



International Council for Research and
Innovation in Building and Construction

W115 - "Construction Materials Stewardship"

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Report on the second business meeting of
CIB Working Commission W115 "Construction Materials Stewardship"
Melbourne 2008

Sunday, 21 September 2008, 2:00 – 6:10 PM

Melbourne Convention Centre, Melbourne, Australia

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The second business meeting of the CIB W115 was held in conjunction with the SB08 World Sustainable Building Conference in Melbourne, Australia.

The meeting was attended by participants from Germany, Japan, Switzerland, Slovenia, The Netherlands, New Zealand, the United States and United Kingdom.

Meeting Attendees

- John Storey, Victoria University of Wellington, New Zealand (john.storey@vuw.ac.nz) (Coordinator)
- Abdol Chini, University of Florida, United States (chini@dcp.ufl.edu) (Coordinator)
- Frank Schultmann, University of Siegen, Germany (frank.schultmann@uni-siegen.de) (Coordinator)
- Wim Bakens, CIB Secretary General, The Netherlands (wim.bakens@cibworld.nl)
- Elma Durmisevic, Technical University of Delft, The Netherlands (E.Durmisevic@bk.tudelft.nl)
- Lucija Hanzic, University of Maribor, Slovenia (lucia.hanzic@uni-mb.si)
- Andrew Miller, University of Brighton, United Kingdom (a.miller@brighton.ac.uk)
- Bernardka Juric, University of Malibor, Slovenia (bernardaj@projekt.si)
- Nicole Sunke, University of Siegen, Germany (nicole.sunke@uni-siegen.de)
- Xiao Tan (China), University of New South Wales (516tx@163.com)
- Holger Wallbaum, ETH Zürich, Switzerland (holger.wallbaum@ibb.baug.ethz.ch)

Minutes of the Meeting

1. The coordinators of W115 introduced the organizational structure of the commission and outlined the main objectives and the mission statement of the commission. The agenda of the meeting was agreed on.
2. Wim Bakens informed about CIB activities related with the W115. Major issues are CIB activities in connection with sustainable initiatives by the UN under the umbrella of SUN (Sustainable United Nation). CIB will be responsible for developing a handbook for procurement of sustainable buildings. Additionally, Wim Bakens reported about the CIB partnership with Fraunhofer and ICONDA-Database. All future CIB publications will be integrated in the public domain section of the ICONDA-Database. Access to this database is also available from the CIB website and can be accessed for free.
3. Reports of the Commission's subgroups were presented by
 - Subgroup 3: John Storey (on behalf of Gilli Hobbs):
Develop systems to mitigate and ultimately avoid construction material waste
 - Subgroup 4: Abdol Chini (on behalf of Shiro Nakajima):
Develop ways of using material wastes as raw materials for making construction materials
 - Subgroup 5: Frank Schultmann (on behalf of Charles Kibert):
Develop methodologies for designing for closed loop materials use and for the effective recovery of materials and components from existing buildings
 - Subgroup 6: Elma Durmisevic:
Develop design and construction methodologies for transformable and adaptable buildings and spaces to extend service life and so reduce overall construction material resource use
4. Abdol Chini suggested that membership in W115 subgroups be expanded to all W115 members. It is the responsibility of the subgroup leaders to develop a work plan for their respective subgroup and ask the country representatives to provide the needed information/data on their country. All members of W115 are encouraged to participate in every subgroup and to respond to the requests of the subgroup leaders.
5. Elma Durmisevic introduced the planning of the conference "CMS2009" in Twente, The Netherlands. Tentative dates for the conference are 12-14 June 2009 preceding the SASBE2009 conference at Delft. CMS2009 will coincide with the third annual meeting of W115. The website of the conference is www.cms2009.net.

Proposed CSM2009 schedule:

- Deadline for submission of abstracts: 15 December 2009
 - 12 June 2009 (Friday): Arrival of delegates and welcome function
 - 13/14 June 2009 (Saturday/Sunday): W115 meeting, scientific sessions
 - 15 June 2009 (Monday): Field trip, transport to Delft SASBE2009
6. John Storey informed about the first publication of W115 containing reports about Construction Materials Stewardship from selected countries. The report will be CIB publication number 318. The draft of the edited country reports were distributed as CD during the meeting. Authors of the reports included are asked to check their reports and if amendments have to be made, to give feedback to John Story by 30 September 2008.

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This report will be downloadable through the Commission's website, will be announced by CIB news, and will be integrated into ICONDA-database.

7. Holger Wallbaum suggested that country reports on Construction Materials Stewardship be reviewed to identify the best practices for dissemination. He also suggested that country representatives seek feedback from other experts in their country before submitting their reports for publication.
8. It was agreed to expand the commission membership by proactively contacting key persons in several countries including India (Abdol Chini, Holger Wallbaum), Russia (Andrew Miller, Holger Wallbaum), France (Frank Schultmann, Nicole Sunke), Australia (John Storey), Emirates (Elma Durmisevic), Egypt (Abdol Chini), China (Abdol Chini, Holger Wallbaum), Brazil (Holger Wallbaum) to acquire further national representatives. Every member of the commission is welcomed to submit relevant information. Volunteers are still needed to contact Singapore, South Africa, and South Korea.
9. The next meeting was agreed to be held in conjunction with the CMS2009 conference in Twente (www.cms2009.net). The meeting was tentatively scheduled to be held on 13 June 2008 (to be confirmed). Hosting of the commission's meeting in 2009 was offered by Elma Durmisevic, TU Delft.
10. The location and time of the fourth CIB W115 annual meeting was discussed. It was decided that the timing of the 2010 CIB Triennial (May 2010) is not appropriate. Sometimes during the months of July and August are preferred. For the location China was proposed. No firm decision was made at this time.
11. To develop cooperative working relationships with other CIB Task groups and working commissions that are active in the area of sustainable building and construction the following members were assigned as a CIBW115 liaison with these groups:
 - TG66 - Energy and the Built Environment - Andrew Miller
 - W104 - Open Building Implementation - Elma Durmisevic
 - W116 - Smart and Sustainable Built Environment - Frank Schultmann
12. Lucija Hanzic introduced a questionnaire on tertiary education associated with construction materials stewardship succeeded by a discussion on the improvement of the questionnaire and the study to be performed. All members attending the meeting agreed to support Lucija in her study.

Siegen/Adelaide, 21 October 2008

Frank Schultmann
Nicole Sunke

Working Group Reports on Present and Future Activities

Sub group 3: Develop systems to mitigate and ultimately avoid construction material waste

Gilli Hobbs, John Storey

Objective of working group

Reducing the overall amount of waste produced relative to construction activity through:

- Waste reduction actions linked to construction product, packaging, people and processes
- Monitoring procedures and setting benchmarks for the production of waste to allow target setting and performance measurement against these targets
- Efficient resource use across the supply chain and life cycle of construction products

There has not been much collective activity relating to this area since the first W115 meeting last year. This does not mean that there has not been work carried out by individual members of the committee in the intervening time.

Capturing this information and developing a forward approach is the first logical step in progressing this working group. An initial programme of work is set out below:

1. *Agree the objectives and initial programme of work (at 2008 meeting).*
2. *Identify members of the working group (at 2008 meeting)*
3. Collate waste reduction activities linked to the Overall Country Report (1st Output of W115).
4. Summarise in a working group report and send out for consultation. Where missing, asking for key information to be provided for each country on:
 - a. The amount and type of waste generated in construction (relative to activity if possible i.e. benchmarks)
 - b. Current Government policies that promote waste reduction, including targets and subsidized business support
 - c. Current Industry activities that promote waste reduction, including sector agreements, case studies and specific schemes
 - d. Recognised gaps in evidence (data), government policy and industry action.
5. Working group country report on the above (by 2009 meeting)
6. Possible development of a W115 roadmap for reducing construction waste (e.g. attached UK short guide to the Construction Resources and Waste Roadmap) (by 2010 meeting)

Sub group 4: Develop ways of using material wastes as raw materials for making construction materials

Shiro Nakajima, Abdol Chini, Lucija Hanzic, Luis Antonio Pereira de Oliveira

Objective of working group

Develop technical and political solutions to promote C&D wastes recovery as raw materials for making construction materials.

- Summarize the current state of each country as a country report.
- Form a standard form and gather the data and information of each country in this standard form.
- Collect advanced examples of each country as a showcase.
- Discuss possible technical and political solutions to promote C&D wastes recovery as raw materials for making construction materials.

The individual members of subgroup 4 have performed research and published papers in this area. The following are examples of publications since formation of the subgroup in 2007:

Lucija Hanzic and Luis Antonio Pereira de Oliveira

- Water retention capability of mortars made of recycled aggregate

Luis Antonio Pereira de Oliveira

- Optimization of pozzolanic reaction of ground waste glass incorporated in cement mortars

- Mechanical and Durability Properties of Concrete with Ground Waste Glass Sand

Abdol Chini

- General Issues of Construction Materials Recycling in the United States

- Green Options for High Temperature Cured Concrete through the use of Fly Ash and Blast Furnace Slag

- Barriers to Deconstruction and Materials Reuse

The future plan for subgroup 4 is tentatively set as follows:

2. Agree the objectives and program (at 2008 meeting).
3. Identify members of the working group (at 2008 meeting).
4. Provide a report summarizing the current state of reuse and recycling for specific construction materials at member countries: (by 2009 meeting):
 - a. Identify the materials to be considered.
 - b. The current state of the materials - how they are reused, recycled or disposed of.
 - c. The barriers for reuse and recycling the construction materials.
 - d. The latest government policies and industry actions.

1st Output of SG 4

5. Develop a form to collect case studies of advanced practices in reuse and recycling of construction materials. Distribute the form among the W115 members.

6. Compile and publish the collected case studies (by 2010 meeting).

2nd Output of SG 4

Sub group 5: Develop methodologies for designing closed loop materials use and for the effective recovery of materials and components from existing buildings

Charles Kibert (Leader), Frank Schultmann, Nicole Sunke, Rogerio Amoeda

Objective of working group

Develop methodologies for designing closed loop materials use and for the effective recovery of materials and components from existing buildings

In 2007/2008 the activities of the subgroup concentrated on its formation and establishment.

The workplan for 2008/2009 is set out below:

1. Organize a meeting for the following purposes:
 - a. Develop a plan to recruit members for SG 5
 - b. Determine objectives for SG 5
 - c. Review the past progress for TG 39
 - d. Conduct an initial assessment of the state of deconstruction in various countries
 - e. Develop a 5-year work program based on the country reports
 - f. Establish a tentative meeting plan for the next 5 years
2. Recruit members for SG 5 of WC115 through CIB, deconstruction organizations, and personal contacts.
3. Establish a time and place for an initial meeting in conjunction with other subgroups of WC115. Many of the activities for 2008-9 will be determined at this initial meeting.