Sustainable Materials
Circular Economy

The procurement perspective

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Reflections
1. Clients for CSC
2. Policy drivers
3. Performance approach
1. Sustainable clients

Strategic Procurement

- ambition of organisation
- insertion in policy and procedures
- proactive effort of clients & budget holders.

Sustainable materials need sustainable clients!
2. Procurement requires policy drivers

- **Climate**: Impact concrete / steal = 15–20 % of global CO2

- **Circular Economy**: Recycling no longer enough
  - Construction = biggest resource streams (ca. 50%) & not scarce!

- **Impact SPP**: 99% of infra is public, 20% of buildings is public
3. Procurement as a strategic instrument

Traditional

- Risk mitigation
- Proven technology
- Single issue contracts (e.g. roads)
- Principal vs contractor
- Detailed criteria

Strategic

- Opportunities & collaboration
- & innovation & creating adding value
- Integrated, multiple goals (area based)
- Principal with contractor
- Functional & performance based
Common toolbox

1. Construction process

2. Resources + CO2
Comparing tenders on performance

Reference: CO2 PL, MEAT discount 3, MEAT discount 2, MEAT discount 1, Fictive price

Tender 1: CO2 PL, MEAT discount 3, MEAT discount 2, MEAT discount 1, Fictive price

Tender 2: CO2 PL, MEAT discount 3, MEAT discount 2, MEAT discount 1, Fictive price

Tender 3: CO2 PL, MEAT discount 3, MEAT discount 2, MEAT discount 1, Fictive price

Tender 4: CO2 PL, MEAT discount 3, MEAT discount 2, MEAT discount 1, Fictive price
<table>
<thead>
<tr>
<th>Type</th>
<th>Naam</th>
<th>Omschrijving</th>
<th>Locatie</th>
<th>MKI</th>
<th>Levensduur</th>
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</thead>
<tbody>
<tr>
<td>Betonmortel C30/37 (CEMI)</td>
<td>Transport: RAW/42 B</td>
<td></td>
<td></td>
<td>191.38</td>
<td>75</td>
</tr>
<tr>
<td>Betonmortel C30/37 (CEMIII)</td>
<td>Transport: RAW/42 B</td>
<td></td>
<td></td>
<td>106.62</td>
<td>75</td>
</tr>
<tr>
<td>Betonmortel C30/37 met 100%</td>
<td>Transport: RAW/42 B</td>
<td></td>
<td></td>
<td>15.35</td>
<td>75</td>
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<tr>
<td>Betonmortel C30/37 met 20%</td>
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<td>111.35</td>
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<td>Onderwaterbeton C20/25</td>
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<td>Schuimbeton</td>
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<td>13.62</td>
<td>50</td>
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</tbody>
</table>
Dubocalc tool

Project input
- Materials
- Energy
- Work methods

DuboCalc

Project calculator

Library (National Database construction Materials)

€ environmental (shadow)costs “ECI”
Environmental Cost Indicator

ISO 14040
EN 15204
SBK foundation

Materials
Energy
Work methods
## Performance based

<table>
<thead>
<tr>
<th></th>
<th>Energy</th>
<th>Materials</th>
<th>Health in buildings</th>
<th>Natural light incidence in workspace for long-term use &gt; 2 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level A1.</strong></td>
<td>100% better than base value x points</td>
<td>30% better than level C x points</td>
<td>Class A (see explanatory notes) x points</td>
<td>100% of workspaces designated for long-term occupancy min. DF &gt; 3.0% x points</td>
</tr>
<tr>
<td><strong>Level A2.</strong></td>
<td>80% better than base value x points</td>
<td>25% better than level C x points</td>
<td>No higher level specified</td>
<td>6 dm$^3$/s per m$^2$ of working area x points</td>
</tr>
<tr>
<td><strong>Level B1.</strong></td>
<td>65% better than base value x points</td>
<td>20% better than level C x points</td>
<td>Class B (see explanatory notes) x points</td>
<td>Class A x points</td>
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<tr>
<td><strong>Level B2.</strong></td>
<td>50% better than base value x points</td>
<td>15% better than level C x points</td>
<td></td>
<td>100% of workspaces designated for long-term occupancy min. DF &gt; 2.0% x points</td>
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<tr>
<td><strong>Level C</strong></td>
<td>35% better than base value 0 points</td>
<td>No level specified</td>
<td>Class C (see explanatory notes) 0 points</td>
<td>8.3 dm$^3$/s, pp 0 points</td>
</tr>
<tr>
<td><strong>Basic level</strong></td>
<td>Buildings Decree</td>
<td>No level specified</td>
<td>Buildings Decree</td>
<td>Buildings Decree</td>
</tr>
</tbody>
</table>

**Energy performance**
- Level A1: 100% better than base value x points
- Level A2: 80% better than base value x points
- Level B1: 65% better than base value x points
- Level B2: 50% better than base value x points
- Level C: 35% better than base value 0 points
- Basic level: Buildings Decree

**Materials**
- Level A1: 30% better than level C x points
- Level A2: 25% better than level C x points
- Level B1: 20% better than level C x points
- Level B2: 15% better than level C x points
- Level C: No level specified

**Health in buildings**
- Level A1: Class A (see explanatory notes) x points
- Level A2: No higher level specified
- Level B1: Class B (see explanatory notes) x points
- Level B2: No level specified
- Level C: Class C (see explanatory notes) 0 points

**Natural light incidence in workspace for long-term use > 2 hours**
- Level A1: 100% of workspaces designated for long-term occupancy min. DF > 3.0% x points
- Level A2: 6 dm$^3$/s per m$^2$ of working area x points
- Level B1: Class A x points
- Level B2: 100% of workspaces designated for long-term occupancy min. DF > 2.0% x points
- Level C: 8.3 dm$^3$/s, pp 0 points
- Basic level: Buildings Decree
Innovation progression

Strategic
Procurement & innovation

Innovators
Early Adopters
Early Majority
Late Majority
Laggards

Collective targets
individual organisations

the 'Chasm'

SPP comprehensive criteria
SPP Core criteria

CSC

Point of regulation

time