

ARMA Board of Directors
November 5, 2009
Washington, D.C.

ARMA Low-Slope Committee Report

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Committee Priorities

1. Sustainability
2. Cool roof challenges
3. Codes activities (gravel/aggregate/ballast, etc.)
4. FM Global / Roofing Industry Coalition Meeting
5. Technical Document Review
6. Teaming with QARC

P1 - Sustainability Council

ARMA Sustainability Mission:

“To develop unbiased and universally accepted sustainability information pertaining to low-slope asphalt roofing systems. Further we will utilize this information to educate stakeholders and encourage the use of asphalt roofing systems via various forms of media.”

P1 - Sustainability Council

ARMA Strategic Plan: Objectives for Goal #4:

Position and Promote Asphalt Roofing

Positioning asphalt roofing in the context of sustainability and recycling

- a. Refine position on sustainability
- b. Identify green attributes of the products
- c. Challenge those who would put asphalt products are at a disadvantage
- d. Promulgate green message points

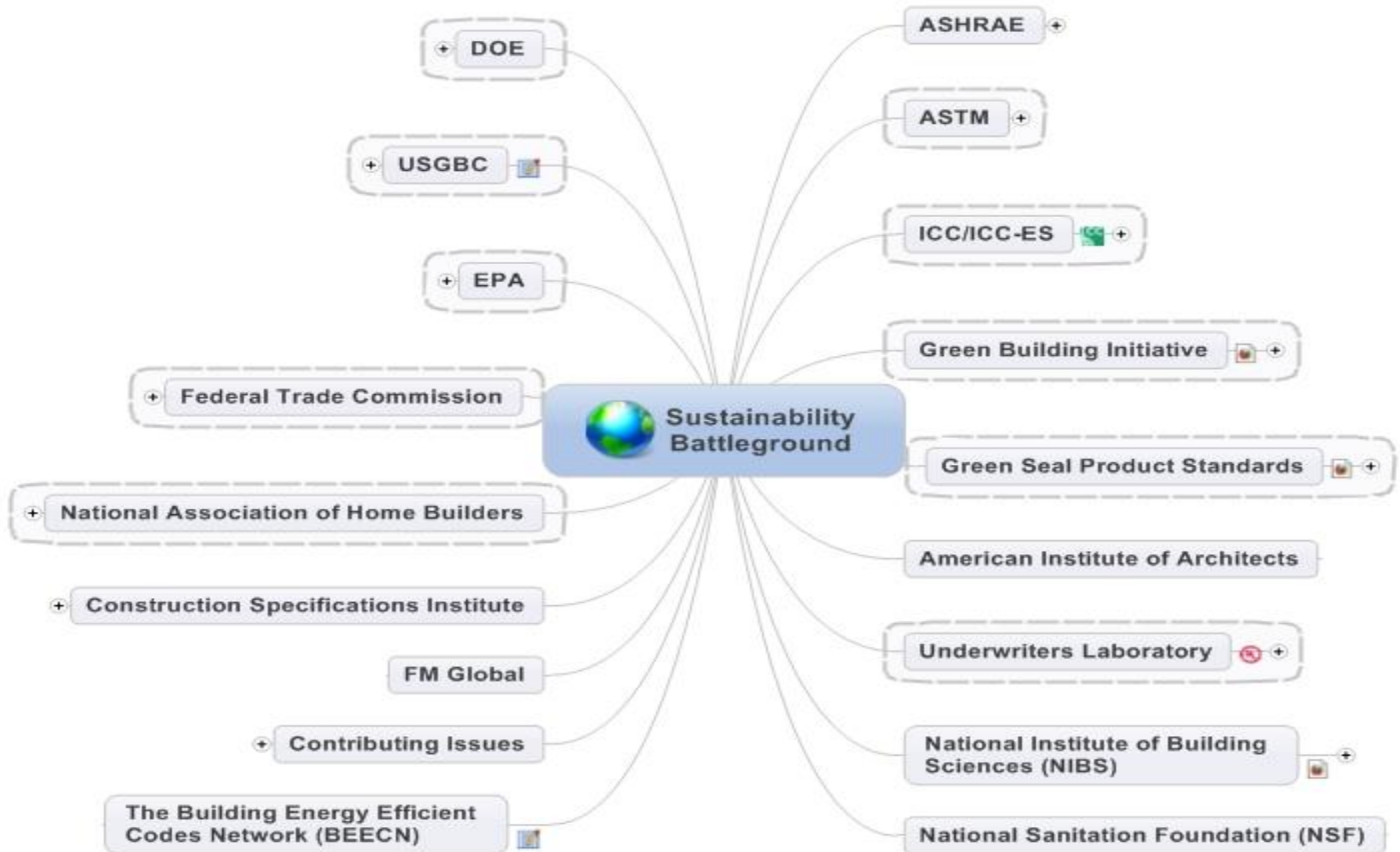
P1 - Sustainability Council

Key Message Points

- “Low-Slope sustainable roof”:
Sustainable low-slope asphalt roofing systems are those designed, constructed, maintained, rehabilitated, and demolished with an emphasis on preserving the global environment.
- Develop “sustainable”/green roof aspects

P1 - Sustainability Council

See How Simple This Is !



P1 - Sustainability Council

- This must be priority one for future ARMA Low-Slope activities
 - Corporate level backing and follow-up needed
 - Strong ARMA staff to lead and support effort
 - Dedicated passionate Council members
- Cool roof issues pale in comparison to what lies ahead for Sustainability Council work
- SPRI very active

P1 - Sustainability Council

ARMA Key Activities

- ASHRAE 189.1P
 - Sustainable building standard: environmental responsibility, resource efficiency, occupant comfort & well-being, & community sensitivity
- ICC International Green Construction Code (IgCC)
 - Sustainable building codification
- NSF Joint Committee on Sustainable Roofing
 - Sustainable product standard: NSF 347 Sustainability Assessment Standard for Single Ply Roofing Membranes
- ASTM E 60 and D 8
 - New Standard: Specification for Minimum Environmental, Social, and Economic Requirements for a Building Promoting Sustainability
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P1 - Sustainability Council

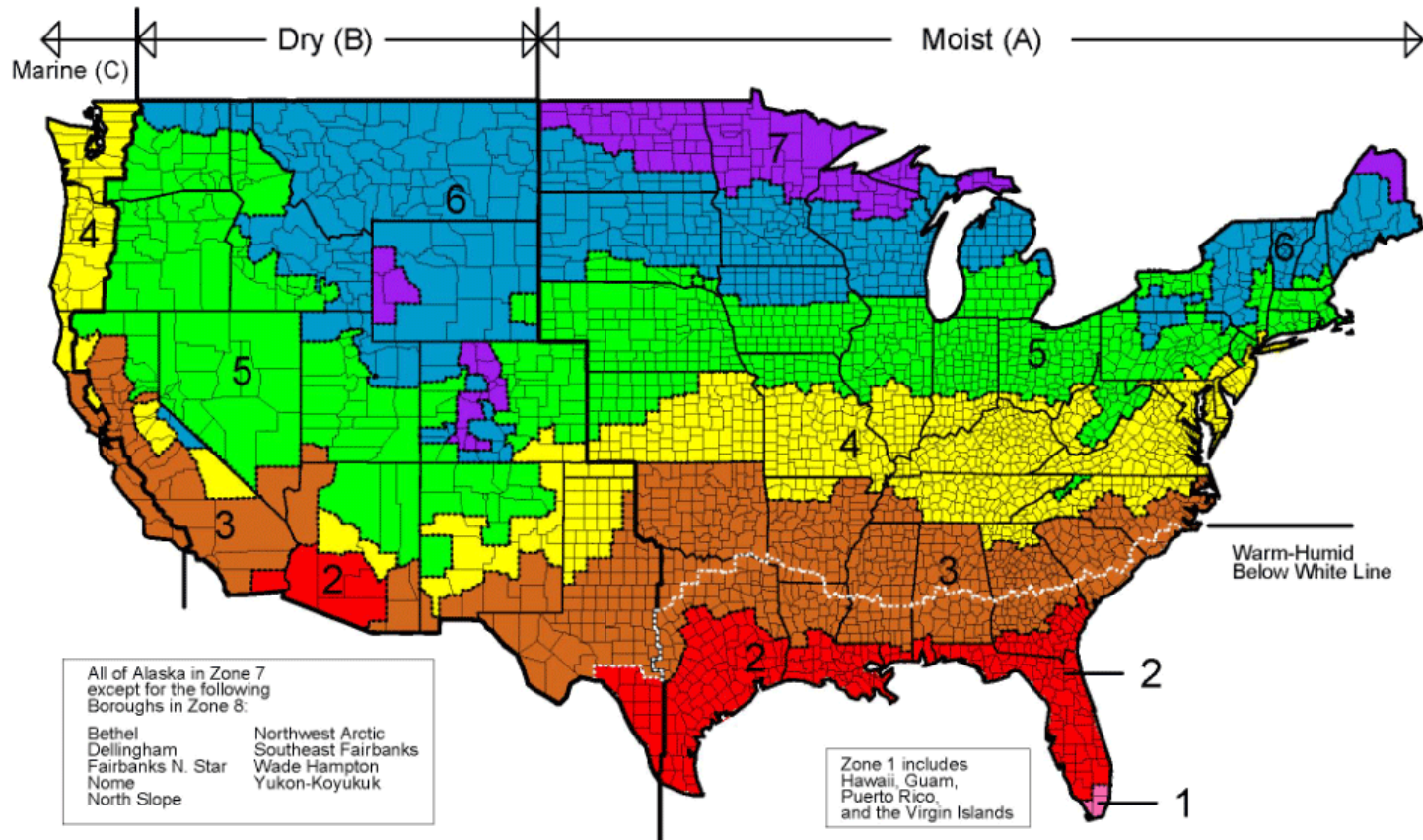
- **ASHRAE standard 189.1**
 - *Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings*
 - *ARMA Position:* challenged the cost justification (applicable zones), impact to the consumer, and reference to CRRC
 - 189.1 is prime example of how “cool roofs” is but one segment of sustainability effort we face

P1 - Sustainability Council

ARMA “wins” (red items removed from draft)

- ASHRAE 189.1
 - 5.3.2.3 Roofs. This section applies to the building and covered parking *roof* surfaces for *building projects* in *climate zones* 1, 2, 3 **and 4...**
 - For roofing products, the values for solar reflectance and thermal emittance shall be determined by a laboratory accredited by a nationally recognized accreditation organization, **such as the Cool Roof Rating Council CRRC-1 Product Rating Program**

P1 - Sustainability Council



P1 - Sustainability Council

Next Steps:

- Continue to monitor and respond to the ever growing number of sustainability “activities”
- Work with allied organizations to leverage our resources to ensure our industry has a voice in the sustainable future
 - Leverage Life Cycle Cost Analysis and data already developed by BWA
 - Recommend sending formal request to BWA Board for access to data and definitions
- Develop and implement LCA action plan

P1 - Sustainability Council

Next Steps:

- In May the BOD agreed for us to begin a preliminary search for a consultant to assist with life cycle inventory (LCI) data.
 - The process has been slow - two potential candidates have been identified but not approached
 - RFP to be developed and presented to BOD prior to soliciting consultant

P1 - Sustainability Council

Members of this most important council:

- Bob Kluttz, Kraton Polymers - chairman
- Andy Lodge, IKO
- Bill Woodring, GAF-Elk
- Travis Wallace, Performance Roof Systems
- Travis Turek, TAMKO
- Richard Snyder, CertainTeed
- Allen Weidman, ARMA Staff - facilitator

P2 - Cool Roof Challenges

Cool Roof Steering Group Purpose

To develop and implement the ARMA strategy to influence mandatory and voluntary initiatives associated with energy conservation, urban heat islands, air quality, and climate change as they relate to roofing products and systems.

P2 - Cool Roof Challenges

ARMA Cool Roof Position

ARMA views roof surface reflectance as but one component of the ***Whole Building Envelope Approach*** as an appropriate regulatory policy and design principle for energy conservation, mitigation of urban heat islands, and improved air quality. ***The Whole Building Envelope Approach is the best option for designing and optimizing performance-based, proven and cost effective commercial and residential buildings.*** It allows flexibility and consumer choice in the selection of roof systems.

P2 - Cool Roof Challenges

California—Title 24 Summary

- Title 24, Part 6 for 2008 approved by the CEC on April 23, 2008
 - Effective date again delayed: **January 1, 2010**
 - SRI remains at 64
 - Minimum 8 inch base flashing height
- There are no further changes to proposed requirements since last report.
- Next Revision Tentative Start 2010

P2 - Cool Roof Challenges

California—Title 24 Actions

- ARMA working with CEC staff on compliance manuals (ACM) and public “CEC Blueprint” fact sheets.
- Insulation Trade-off Calculator for 2010 Title 24
 - (Goodrum-Siplast, Desjarlais-ORNL)
- Develop and implement a communication plan to educate and inform the industry and public on the compliance options allowed in code.
 - Western Roofing Article December 2009
 - Cool Roofing Media Campaign in CMEC Program
 - CEU Programs: Title 24 Compliance
 - Fact Sheets Etc.

P2 - Cool Roof Challenges

ASHRAE standard 90.1

- ARMA opposed Addendum “f” to standard 90.1, *Energy Standard for Building Except Low-Rise Residential Buildings*
 - *ARMA Position submitted May 5*: cost effectiveness; alternate compliance options, and exclusion of certain roof membrane market segments
 - Face-to-face meeting in Salt Lake City (June 20-22, 2008)
 - ASHRAE direction seems to be to eliminate steep-slope requirement and reduce low-slope requirements to Climate Zones 1,2, and 3.
 - Ballot on June 2009
 - ASHARE is addressing negative comments

P3 - Codes Activities

ARMA Gravel Ban: Winds of Change

- Research based on Kindall Ward Wind-tunnel study funded by ARMA
- Roofing Associations Involved:
 - SPRI
 - ARMA
 - NRCA supportive
- Presentations Made by Jay Crandall on behalf of ARMA:
 - Roof Consultants Institute 2010
 - RICOWI—Presented October 2009
 - Hurricane Hugo Anniversary Conference
 - National Hurricane Conference--

P4 - FM Global/Industry Coalition

- Property Loss Prevention Data Sheets
 - 1-52 *Field Uplift Tests (bubble test)*
 - 1-29 *Roof Deck Securement (cold adhesive language,)*
 - 1-35 *Green Roof Systems*
- *New FM standard 4476 for flexible BIPV (building-integrated photovoltaics)*
- November 13, 2009 meeting in Norwood

P5 - Technical Document Review

Task Force Members:

- Richard Snyder, CertainTeed
- Nate Martin, Johns Manville
- Carter Slusher, Firestone
- Shaik Mohseen, TARCO Roofing
- Tracey Hall, Soprema
- Bill Woodring, Helene Pierce, GAF-Elk
- Bob Kluttz, Kraton Polymers
- Tim Kersey, Siplast
- Jim Baker, ARMA Staff



P5 - Technical Document Review

- Completed
 - Self Adhesive Bituminous Roofing Membrane (BOD approval in May)
 - (**CERTA** acceptance of SA sheets as flame barrier)
 - Handling Coal Tar (To remain on Web site—no revisions).
- **Prioritization:**
 1. Decking recommendation (Woodring) Mar 2010
 2. Greases Oils and Materials (Kalkanoglu--reviewed) Mar 2010
 3. Aggregate Retention (In process—Crandell/Ross) Aug 2010
 4. Effects of Ponding Water (Hardy-Pierce/Woodring) Aug 2010
- **Discontinue two documents:**
 - Roof Drainage
 - Insulated Substrate

P6 – Low-Slope Comm & QARC

QARC Participation with Low-Slope Committee

- To date the ARMA Low-Slope Committee and QARC have been disjointed.
 - QARC will be teaming with Low-Slope committee to unify and strengthen efforts for both Mod Bit and BUR.
 - “Green” and sustainability – articles, press releases, being reviewed by both prior to publication
 - More activity with gravel/ballast issues
 - Continue to monitor and weigh in on SPRI development of fire and wind standards for vegetative roof systems
 - Continued industry liaison: CRRC, RCMA, NRCA, SPRI, etc.

Low-Slope Committee

Other Activities

- Dave Trumbore agreed to lead low-slope recycling effort
- Letter to National Institute of Building Sciences (NIBS) to update government standardized Low-Slope RFP (mod bit references updated)
- UL2218 Impact Resistance for Low Slope Roofing Products
 - Low-Slope Committee supported Steep-slope opposition

ARMA Low-Slope Update

- Questions?