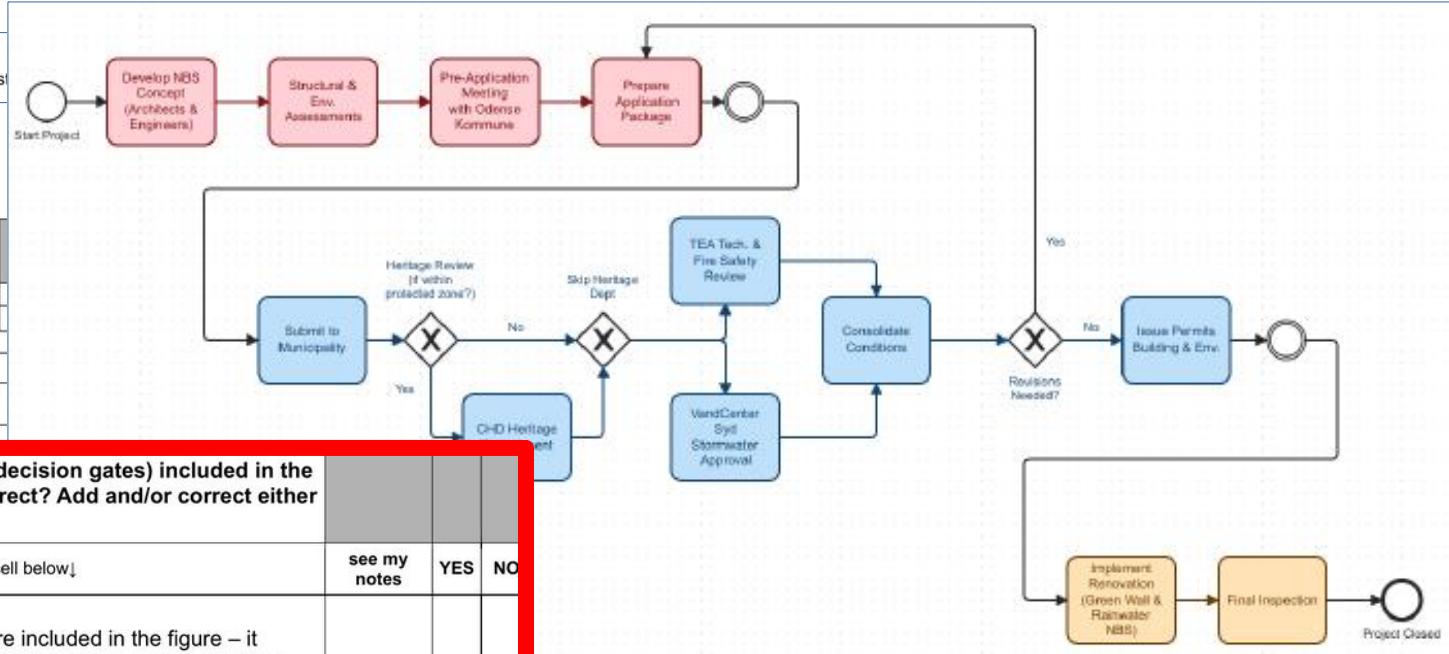
"Il governante deve essere attento alle parole, perché le parole sono la base del governo" Confucio (attrib.)



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Dalla narrazione alla Logica con BPMN

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Section A - Verification of the fundamental matters | | |
| <p>In this section, we want to verify that there is a clear understanding of which issues are considered most important, and that these are well defined and clearly outlined. We want to answer to the questions: Is the content correct?</p> | | |
| QA-01 | Is the content correct? | <input checked="" type="checkbox"/> |
| QA-01 | Is the content correct? | <input type="checkbox"/> |
| QA-02 | Is the content correct? | <input checked="" type="checkbox"/> |
| QA-02 | Is the content correct? | <input type="checkbox"/> |
| Section B - Verification of the current decision-making process | | |
| <p>This section of the questionnaire concerns the current decision-making process. What you find is an initial flow that has been derived from a desk analysis. It now needs to be verified and, if necessary, corrected by the actual actors and detailed further.</p> | | |
| QA-07 | Are all key elements (activities, links and decision gates) included in the BPMN graph (Fig. 2 §4.1.8) ? Are they correct? Add and/or correct either on the notes below or in a separate file. | <input type="checkbox"/> |
| QA-07 | ↓ write your notes in the cell below ↓ | <input type="checkbox"/> |
| QA-07 | see my notes | <input checked="" type="checkbox"/> |
| QA-08 | Identify the actors and issues in the table below. | <input type="checkbox"/> |
| Code | Element | WHO is in charge |
| T1 | Start Project | Is the main factor / issue relevant to the Challenge |
| T2 | Develop NBS Concept | |
| T3 | Structural & Env. Assessments | |
| T4 | Pre-Application Meeting with Odense Kommune | |
| T5 | Prepare Application Package | |
| T6 | Submit to Municipality | |
| T7 | Heritage Review (if within protected zone?) | |
| T8 | CHD Heritage Department | |
| T9 | VandCenter Sysl. Stormwater Approval | |
| T10 | TEA Tech. & Fire Safety Review | |
| T11 | Consolidate Conditions | |
| T12 | Issue Permits Building & Env. | |
| T13 | Implement Renovation (Green Wall & Rainwater NBS) | |
| T14 | Final Inspection | |
| T15 | Project Closed | |

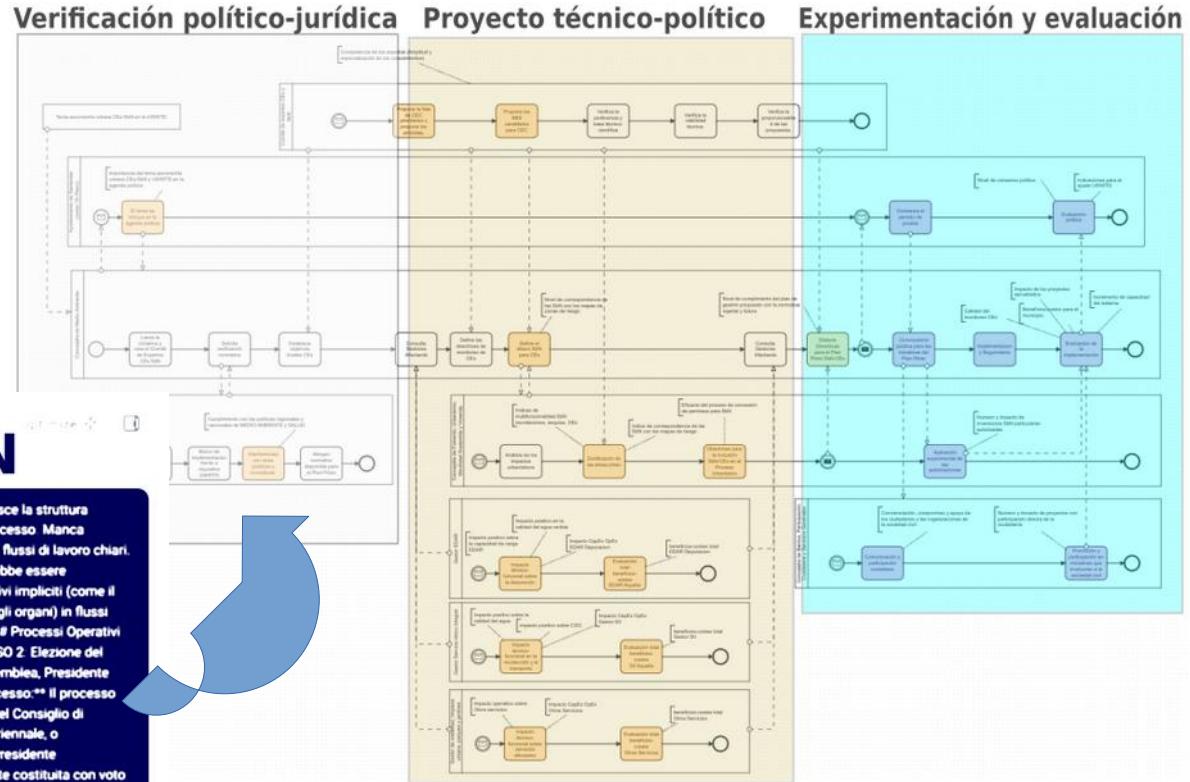


| | | |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| QA-07 | Are all key elements (activities, links and decision gates) included in the BPMN graph (Fig. 2 §4.1.8) ? Are they correct? Add and/or correct either on the notes below or in a separate file. | <input type="checkbox"/> |
| QA-07 | ↓ write your notes in the cell below ↓ | <input type="checkbox"/> |
| QA-07 | see my notes | <input checked="" type="checkbox"/> |
| QA-07 | No, not all relevant stakeholders and steps are included in the figure – it appears highly simplified. In practice, implementing nature-based solutions may require multiple types of permits, depending on the nature of the project. These may include: <ul style="list-style-type: none"> Environmental and nature-related permits Technical approvals Permissions related to mobility and access (e.g. for emergency vehicles, waste collection trucks, etc.) In addition, there may be a political process involved, especially if the solution requires formal approval – for example: <ul style="list-style-type: none"> Changes to wastewater systems that must be described in an addendum to the wastewater plan Projects involving public funding or budget reallocations Depending on the complexity, the political and administrative process can take anywhere from six months to two years. Therefore, it is important that the decision-making process and stakeholder landscape are not oversimplified, in order to properly understand the real barriers and opportunities for implementation. | <input checked="" type="checkbox"/> |

Le proposte e le valutazioni si fondano su basi stabili e verificabili



Dalla narrazione alla Logica con BPMN

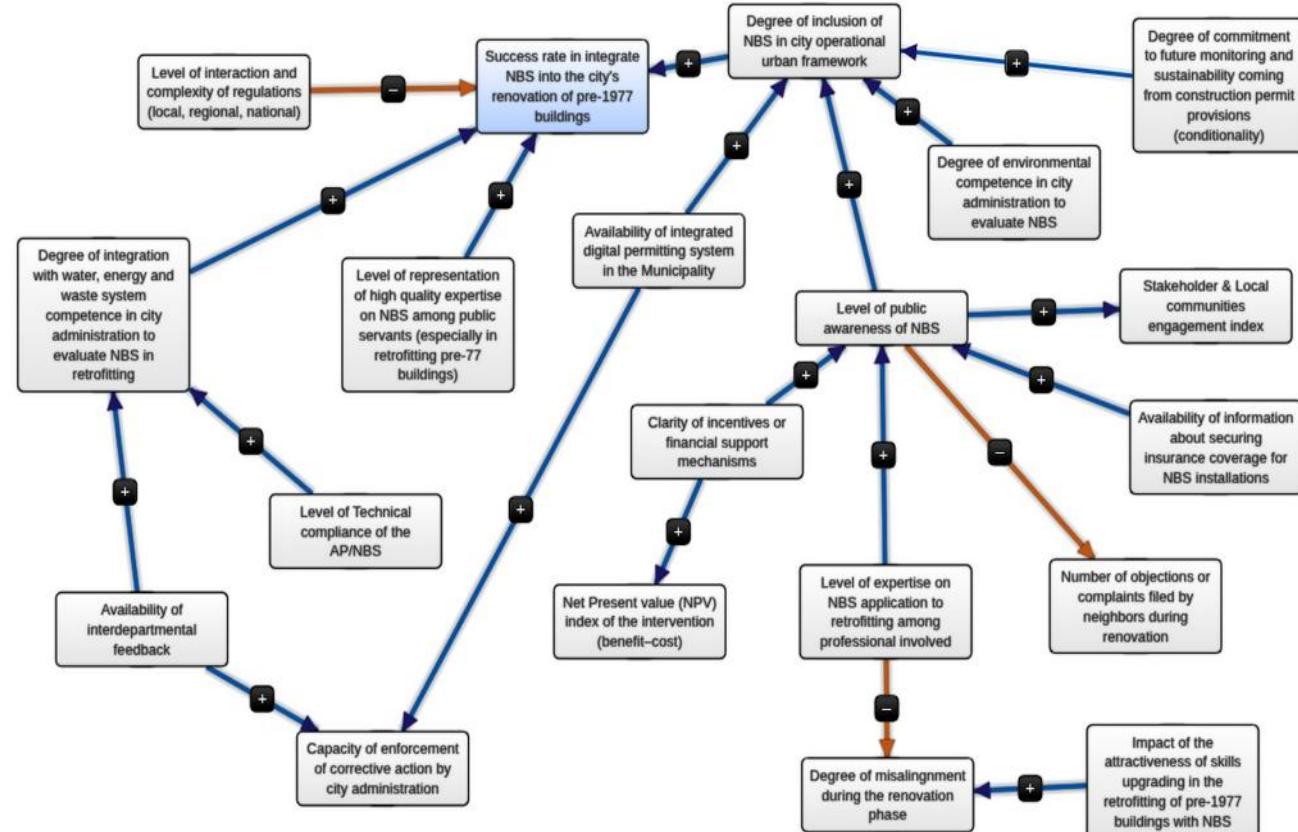


(BPMooN è un prodotto e un marchio registrato di Klink Srl)

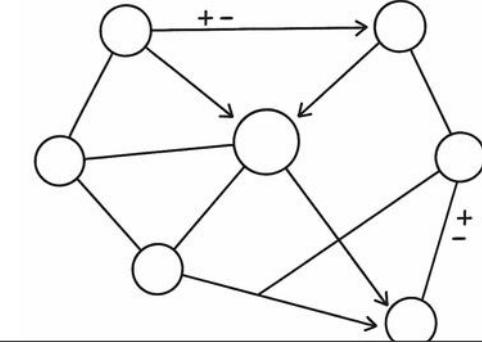
Trasformare le procedure ambigue in **sequenze rigorose di eventi eseguibili**, automaticamente, risparmiando tempo ed errori



Gestire le "zone grigie" della collaborazione



Fuzzy Cognitive Map



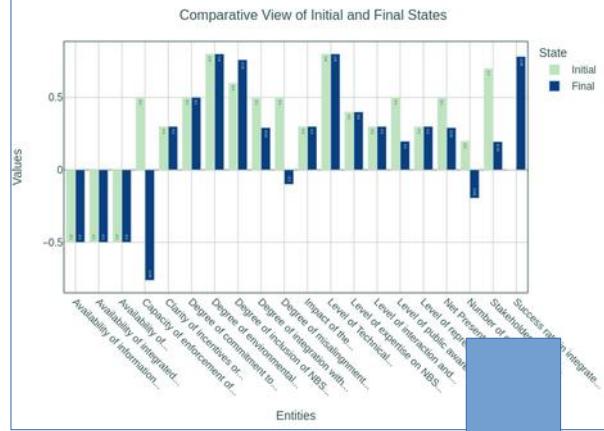
Rappresentare unitariamente le diverse 'visioni del mondo', gli interessi e come ogni parte pensa che i fattori si influenzino.

Trovare il baricentro tra interessi diversi o contrapposti in modo rigoroso e trasparente.

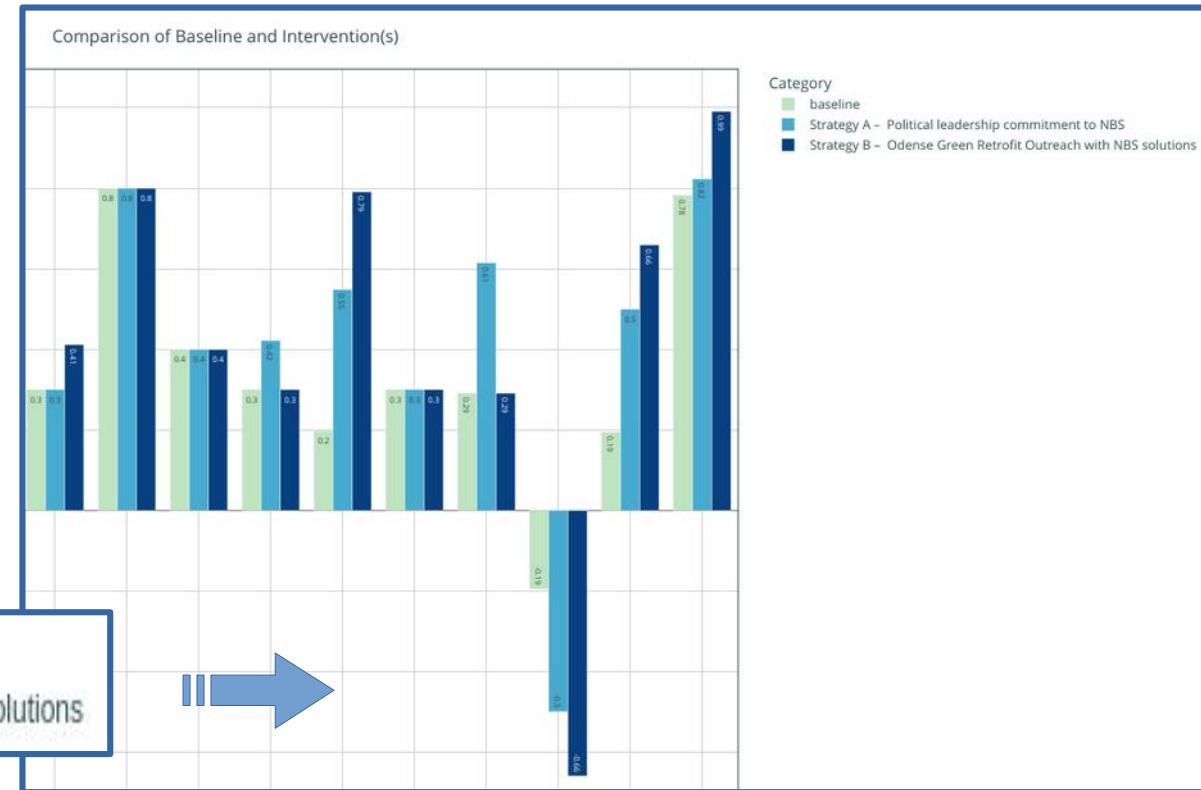


Il coraggio virtuale nella simulazione

scenario do nothing, BAU



- Strategy A – Political leadership commitment to NBS
- Strategy B – Odense Green Retrofit Outreach with NBS solutions



Stress-test del processo

per ridurre il rischio politico simulando gli esiti dei cambiamenti prima di applicarli nel mondo reale



Dal "greening" all'ingegneria funzionale

Pochi indicatori bastano a spiegare perché conviene sviluppare una governance condivisa intorno alla gestione dei MIE e del deflusso urbano

- **Efficienza multifunzionale (inclusa la rimozione di MIE)**
- **ROI (Ritorno sull'investimento) di medio termine**
- **alto IRR (Tasso interno di rendimento) sul ciclo di vita**
- **ERR (Tasso di rendimento economico) vantaggioso**

Le NBS sono infrastrutture attive e come tali dovrebbero essere trattate, includendo i servizi che restituicono e i costi evitati.



Deflusso urbano, MIE e NBS : il PoMM per Comuni e Gestori

- Il Policy Making Module (PoMM) è stato implementato concretamente a Odense (DK), Santander (ES), Pontedera (IT) in collaborazione tra la municipalità e il gestore SII locale per disegnare interventi sulle procedure esistenti che facilitino l'adozione di NBS con una logica di benefici congiunti
- Odense: autorizzare NBS per edifici costruiti prima dell'attuale legislazione (che prevede NBS)
- Pontedera: incentivare NBS nei piani attuativi di edilizia privata
- Santander: preparare la compliance alla UWWD con normative temporanee



poMM
Policy-Making



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Intelligenza, Sostenibilità, Resilienza



Nature-based Solution in Odense

Vocabolari comuni per capirsi

BPMN per agire con una logica condivisa

Co-modellazione per gestire le sfumature della collaborazione

Simulazione per lo stress-test istituzionale in ambiente virtuale

I ponti tra ricerca, policy e operazioni ci sono: abbiamo il coraggio di percorrerli?



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The "Invisible Challenge" Define CECs and why current urban "filters" are failing.

Special thanks

*Un grazie speciale alle persone che
hanno permesso di costruire, provare
in pratica e affinare il PoMM*

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Francesca,
Jorge, Nicolas, Andrea Camila,
Veronica.*



Grazie Thank you

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