FIDIC Webinar
Collaborating to transform the infrastructure that shapes society

with
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FIDIC and Sustainability

- Industry significance for infrastructure
  - Level of involvement

- Historic interest
  - 1992 – present
  - Role – make our client projects more sustainable

- Range of tools and perspectives
  - Project Sustainability Management (PSM)
  - Project Sustainability Logbook
  - Rethink Cities
  - State of the World in Sustainable Infrastructure

- Partners
Project Sustainability Management

• What’s in a definition?
  – Brundtland
  – Engineering needs
    • Too complicated
    • Too narrow

• Version II (2013)
  – More sophisticated but much simpler
  – Broadly applicable
  – Improved clarity
    • Focus, objectives, levels of achievement
WHAT is PSM II?

1. A comprehensive list of issues that engineers should consider in making their projects more sustainable
2. Sustainability perspectives for each issue that differentiate them from normal engineering practice
3. Recommendations for the application of PSM II to specific project aspects
4. Categorizing the levels of achievement
5. The process of developing a sustainable project
6. An approach that is not bound to any particular stage of socio-economic development – an umbrella
What are the issues?

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Issue</th>
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<tbody>
<tr>
<td>Conserve</td>
<td>Energy</td>
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<td>Water</td>
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<td>Environment</td>
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<td>Human Rights</td>
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### Sustainable Engineering Perspectives

<table>
<thead>
<tr>
<th>Issue</th>
<th>Perspective</th>
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<tbody>
<tr>
<td>Energy</td>
<td>Usage, Renewability, Availability, Affordability</td>
</tr>
<tr>
<td>Water</td>
<td>Usage, Availability, Affordability</td>
</tr>
<tr>
<td>Materials</td>
<td>Usage, Recycling, Durability, Renewability, Waste</td>
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<tr>
<td>Environment</td>
<td>Physical, Chemical, Biological, Ecosystem</td>
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<tr>
<td>Health and Safety</td>
<td>Worker, Community</td>
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<tr>
<td>Human Rights</td>
<td>Food, Shelter, Law, Culture, Development</td>
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## Human Rights Considerations

<table>
<thead>
<tr>
<th>Issue</th>
<th>Perspective</th>
<th>Aspects</th>
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<tbody>
<tr>
<td>Human Rights</td>
<td>Food</td>
<td>Availability, Cost</td>
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<td></td>
<td>Shelter</td>
<td>Availability, Cost, Forced relocation</td>
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<td></td>
<td>Law</td>
<td>Equality, Security, Criminality, Exploitation, Freedom of association</td>
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<td></td>
<td>Culture</td>
<td>Protection of natural and built environment</td>
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<td>Development</td>
<td>Community benefits, convenience, freedom from irritants</td>
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Goals

What constitutes a sustainable project?

• Any level of usage may prove to be unsustainable depending on the circumstances
• Currently sustainable behaviour may only be metastable
• Five performance levels – conventional, improved, metastable, sustainable, restorative
• Goals should be selected after considering
  – Importance – how important in the regional or local context
  – Impact – does the project impact the issue
  – Contribution – does the project contribute to SD in a major way
  – Interest – do the stakeholders (internal and external) care
The Sustainability Cycle

- Conserve
- Protect
- Consult
- Predict (Resilience)
Stakeholder participation

- Client
- Consultant
- Operator
- Community
- Project participants
- Government
Discussion of Issues Perspectives and Goals

- Primary Objective
- Substitutions
- Consequential Objectives
- Related Issues
- Goals and Measurement
Measurement and Rating

Other than the 5 step qualitative descriptors (conventional, Improved, metastable, sustainable, restorative) PSM II makes no attempt to rate project sustainability

- Requires assessment of relative importance of unlike issues
- Such assessment requires weighting of factors that arise from a set of values or beliefs
- May be applicable in specific circumstances but not applicable in others
  - Detracts from universal applicability of the system
  - Other systems do that and in their context are very useful – we don’t
Last Words

PSM II focuses on the issues that affect the sustainability of engineered projects. There are other issues that may be important for other stakeholder groups and the process of discovering and including them in the project is a critical part of delivering improvements in overall sustainable performance. The core issues and perspectives of PSM II constitute the minimum list that should be considered in such projects.