

## **RMMI PANEL DISCUSSION ON PROPOSED CHANGES TO LEED**

**Date: 02-13-2008**

### **Proposed Changes to LEED**

#### **West Region Council Input to LSC**



- **Regional changes—water, beetle killed wood**
- **National Changes—2030 Challenge**
- **National Changes—Social Equity**

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## Regional Changes: Water

### Measurement of Building Water Use

#### New proposed Credit WE Pr1

Mandate a water usage metering system for the building, measuring water consumption (for indoor use and landscaping) as well as wastewater volume conveyed. Require first year water usage data to be sent to USGBC and award points for ongoing reporting of consumption (through the appropriate LEED product).

#### Modify WE Pr2 C.3.1

##### Change to a pre-requisite for our region

A reduction of water usage for landscape by 50% could be required for the west because of our limited water resources.

#### Modify WE Pr3 C.3.1

##### Change to a pre-requisite for our region

A reduction of water usage for interior by 20% could be required for the west due to limited water resources.

### A reduction of water use for landscape by 75%

#### New proposed credit WE C1.1A

A reduction of water usage for landscape by 75%. This would be a step between 50% and 100% water reduction for the landscape. In areas with water rights where storage of rain water is not allowed innovative ideas such as directing rain water to drip system irrigation can be used for achieving this point.

### Life-Cycle Assessment of Wastewater Treatment System

#### New proposed credit WE C4.0

Innovative wastewater technologies are not necessarily the most sustainable option. Connecting to the existing sewer line or even the use of septic tank with leach field systems, may be the most sustainable option. Providing a LCA assessment of available options will quantitatively assess the environmental impact.

## **Regional Changes: Water**

### **Relative Water Demand**

#### **New proposed credit WE C5.0**

Relative water demand, defined as the ratio of water use to total water availability [(water consumed/(surface water discharge + sustained groundwater yield)], assures that buildings do not consume more water than is available on a per capita basis. Building water use must be below a set threshold, when compared to the regional water availability. Proposed water use is compared to the regional availability. Buildings cannot exceed this set threshold (Vörösmarty et al. (2000) defined a value above 0.4 as severe water scarcity).

### **Embodied Water**

#### **New proposed credit MR C9.1**

For XX% of the total value of the materials for the project, use materials that require less than XX% of municipally-supplied, potable water to produce. (Use of rainwater or site-treated water for production would be acceptable). This will increase demand for building materials which require little or no municipally-supplied potable water to produce, thereby reducing negative impacts on fresh water supplies. It will also potentially cause manufacturers to become more cognizant of water usage as architects/builders require such reporting.

### **Embodied Water**

#### **New proposed credit MR C9.2**

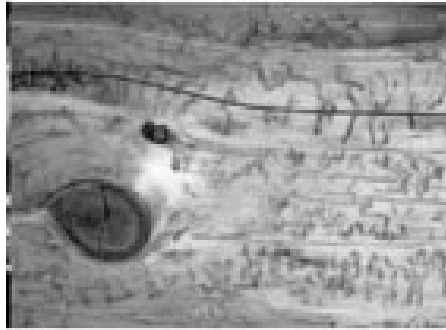
Based on the square footage of the building, use structural elements that require less than X gallons of fresh water per square foot of building. (This would discourage the use of heavy steel structures since steel requires 62,600 gallons of water per ton of steel to produce and would encourage lightweight steel structures and other structures that require much less water) Increase demand for building materials which require little or no municipally-supplied potable water to produce, thereby reducing negative impacts on fresh water supplies

## Regional Changes: Beetle Kill

### Certified or Beetle killed Wood

#### New proposed credit MR C7

Award points for use of wood killed by the bark beetle as a percentage of total wood used in the project.



## **National Changes: 2030 Challenge**

### **Minimal Passive Systems Strategies**

#### **New proposed credit EA Pr4**

Mandate minimum passive energy strategies of heating, cooling or lighting for a reduction in total energy consumption of 20% over baseline. Building orientation, proper overhang design, thermal mass, material choices, shading and canopies, etc. will help achieve this pre-requisite.

### **Measurement of Building Energy Use**

#### **New proposed credit EA Pr5**

Mandate metering of actual energy consumption during building use and require reporting for the first year. Additionally, provide points in the appropriate LEED product for ongoing reporting.

### **Retiring Carbon Credits**

#### **New proposed credit EA Pr6**

Mandate retirement of carbon credits for credits EA C.2, and EA C.6 to make sure that the substitution of alternative energy goes towards cleaner air and environmental improvements and that they don't help the power industry cause pollution up to their fixed cap.

### **Modify Passive Strategies Energy Savings**

#### **Energy Savings: 10% EA C1.2, 20% EA C1.3, 30% EA C1.4**

Achieve increased levels of passive strategy energy savings about the EP Prerequisites.

### **Soil Carbon Content**

#### **New proposed credit SS Pr2**

For evaluating the "carbon footprint" of a project, the total existing carbon of the pre-construction site should be evaluated.

## National Changes: 2030 Challenge

### **Modify Heat Island- Roof SS C7.2**

#### **High-albedo roofs need to be verified for heat loss in winter**

If high-albedo roofs are used for heat island prevention calculations should verify their overall energy use reduction comparing summer and winter heat gains.

### **Modify Heat Island- Roof SS C7.2**

#### **Vegetated roofs should be limited to 5 year drip irrigation**

If green roof is used its irrigation should be limited to 5 years while the vegetation grows. Beyond five years LCA needs to be performed to show that the green roof is feasible.

### **Modify Project Embodied Energy MR C5.1 & C5.2**

#### **Within 90% 1pt (20% reduction); within 95% 1 pt (30% reduction)**

This would replace the Regional Materials credits and the arbitrary 500-mile radius. Rather, the total “cradle-to-gate” embodied energy of 95% of the mass of the building materials (extraction, processing, manufacturing, transport, and placement/assembly) should be accounted for, and reported in GHG terms to support the 2030 Challenge.

### **Modify Rapidly Renewable within North America MR C6**

By limiting the rapidly renewable sources to within North America, the intent of reducing transportation energy in MRc5.1 and 5.2 (formerly the Regional Materials credits) is achieved.

### **Project Life Cycle Assessment**

#### **New proposed credit MR C8.1 Within 90% 1pt (20% reduction); MR C8.2 within 95% 1 pt (30% reduction)**

Life cycle assessment within 60 years life of the building would include durability, repair and Maintenance of the building materials. It will also consider the percent recyclables of the building materials after its deconstruction beyond the 60 yr. term

## **National Changes: 2030 Challenge**



### **Passively Cool the building**

#### **New proposed credit EQ C7.3**

Provide a cooling strategy for the cooling that reduces the cooling load by 20% over that calculated in EAc1-10. Use of fresh filtered air avoids the “sick building syndrome.”

### **Passively Heat the building**

#### **New proposed credit EQ C7.4**

Provide a heating strategy for the heating that reduces the heating load by 20% over that calculated in EAc1-10. Passive heating strategies generally provide for air movement which results in more fresh air for the inside and therefore decreases the risk for the “sick building syndrome.”

### **Daylight 100% of Spaces**

#### **New proposed credit EQ C8.3**

Provide for the building occupants a connection between indoor spaces and outside spaces to gain 100% day lighting for all ambient lighting operations within the entire building.

## National Change: Social Equity

### **Safety and health requirements (OSHA)**

#### **New proposed credit SE C1.0**

High rated contractors and subs by OSHA in safety and health provisions at the job site.

### **Women, minority, and small business involvement**

#### **New proposed credit SE C2.1 6%; SE C2.2 12%; SE C2.3 18%**

To encourage diversity within the building industry the project should prove a certain percentage of employees being women, minorities, and small businesses. This percentage could include the construction workers, as well as workers at manufacturing plants, mining, and transportation areas, etc of building materials production.

### **Health insurance coverage for the labor force in production of 90% of the building materials**

#### **New proposed credit SE C3.1**

To encourage the use of building materials that has been socially equitably manufactured. This would include health insurance coverage for workers from mining of the resources to the transportation crew, to the manufacturing plants.

### **Health insurance for the construction crew**

#### **New proposed credit SE 3.2**

The labor force at the site be covered with health insurance either through the subcontractor or the general contractor.

### **Projects donating a percentage of total project cost to non-profit organization in the service of affordable housing such as "Habitat for Humanity"**

#### **New proposed credit SE C4.1 0.5% of project cost; SE C4.2 1.0% of project cost; SE C4.3 1.5% of project cost; SE C4.2 2.0% of project cost**

The donations could be in the form of cash or building materials

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