

# Innovative contracting for BwN

## Building with Nature Guideline

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## Innovative contracting for BwN

Realisation within project boundaries represents the most concrete perspective on BwN. The definition of the project boundaries is of crucial importance since this defines the domain in which procurement and contracts have to be organized. So (1) grip is needed on how project boundaries are changed by BwN and (2) procurement and contract need to be organised accordingly.'

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(ad 1)

Application of Building with Nature [BwN principles](#) throughout the project phases requires new relations between governments and private parties. It thus implies other responsibilities and roles for knowledge workers, decision makers, stakeholders, consultants and contractors. In decision making on developments the public actors will stay responsible for ultimately answering the 'what' question. However knowledge workers, consultants and contractors might play substantial roles in the learning process on clarifying what is feasible in an eco-system, applying an integral approach on the eco-system, making use of natural forces, and harvesting valuable eco-services. These efforts on optimising seemingly the 'how' question will envision and influence the 'what' question. At least if the participatory horizontal relationships between governments, stakeholders, knowledge workers, consultants, and contractors are established as BwN principles suggest.

(ad 2)

Governments and other project developers have to follow a tender process in case of outsourcing works and contracts. The rules, procedures and requirements for this are easily traced in national legislation. Typically the bid process includes a prequalification step or integral qualification criteria; usually criteria include financial qualification for similar work, technical qualification and the financial eligibility of the contractor, expressed in terms of total turnover. Such rules, that frame competition and determine who is eligible, influence the line up of private parties such as consultants and constructors. The described developments call for redesign of the setting or frame in which realization takes place. A realisation frame has to be developed that secures that the seedbed of BwN is harvested in realisation. Dealing with contractors (used to design + construct jobs) that play a substantial role during the initiation and planning phases takes rethinking procurement and accompanying contract types.

Inevitably the issue has to be faced how to deal with procurement and contracts in the case realization takes place within enlarged and reshuffled project boundaries.

This building solution outlines cooperation and procurement strategies and elaborates contracts and suitable organisational structures.

The key questions are:

- How can organisational structures, procurement and contracts facilitate BwN within project boundaries?

### 5 Basic steps towards Building with Nature

#### Related Tools

[Contingent Valuation Method for Nature Valuation](#)

[Identification of ecological and socio-economic components - EcoMindmap](#)

[Including natural value in decision-making - Nature Index](#)

[Frame of Reference for specialist and end-user interaction](#)

[Framework for system understanding - DPSiR](#)

[Monte Carlo simulation and Social Cost Benefit Analysis](#)

[Stakeholder analysis](#)

[System Analysis](#)

[Valuation of risks and opportunities in BwN](#)

[Visualising and managing uncertainties](#)

#### Related Projects

[Adaptive Management - Melbourne Port Extension, AUS](#)

[Area development for sustainability - Wieringerrandmeer, NL](#)

[Building with Nature in delta cities - Dordrecht and Rotterdam, NL](#)

- Which specific arrangements with regard to organisation, procurement and contracts are conditional for realisation of BwN within project boundaries?

## Advantages

- Successful integration of BwN concepts in a development benefits from early involvement of all relevant players in the field, especially from the knowledge of constructing parties. This requires a sound package of agreements with commercial parties, that allows these to bring in their expertise, under a mechanism to reward them for their creativity, but without 'open ends'.

## Disadvantages

- Innovative contracting requires a large input, qualitatively and quantitatively, from developers in early stages of the project, often dealing within knowledge fields they are less familiar with.
- Innovative contracting inevitably includes a certain level of uncertainty in early stages of decision making. Mechanisms to handle such uncertainties through 'adaptive management' are becoming general practice.

## How to Use

'The job to be done' for which guidance is offered is about:

- How to build organisational and contractual arrangements in order to enhance the realisation of BwN within project boundaries?

At first sight this subject might seem almost trivial compared to issues of how to get and keep BwN on the agenda (see [Networks](#)), how to deal with and make good use of regulations and procedures (see [Regulatory context](#)) and how to arrange a productive knowledge process (see [Knowledge context](#)). Still the proof of the pudding is finally in organizing the project environment in a pro-active manner in order to harvest the seedbed. Without the realization of BwN within project boundaries all the efforts in the end are spoiled. So right from the start, the appropriate '[realisation framework](#)' should be focused upon.

Some guidance is given on how to use insights in procurement and contracts in order to facilitate BwN realization within project boundaries.

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## Think about procurement early and pro-actively

Some hints regarding the process:

- Focus upon the realization framework right from the start.
- Contact the authorities as soon as possible to discuss the needed perspective with regard to (organization of) procurement.
- Reach out for a clear and shared perspective with regard to the strived for model and process of procurement and the roles of public and private parties across the project phases (include the guidance with regard to types, process, management, ppp and feasibility as outlined below).
- Anticipate the consequence for each of the project phases.
- Anticipate the consequences for the required contractor arrangement and act accordingly.

## Strive for progressive types of procurement

The three main types of procurement, ordered from conventional to progressive:

**1) Traditional.** The traditional base model involves market parties when the plan is ready, and only some minor issues are to be filled with regard to detail design. Market parties then compete on price, quality and competence to advocate their design.

**2) Second generation: Design and construct 'light':** the model in which market parties are connected although the plan is not ready yet, however the priority alternative is already selected. In this model market parties compete in the procurement process in their ability and competence to develop and design a public decision. The choice had to be for the most capable supplier that combines developing and design competences. Being able to identify, assess and control risks is of importance.

**3) Third generation: Innovative-integration:** the model in which market parties are connected although the priority alternative has not been selected yet. This model requires letting go of the fixed price principle

that is often used in the other models. In this model the procedure often starts with a frame of reference that just indicate the qualities and values that are of relevance. Further selection is made during a 'process of dialogues', during which the pain is further defined and pricing is agreed upon.

## Keep overview over the procurement process

In the second and third generation model the process might include three phases:

- In the first phase an expert of the proposing consortium or contractor envisions the situation in a short document, based on analysis, and show his ability not only to know and manage risks (which is a traditional procurement criterion) but also to connect opportunities. The latter might even include relation management working towards consensus with stakeholders.
- In the second phase, the detail planning will proceed in interaction between proposing consortium or contractor and authorities. In the third phase the actual procurement will take place. In phase 1, pre-selection, interested suppliers will position themselves on price, knowledge, competences (including management of perceived risks and perceived opportunities). After the pre-selection the procedure continues with one or two selected consortia. Next steps are not so much about competing but about joint development and negotiations. Showing competences in perceiving, connecting and handling opportunities is of equal importance to perceiving and handling of risks. Avoiding the time trap requires starting the procedure early or avoiding strict deadlines.
- In the third phase final decision takes place followed by construction.

## Realize effective management of the procurement process

Effective handling of the process as described requires:

- Settlement of sound functional requirements based on [system engineering](#) as called for (instead of technical specifications). Sound functional requirements at least include spatial and time boundaries. In a layered perspective these criteria should anticipate subsequent steps in working towards specifications for implementation.
- Though sound functional requirements should be sought after, also procedures for incremental changes of functional requirements should be described with regard to their consequences for the cooperation and procurement processes.
- Define and describe the process: clearly state who is responsible for what, the set of performance indicators as agreed upon, how compliance to performance indicators is measured, the allocation of risks over partners and the pain and gain settlements. Be aware that these monitoring, verification and counting schemes should be regularly updated while the PPP arrangement works itself through the project phases.

## Feasibility of innovative procurement

Some further issues to take into consideration:

- As the traditional model of procurement suits single-organization contractors very well, the more innovative procurement procedures with demanding criteria often will require consortia of organizations that pool competences and act as a supplying consortium. For PPP such criteria are wellknown; for BwN criteria have to be added. This requires a pre-assesment. **Criteria for such an assessment** have to be clear at forehand. Consortia for instance have to show sufficient competences as plan and/or project developer.
- Making BwN added value "tangible and verifiable" is a prerequisite to reordering roles and responsibilities during the project phases. This includes both added value with regard to a **multig oal perspective** as with regard to the perspective of the **total costs over all project phases**.
- For this private consortia have to prepare for proving that they can deliver added value at any moment in the described procedures. BwN principles assume added value if development is integral and scale, sector and time boundaries are blurred. An innovative approach to make the BwN component and added value tangible and verifiable is the [valuation of ecosystem services and risks](#) approach.

## Learn from Public Private Partnerships

- Public-private financing is often used to overcome the gap between design and execution, and thereby optimizing the financial project development, it can also be used to handle the suggested letting go of the fixed price principle.
- Also the handling of risks might be an issue that has to be settled. In a typical design and construct case the responsibilities are covered in contract easily. In the situation in which private or ppp consortia cover more phases this might cause concern. Access to private insurance There is clear overlap between issues to take into account when working on PPP and those of relevance for BwN.

Some further reading on [PPP in practice](#).

Note: This document approaches procurement of PPP from the perspective of governments. The message in this building solution is that how governments approach private organizations is important,

however how private alliances of consultants, constructors approach governments in order to influence procurement and contracting is as important. Also is of importance to focus upon the BwN inherent need for functional specification.

(Additional) information with regard to the topics discussed can also be found on [Project phases Planning and design](#)

## Practical Applications

### Idealtypical project arrangements

This building solution innovative contracting reasons from the perspective of BwN and the preferred involvement of actors in the project phases. For practical application keep the following idealtypical project arrangements into consideration to assess your position and determine appropriate next steps.

#### Conventional arrangement

The conventional arrangement is structured by state-led, top-down planning. A public actor initiates and finances the project. This actor sets the Terms of Reference based on local and national debates.

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These decisions are often inspired on developments in the global maritime network. Hereafter, the initiator appoints a project owner, in general a governmental department or a local (port) authority. The project owner is responsible for further development and finally the overall completion of the project. At this stage, one or more consultants assist the project owner in studying the practicalities of the project. National legislation and institutional setting form the basis for the rules of the game. The most prominent discourse in these project arrangements builds upon economic growth and (inter)national competitiveness.

#### Integrated Market Arrangement

In the integrated market arrangement, a national government in cooperation with a private company or a private/privatized (port) authority takes the initiative. The project owner works together with a constructor in formulating the design.

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This means that the constructor takes up part of the knowledge provision. A trend underlying this arrangement is the continuous process of port privatization, whereby port authorities become more independent of their government (World Bank, 2007). This allows for more freedom in decision-making, including deliberation on environmental permits. Financing in this project arrangement is often structured by the so-called 'business case', as the initiating government is not providing (all) the necessary finances to the project. Therefore, external financiers or loans are attracted to the project, which have the possibility to add additional conditions. Another trend is the increasing role of private companies, such as constructors in the design stage of the project. They become involved in deliberations on the design, or even share responsibilities with the project owner under a partnering agreement.

#### External financier-initiated arrangement

In this arrangement an external (global) financier initiates the project, often together with a government. These actors can be international financing institutions, foreign governments or private companies.

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The money provided is conditional, making the financier influence the Terms of References and the design. Therefore, a general consequence is that these projects are often subject to, and designed using international standards (EPA, European, Australian, or standards set by international organizations, such as UNEP). As a result, these Institutions are (partly) detached from their local socio-economic settings.

#### The private arrangement

The central actor in this arrangement is a private principal, who as in the conventional arrangement, takes the initiative, controls finances, and manages the project.

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Examples of these private companies are mining companies, steel producers and infrastructure investors. The first phases in this arrangement show resemblances with the conventional arrangement, although in the later phases, associations with the integrated market arrangement are more apparent. Consultants have a large influence in setting the terms of reference and the design, and part of this consultancy work is taken up by the constructor.

## Project examples and cases

### Channel Deepening Project Melbourne

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The Port of Melbourne is Australia's largest container and general cargo port, with 37% of Australia's container trade. By 2035 the Port aims to expand considerably, increasing the number of containers fourfold, and accommodating vessels up to 7,000 twenty foot equivalent units (TEUs). For this expansion, parts of the access channels to Melbourne in Port Phillip Bay had to be deepened in an environmentally sustainable way. To achieve this major expansion, the Port of Melbourne sought a relationship with a Contractor of shared responsibility and risk. An Alliance form of contract was chosen because it was found that commitment to such an arrangement gives the best opportunity for the delivery of outstanding outcomes regarding time, budget, safety and environmental performance. The contract was signed in May 2004 between Port of Melbourne Corporation (PoMC) and Boskalis Australia Pty Ltd.

Alliancing is a proven infrastructure procurement method that is being used by governments across Australia alongside other methods to deliver infrastructure to the community. In alliancing, a public sector agency delivers the project collaboratively with private sector parties in procuring major capital assets, and agrees to take uncapped risks and share opportunities. The key benefits of alliance contracting are the incentives it provides to the parties involved to work cooperatively to complete the project within the time and budget forecasts, to find the best solutions for the project (rather than for their own interests), and to work quickly and collaboratively to resolve issues as they arise. In alliancing, the project team is integrated; it is required to act in good faith, with integrity, keep to certain principles (such as 'no blame') and make unanimous decisions and recommendations on all key project issues. The concept of collective assumption of risk applies in alliance contracts where the alliance Participants bear all risks equitably (although not always equally regarding financial consequences). For complex projects with high risks that cannot be fully dimensioned, alliancing can potentially offer the best procurement strategy for achieving the government's investment objectives. The alliance approach allows such risks to be worked through collaboratively as the project develops.

An Alliance Contract is based on mutual trust in which the roles, responsibilities and accountabilities of the partners are clearly defined. Furthermore, all decisions by the partners take into account stakeholder interests and are based on full disclosure. For that reason, in Melbourne the Alliance Contract was instrumental in overcoming one of the major non-technical obstacles to the execution of the dredging works: the negative reactions of some stakeholders in the vicinity of Port Phillip Bay. On-going discussions and the emergence of a local group of bayside residents who were clearly opposed to the project, eventually led to court action, which temporarily stopped the dredging operations. Working together, with a concerted communications effort to involve the public, the Contractor and PoMC were able to demonstrate the environmentally sound dredging methodology. This educational campaign included public hearings, an information programme and school presentations. It also included extensive monitoring before, during and after the works as well as a multi-level corporate communications campaign. These open and transparent communication efforts played a significant role in reassuring many stakeholders that the channel deepening project could be conducted in a safe and environmentally sustainable manner.

The Alliance Contract signed by PoMC and Boskalis Australia required all actions and decisions to be based on 'Best for Project' principles. Considering the difficulties of the sea, the soil and environmental conditions, the project demanded a large investment in Research & Development to find innovative solutions. One of the issues involved responding to a group of local residents who launched a concerted media campaign with the express purpose of ceasing any dredging from occurring.

An important conclusion from the Melbourne project is that the public has the right to transparency. The concerns of the public must also be the concerns of the contractor and client. Economic issues are important, but environmental and social issues are equally important. As a result of multi-disciplinary teams, thorough risk assessments, modelling, monitoring, a good Environmental Management Plan and clear communication about these activities, dredging at the Port has progressed solidly, environmental limits on the whole have been met, the opponents and media are less negative, and the concerns about dredging are more realistically perceived.

More information can be found on project page [Melbourne Port Extension - Adaptive Management](#)



## References

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### Literature

- Australian Government, Department of Infrastructure and Transport. 2011, National Alliance Contracting Policy Principles. ISBN 978-1-921769-31-3; July 2011/ INFRA.
- Bradford, Stephen & Mattijs Siebinga. 2009. Communicating about Dredging in a Precious Environment: Port of Melbourne. Terra et Aqua. Number 116: 12-20.



### Internet

- [European PPP Expertise Centre](#)
- [Some further reading on PPP in practice](#)
- [Systems Engineering](#)
- [Facts about Alliance Contracts](#)
- [Facts about Procurement](#)
- [Facts about Early Contractor Involvement](#)

(Additional) information with regard to the topics discussed in this manual:

- [Project phases Planning and design](#)
- [Governance - Stakeholder network management](#)
- [Governance - Knowledge context](#)
- [Governance - Regulatory context](#)
- [Governance - Realisation framework](#)



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