Consensus Committee Report:
Initial Formal Actions on Comments

2015 National Green Building Standard

October 9, 2015

FOREWORD

Release of Second Draft Standard. Those Comments that were Approved or Approved As Modified by the Consensus Committee have been incorporated in the Second Draft Standard posted at www.homeinnovation.com/ngbs. The changes shown in the Second Draft Standard are now open for public comment. Public comments are accepted through November 23, 2015 via a web-based form available at www.homeinnovation.com/ngbs. Instructions for submitting public comments are included with the web-based form. Only those changes to the first Draft Standard (Public Comment Draft) that were approved by the Consensus Committee during its June 2015 meeting or during its September 21 conference call, shown in legislative format in the Second Draft Standard, are open for public comment. The first Draft Standard (March 6, 2015) and other committee work on the development of the 2015 edition of the National Green Building Standard can be found at www.homeinnovation.com/ngbs.

This report is released as information to the Consensus Committee and public as to the preliminary Formal Actions taken on the comments received on the Draft Standard (March 6, 2015). After the consensus committee balloting on the comments closes, the Public Comments Report (PCR) will be released as the documentation on the Public Comments phase of development. Information on the Proposed Change Phase can be found in the Public Proposals Report (PPR) available at www.homeinnovation.com/ngbs.

This report includes the following information to date on each comment considered by the Consensus Committee:

1. The name of the submitter of the comment;
2. The entity represented;
3. The text of the comment;
4. The preliminary Formal Action taken by the consensus committee; and
5. Any consensus committee statement on the formal action.

Held Comments. A public comment that proposes changes to a section or part of a first Draft Standard that was not changed during the development of the Second Draft Standard shall be reported as Held. The release of this report is considered notification to a submitter of a Held Comment the determination by the consensus committee. At the discretion of the submitter, a Held comment can be retained and be processed as a proposed change during the next revision of the standard.

Notification of Committee Action. The release of this report is considered notification to a submitter of a public comment or a ballot comment as to the preliminary committee action on the comment.

Commenter Options. If the commenter disagrees with the preliminary Formal Action, the following options are afforded to the commenter based on the committee's formal action on the comment.

Preliminary Formal Action	Commenter Options
Accept	If believe the change was not properly implemented, submit a public comment on Second Draft.
Accept as Modified	If disagree, submit a public comment on Second Draft.
Disapprove	Commenter has the right to appeal. See appeals notice below. All formal actions in this report are preliminary. It is possible that the committee will reverse its action during the concurrent balloting process. The Final Formal Action will be reported in the Public Comment Report (PCR) and the commenter will be notified. The commenter will be again notified of their right to appeal at that time.

Appeals. Persons who have directly and materially affected interests and who have been or will be adversely affected by any procedural action or inaction by the Secretariat with regard to the development of a proposed standard or the revision, reaffirmation or withdrawal of an existing standard, have the right to appeal. Appeals shall be based on compliance with or interpretation of the Home Innovation Research Labs' Procedures. An appeal shall be submitted by registered mail to the Standards Coordinator no later than November 30, 2015. The appeal shall identify and address the original source of the objection. The appeal shall specify the cause of the appeal, the applicable section(s) of the procedures related to the appeal, and a proposed corrective action. The appeal shall be accompanied by a filing fee of $500.00. This fee may be waived or reduced upon sufficient evidence of hardship. Appeals will be considered by the Appeals Panel at a hearing on the premises of the Home Innovation Research Labs. Please see the Home Innovation Research Labs' Procedures for further information.

Another appeals notice will be issued with the Public Comments Report (PCR) containing the Final Formal Actions on comments.

Home Innovation Research Labs' Procedures. A copy of the Home Innovation Research Labs' "Procedures for Consensus Developed Standards" is available at www.homeinnovation.com/ngbs.

The following were the members of the Consensus Committee on the National Green Building Standard at the time of voting on the comments.

Chair: Robert D. Ross
Vice Chair: Shirley Ellis
Vice Chair: Christopher Mathis

Committee Staff: Vladimir Kochkin
Kevin Kauffman

ACCA (U)
Primary Rep: Donald Prather

Adams Craig (U)
Primary Rep: Stephen Adams

Air-Conditioning, Heating, and Refrigeration Institute (P)
Primary Rep: Frank Stanonik

American Gas Association (P)
Primary Rep: Ted Arthur Williams

American Iron and Steel Institute (P)
Primary Rep: Maribeth S Rizzuto

American Wood Council (P)
Primary Rep: Kenneth Bland Alternate Rep: Sam Francis

Cherry Hills Village (G)
Primary Rep: Hope Medina

City and County of Broomfield Building Division (G)
Primary Rep: Tim Pate

City of Des Moines (G)
Primary Rep: Sean S. Devlin

City of Winter Park Florida Building and Permitting Department (G)
Primary Rep: Kristopher Stenger

Coconino County Community Development Department (G)
Primary Rep: Steven White

ConSol (U)
Primary Rep: Mike Hodgson

Covestro LLC (P)
Primary Rep: Jerry Phelan

DuPont Building Innovations (P)
Primary Rep: Theresa A. Weston

Edison Electric Institute (P)
Primary Rep: Steven Rosenstock

Environmental Solutions Group (U)
Primary Rep: Steve Armstrong

Foster Associates (P)
Primary Rep: Charles Foster

G&R Construction Services llc (U)
Primary Rep: Robert D. Ross - Chair

Gas Technology Institute/Carbon Management Information Center (P)
Primary Rep: Neil P. Leslie

Habitat for Humanity International (U)
Primary Rep: Rob Howard Alternate Rep: Ian Bukowski

Mathis Consulting Company (U)
Primary Rep: R Christopher Mathis

Mitchell & Best Homes (U)
Primary Rep: Chad Riedy

NAHB Multifamily (U)
Primary Rep: Miles Haber

NAHB Remoders (U)
Primary Rep: Paul Sullivan

National Institute of Standards and Technology (G)
Primary Rep: Nancy McNabb

National Multifamily Housing Council (U)
Primary Rep: Paula Marie Cino Alternate Rep: Ron Nickson

North American Insulation Manufacturers Assoc. (P)
Primary Rep: Charles C Cottrell

Northeast Energy Efficiency Partnerships (NEEP) (G)
Primary Rep: Darren Port

Portland Cement Association (P)
Primary Rep: David Shepherd Alternate Rep: Stephen S Szoke

Plastic Pipe and Fittings Association (PPFA) (P)
Primary Rep: Michael Cudahy

Randy Melvin's High Performance Building and Code Solutions LLC. (U)
Primary Rep: Randall K. Melvin

Ryan Taylor Architects LLC (U)
Primary Rep: Ryan Taylor

Schneider Electric (P)
Primary Rep: Wayne H. Stoppelmoor, Jr.

Steve Easley & Associates Inc. (U)
Primary Rep: Steve Easley

Texas A&M University (G)
Primary Rep: Shirley Ellis

The American Institute of Architects (U)
Primary Rep: David S. Collins Alternate Rep: Rachel Minnery

The Laclede Group (U)
Primary Rep: Sid Koltun

U.S. Department of Energy (G)
Primary Rep: Jeremiah Williams

UL (P)
Primary Rep: Josh Jacobs

U.S. Dept of Housing and Urban Development (G)
Primary Rep: Dana Bres Alternate Rep: Mike Early

Vinyl Siding Institute (P)
Primary Rep: Matthew Dobson

Window & Door Manufacturers Association (P)
Primary Rep: Jeff Inks

Producer Interest (P): Individuals assigned to the Producer Interest Category are those who represent the interests of an entity, including an association of such entities, which produces, installs or maintains a product, assembly or system subject to the provisions within the scope of the Consensus Committee. These entities included Distributor, Labor, Manufacturer, Material Association, Standards Promulgator, Testing Laboratory, and Utility.

User Interest (U): Individuals assigned to the User Interest Category are those who represent the interests of an entity, including an association of such entities, which is subject to the provisions or voluntarily utilize the provisions within the scope of the Consensus Committee. These entities include Builder, Contractor, Consultant, Applied Research Laboratory, Building Owner, Design Professional, Insurance Company, Private Inspection Agency, and Product Certification/Evaluation Agency.

General Interest (G): Individuals assigned to the General Interest Category are those who represent the interests of an entity, including an association of such entities, representing the general public or entities which promulgate or enforce the provisions within the scope of the Consensus Committee. These entities include Academia, Consumers, and Government Agencies.

Summary of Comments

Comment Number	LogID	Name	Section Number	Committee Action
PC001	6146	Susan Gitlin	202 Definitions	Accept as Modified
PC002	6134	Susan Gitlin	202 Definitions	Accept
PC003	6131	Susan Gitlin	202 Definitions	Accept
PC004	6160	Todd Jones	202 Definitions	Accept
PC005	6006	Doug Johnson	202 Definitions	Accept as Modified
PC006	6007	Read Porter	202 Definitions	Accept as Modified
PC007	6008	David Gorchov	202 Definitions	Accept as Modified
PC008	6010	Sara Kuebbing	202 Definitions	Accept as Modified
PC009	6021	Roger L. LeBrun	202 Definitions	Accept as Modified
PC010	6022	Roger L. LeBrun	202 Definitions	Accept
PC011	6023	Roger L. LeBrun	202 Definitions	Disapprove
PC012	6074	Chuck Arnold	202 Definitions	Disapprove
PC013	6084	Chuck Arnold	202 Definitions	Accept as Modified
PC014	6198	Craig Conner	202 Definitions	Accept
PC015	6091	Michelle Desiderio	302.1 Site design and development (Green subdivisions)	Disapprove
PC016	6101	aaron gary	303.1 Green buildings	Accept
PC017	6102	aaron gary	304.1 Multi-unit buildings	Accept as Modified
PC018	6092	Michelle Desiderio	304.1 Multi-unit buildings	Accept as Modified
PC019	6144	Keith Dennis	305.3.1 Applicability (Whole-building rating criteria)	Accept as Modified
PC020	6085	Chuck Arnold	305.3.5 Energy efficiency	Accept
PC021	6051	Steven Rosenstock	305.3.5 Energy efficiency	Accept as Modified
PC022	6034	David S. Collins, FAIA	403.1 Natural resources	Disapprove
PC023	6133	Susan Gitlin	403.1 Natural resources	Accept
PC024	6093	Siying Zhang	403.1 Natural resources	Disapprove
PC025	6147	Susan Gitlin	403.11 Demolition of existing building	Accept as Modified
PC026	6038	David S. Collins, FAIA	403.11 Demolition of existing building	Accept
PC027	6035	David S. Collins, FAIA	403.5 Stormwater management	Accept
PC028	6036	David S. Collins, FAIA	403.5 Stormwater management	Disapprove
PC029	6011	Greg Johnson	403.5 Stormwater management	Accept as Modified
PC030	6094	Siying Zhang	403.5 Stormwater management	Disapprove
PC031	6119	Siying Zhang	403.5 Stormwater management	Disapprove
PC032	6122	Anthony Floyd	403.6 Landscape plan	Disapprove
PC033	6124	Blaine Wilkins	403.6 Landscape plan	Disapprove
PC034	6009	David Gorchov	403.6 Landscape plan	Disapprove
PC035	6037	David S. Collins, FAIA	403.6 Landscape plan	Disapprove
PC036	6015	Greg Johnson	403.6 Landscape plan	Accept as Modified
PC037	6017	Brent Mecham	403.6 Landscape plan	Accept
PC038	6177	Kent Sovocool	403.6 Landscape plan	Accept as Modified

Comment Number	LogID	Name	Section Number	Committee Action
PC039	6184	Kent Sovocool	403.6 Landscape plan	Accept as Modified
PC040	6185	Kent Sovocool	405.1 Driveways and parking areas	Accept as Modified
PC041	6095	Siying Zhang	405.4 Planning	Disapprove
PC042	6120	Siying Zhang	405.4 Zoning	Disapprove
PC043	6039	David S. Collins, FAIA	405.4 Zoning	Accept
PC044	6040	David S. Collins, FAIA	405.6 Multi-modal transportation	Accept
PC045	6041	David S. Collins, FAIA	405.6 Multi-modal transportation	Disapprove
PC046	6061	Paul Gay	405.6 Multi-modal transportation	Accept as Modified
PC047	6062	Paul Gay	405.6 Multi-modal transportation	Disapprove
PC048	6043	David S. Collins, FAIA	405.6 Multi-modal transportation	Disapprove
PC049	6065	Don Whyte	405.6 Multi-modal transportation	Accept as Modified
PC050	6086	Chuck Arnold	405.8 Mixed-use development	Disapprove
PC051	6063	Paul Gay	405.8 Mixed-use development	Disapprove
PC052	6042	David S. Collins, FAIA	405.8 Mixed-use development	Accept as Modified
PC053	6044	David S. Collins, FAIA	405.9 Open space	Accept as Modified
PC054	6207	Task Group 2	Chapter 4 Points	Accept as Modified
PC055	6045	David S. Collins, FAIA	501.1 Lot (Lot selection)	Accept as Modified
PC056	6066	Don Whyte	501.2 Multi-modal transportation	Accept
PC057	6082	Chuck Arnold	501.2 Multi-modal transportation	Disapprove
PC058	6137	aaron gary	501.2 Multi-modal transportation	Accept as Modified
PC059	6046	David S. Collins, FAIA	503.2 Slope disturbance	Accept
PC060	6012	Greg Johnson	503.4 Stormwater management	Accept as Modified
PC061	6014	Greg Johnson	503.5 Landscape plan	Accept as Modified
PC062	6047	David S. Collins, FAIA	503.5 Landscape plan	Accept
PC063	6125	Blaine Wilkins	503.5 Landscape plan	Disapprove
PC064	6123	Anthony Floyd	503.5 Landscape plan	Disapprove
PC065	6127	Anthony Floyd	503.5 Landscape plan	Disapprove
PC066	6128	Anthony Floyd	503.5 Landscape plan	Disapprove
PC067	6186	Kent Sovocool	503.5 Landscape plan	Accept as Modified
PC068	6187	Kent Sovocool	503.5 Landscape plan	Accept as Modified
PC069	6048	David S. Collins, FAIA	503.5 Landscape Plan	Accept
PC070	6049	David S. Collins, FAIA	503.7 Environmentally sensitive areas	Disapprove
PC071	6148	Susan Gitlin	503.8 Demolition of existing building	Accept
PC072	6188	Kent Sovocool	505.1 Driveways and parking areas	Accept as Modified
PC073	6189	Kent Sovocool	505.2 Heat island mitigation	Accept as Modified
PC074	6050	David S. Collins, FAIA	505.2 Heat island mitigation	Disapprove
PC075	6135	Susan Gitlin	505.3 Density	Disapprove
PC076	6078	Chuck Arnold	505.6 Multi-unit plug-in vehicle charging	Accept
PC077	6208	Task Group 2	Chapter 5 Points	Accept as Modified
PC078	6064	Paul Gay	601.7 Prefinished materials	Disapprove
PC079	6142	aaron gary	601.7 Prefinished materials	Disapprove
PC080	6206	Chuck Arnold	602.1.5 Termite barrier	Accept as Modified

Comment Number	LogID	Name	Section Number	Committee Action
PC081	6068	Paul Gay	602.1.7.3 Moisture control based on hygrothermal simulation or field study analysis	Disapprove
PC082	6069	Paul Gay	604.1 Recycled content	Disapprove
PC083	6067	Chuck Arnold	605.1 Construction waste management plan	Disapprove
PC084	6150	Susan Gitlin	605.1 Construction waste management plan	Accept as Modified
PC085	6070	Paul Gay	606.2 Wood-based products	Accept as Modified
PC086	6151	Susan Gitlin	610.1 Life cycle assessment	Disapprove
PC087	6162	Todd Jones	610.1.1 Whole-building life cycle assessment	Disapprove
PC088	6071	Paul Gay	610.1.1 Whole-building life cycle assessment	Disapprove
PC089	6052	Steven Rosenstock	610.1.1 Whole-building life cycle assessment	Accept as Modified
PC090	6163	Todd Jones	610.1.2.1 Product LCA	Disapprove
PC091	6164	Todd Jones	610.1.2.2 Building assembly LCA	Disapprove
PC092	6072	Paul Gay	611.4 Product declarations	Disapprove
PC093	6209	Task Group 3	Chapter 6 Points	Accept as Modified
PC094	6202	Craig Conner	701.1 Mandatory requirements (Energy Efficiency)	Accept
PC095	6178	Jeff Inks	701.1 Mandatory requirements (Energy Efficiency)	Accept as Modified
PC096	6118	aaron gary	701.1.2 Minimum Prescriptive Path requirements	Disapprove
PC097	6132	aaron gary	701.1.2 Minimum Prescriptive Path requirements	Accept as Modified
PC098	6117	aaron gary	701.1.4 Alternative bronze level compliance	Accept
PC099	6096	Siying Zhang	701.1.4 Alternative bronze level compliance	Disapprove
PC100	6196	Craig Conner & Howard Wiig	701.1.4 Alternative bronze level compliance	Accept as Modified
PC101	6194	Annette Rosenblum	701.4.3.2 Air sealing and insulation	Disapprove
PC102	6103	aaron gary	701.4.3.3 Multi-unti air leakage alternative	Accept as Modified
PC103	6104	aaron gary	701.4.4 High-efficacy lighting	Accept
PC104	6097	Siying Zhang	701.4.4 High-efficacy lighting	Disapprove
PC105	6145	Keith Dennis	702.2.1 ICC IECC analysis	Disapprove
PC106	6053	Steven Rosenstock	702.2.1 ICC IECC analysis	Disapprove
PC107	6054	Steven Rosenstock	702.2.1 ICC IECC analysis	Disapprove
PC108	6055	Steven Rosenstock	702.2.2 Energy performance analysis	Disapprove
PC109	6098	Siying Zhang	702.2.2 Energy performance analysis	Disapprove
PC110	6179	Jeff Inks	703.1 Mandatory practices	Accept
PC111	6025	Roger L. LeBrun	703.1.1 UA compliance	Accept
PC112	6087	Chuck Arnold	703.1.3 Duct testing	Disapprove
PC113	6180	Jeff Inks	703.2 Building envelope	Accept
PC114	6195	Craig Conner	703.2.2 Insulation installation	Disapprove
PC115	6090	Chuck Arnold	703.2.2 Insulation installation	Disapprove
PC116	6204	Craig Conner & Howard Wiig	703.2.6.1 Fenestration Specifications	Disapprove
PC117	6026	Roger L. LeBrun	703.2.6.2 Enhanced Fenestration Specifications	Accept as Modified
PC118	6056	Steven Rosenstock	703.3.3 Heat pump heating efficiency	Disapprove

Comment Number	LogID	Name	Section Number	Committee Action
PC119	6057	Steven Rosenstock	703.3.4 Cooling efficiency	Accept as Modified
PC120	6197	Craig Conner & Howard Wiig	703.3.4 Cooling efficiency	Accept as Modified
PC121	6181	Jeff Inks	703.3.9 In multi-unit buildings, energy data available to occupants	Accept
PC122	6105	aaron gary	703.4.4 Duct Leakage	Accept as Modified
PC123	6182	Jeff Inks	703.6.2 Recessed luminaires	Accept
PC124	6183	Jeff Inks	703.6.4 Induction cooktop	Accept
PC125	6099	Siying Zhang	704.1 HERS index target compliance	Disapprove
PC126	6106	aaron gary	705.1 Application of additional practice points	Accept
PC127	6088	Chuck Arnold	705.1 Application of additional practice points	Accept
PC128	6073	Chuck Arnold	705.2.1 Lighting controls	Accept as Modified
PC129	6205	Craig Conner	705.2.1 Lighting controls	Accept as Modified
PC130	6107	aaron gary	705.3 Return ducts and transfer grilles	Accept
PC131	6108	aaron gary	705.4.3 Air handler leakage	Accept
PC132	6109	aaron gary	705.5.1 Third-party inspections (Installation and performance verification)	Accept
PC133	6110	aaron gary	705.5.2.1 Building envelope leakage testing	Accept as Modified
PC134	6079	Chuck Arnold	705.5.2.1 Building envelope leakage testing	Disapprove
PC135	6111	aaron gary	705.5.2.2 HVAC airflow testing	Accept
PC136	6113	aaron gary	705.5.3 Insulating hot water pipes	Accept
PC137	6112	aaron gary	705.5.2.3 HVAC duct leackage testing	Accept
PC138	6089	Chuck Arnold	705.52.3 HVAC duct leackage testing	Disapprove
PC139	6100	Siying Zhang	706.3 Smart Appliances and Systems	Disapprove
PC140	6114	aaron gary	706.5 On-site renewable energy system	Disapprove
PC141	6166	Todd Jones	706.5 On-site renewable energy system	Disapprove
PC142	6201	Craig Conner & Howard Wiig	706.7 Grid-interactive electric thermal storage system	Disapprove
PC143	6213	Task Group 5	Chapter 7 Points	Accept as Modified
PC144	6018	Brent Mecham	801.6.1 Multi-stream rotating nozzles (Irrigation systems)	Accept
PC145	6149	Lauren Helixon	801.6.2 Drip irrigation is installed	Disapprove
PC146	6129	Anthony Floyd	801.6.3 Irrigation plan and implementation	Accept as Modified
PC147	6019	Brent Mecham	801.6.4 Irrigation system(s) smart controller or no irrigation is installed	Accept
PC148	6020	Brent Mecham	801.6.5 Irrigation zones with pressure regulation	Accept as Modified
PC149	6156	marie nisson	802.1 Reclaimed, gray, or recycled water (Innovative practices)	Accept
PC150	6016	Dana Bres	802.2 Reclaimed water, greywater, or rainwater pre-piping	Accept
PC151	6032	Michael Cudahy	802.2 Reclaimed water, greywater, or rainwater pre-piping	Accept
PC152	6210	Task Group 4	Chapter 8 Points	Accept as Modified
PC153	6158	Michelle Desiderio	901.1.4 Gas fireplaces and direct heating equipment vented outdoors	Accept
PC154	6130	Anthony Floyd	901.12 Carbon monoxide alarms	Accept

Comment Number	LogID	Name	Section Number	Committee Action
PC155	6199	Joe Seymour	901.2.2 Solid fuel-burning appliances are not installed	Accept as Modified
PC156	6136	Susan Gitlin	901.7 Floor materials	Accept
PC157	6030	Roger L. LeBrun	902.1.5 Fenestration cross-ventilation	Accept as Modified
PC158	6077	Chuck Arnold	902.2.2 Whole building ventilation airflow is tested	Accept as Modified
PC159	6139	Susan Gitlin	902.2.3 MERV 8 filters	Disapprove
PC160	6076	Chuck Arnold	904.1 Indoor air quality (IAQ) during construction	Accept as Modified
PC161	6075	Chuck Arnold	904.2 Indoor air quality (IAQ) post completion	Accept
PC162	6157	Michelle Desiderio	Other for Chapter 7 (include section number and title below)	Disapprove
PC163	6140	Susan Gitlin	Other for Chapter 9 (include section number and title below)	Disapprove
PC164	6211	Task Group 3	Chapter 9 Points	Accept as Modified
PC165	6058	Steven Rosenstock	1001.1 Building owner's manual is provided	Accept as Modified
PC166	6167	Todd Jones	1001.1 Building owner's manual is provided	Disapprove
PC167	6059	Steven Rosenstock	1001.2 Training of homeowners	Accept
PC168	6159	Michelle Desiderio	1001.2 Training of homeowners	Accept
PC169	6143	aaron gary	1003.3 Education	Accept as Modified
PC170	6212	Task Group 1	Chapter 10 Points	Accept as Modified
PC171	6190	Kent Sovocool	11.503.5 Landscape plan	Accept as Modified
PC172	6191	Kent Sovocool	11.503.5 Landscape plan	Accept as Modified
PC173	6192	Kent Sovocool	11.503.5 Landscape plan	Disapprove
PC174	6126	Blaine Wilkins	11.503.5 Landscape plan	Disapprove
PC175	6193	Kent Sovocool	11.505.1 Driveways and parking areas	Accept
PC176	6152	Susan Gitlin	11.605.2 Construction waste management plan	Accept as Modified
PC177	6170	Todd Jones	11.610.1.1 Whole-building life cycle assessment	Disapprove
PC178	6153	Susan Gitlin	11.610.1.1 Whole-building life cycle assessment	Disapprove
PC179	6171	Todd Jones	11.610.1.2.1 Product LCA	Disapprove
PC180	6172	Todd Jones	11.610.1.2.2 Building assembly LCA	Disapprove
PC181	6200	Joe Seymour	11.901.2.2 Solid fuel-burning appliances are not installed	Disapprove
PC182	6138	Susan Gitlin	11.901.7 Floor materials	Accept
PC183	6031	Roger L. LeBrun	11.902.1.5 Fenestration cross-ventilation	Accept as Modified
PC184	6154	Susan Gitlin	12.1(A).605.1 Construction waste management plan	Accept
PC185	6155	Susan Gitlin	12.1(A).610.1.1 Functional area life cycle assessment	Disapprove
PC186	6175	Todd Jones	12.1(A).610.1.1 Functional area life cycle assessment	Disapprove
PC187	6176	Todd Jones	12.1(A).610.1.2 Life cycle assessment for a product or assembly	Disapprove
PC188	6141	Susan Gitlin	12.5.3 Bathroom	Accept
PC189	6115	aaron gary	1302 Referenced Documents	Accept
PC190	6116	aaron gary	1302 Referenced Documents	Accept
PC191	6214	Task Groups	Chapter 13 Referenced Documents	Accept as Modified

Comment Number	LogID	Name	Section Number	Committee Action
PC192	6215	Task Group 7	Chapter 11 Points	Accept as Modified
BC01	6216	Steven Rosenstock	202 Definitions	Accept
BC02	6217	Steven Rosenstock	202 Definitions	Accept as Modified
BC03	6218	Steven Rosenstock	305.3.5 Energy efficiency	Disapprove
BC04	6219	Charles Foster	305.3.5 Energy efficiency	Disapprove
BC05	6220	Theresa Weston	602.1.9 Flashing	Accept as Modified
BC06	6221	Jerry Phelan	701.4.3.2 Air sealing and insulation	Withdrawn
BC07	6222	Steven Rosenstock	702.2.1 ICC IECC analysis	Disapprove
BC08	6223	Randall Melvin	703.2 HVAC equipment efficiency	Accept as Modified
BC09	6224	Christopher Mathis	705 Innovative practices	Disapprove
BC10	6225	Steven Rosenstock	704 HERS Index Target Path	Disapprove
BC11	6226	Charles Foster	704 HERS Index Target Path	Disapprove
BC12	6227	Christopher Mathis	704 HERS Index Target Path	Disapprove
BC13	6228	Neil Leslie	B200 Whole-building ventilation	Disapprove
H001	6033	David S. Collins, FAIA	400.0 Intent (Site Design and Development)	Held
H002	6161	Todd Jones	606.3 Manufacturing energy	Held
H003	6024	Roger L. LeBrun	701.4.3.4 Fenestration air leakage	Held
H004	6203	Craig Conner & Howard Wiig	701.4.3.4 Fenestration air leakage	Held
H005	6027	Roger L. LeBrun	703.7.3 Passive cooling design	Held
H006	6029	Roger L. LeBrun	703.7.4 Passive solar heating design	Held
H007	6165	Todd Jones	706.2 Renewable energy service plan	Held
H008	6168	Todd Jones	1002.2 Operations manual	Held
H009	6173	Todd Jones	11.1001.1 Homeowner's manual is provided	Held
H010	6174	Todd Jones	11.1002.2 Operations manual	Held
H011	6169	Todd Jones	11.606.3 Manufacturing energy	Held

Public Comments

PC001 LogID 6146	202 Definitions *Final Formal Action:* **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Public Comment:	REUSE. To divert a construction material, product, component, module, or a building from the C&D waste stream, without processing the material, in order to use it again in its original form.
Reason:	We suggest clarifying that the definition of "Reuse" is intended to apply to construction materials, rather than just materials. Without the specificity, "material" could be understood to encompass resources such as water. Meanwhile, water reuse has a slightly different meaning than the construction-material reuse. (Water reuse is generally synonymous with both water recycling and water reclamation. Do note that if contrary to our understanding, the original intent was to include water, the definition of "recycle" would need to broaden as well.) The NGBS proposed definition of reuse does not fully capture the difference between recycling of construction materials and reuse of construction materials; the difference is that reuse does not include the material processing that is characteristic of recycling. Finally, referring to "waste stream" broadly appears potentially inclusive of types of wastes that are not necessarily non-hazardous. Our proposed solution is to specify that the definition applies to construction materials and not materials more broadly. Re-word the definition so that it is clear that "reuse" does not encompass processing of the construction material, but maintains the material in its original form. Specify that the waste stream from which materials are diverted is the non-hazardous, C&D, waste stream.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Draft Standard as follows:* REUSE. To divert a construction material, product, component, module, or a building from the construction and demolition waste stream, without recycling the material, in order to use it again.
Committee Reason:	The comment creates clarity and the committee felt referencing that the product could not be recycled addressed what reuse is supposed to be about.

PC002 LogID 6134	202 Definitions *Final Formal Action:* **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Public Comment:	INVASIVE PLANTS. Plants for which the species are not native to the ecosystem under consideration and that cause, or are likely to cause, economic or environmental harm or harm to human, animal or plant health. ~~Consideration for inclusion as invasive plants shall include at a minimum those plants identified on lists created or approved by governmental entities as applicable.~~ For the purposes of compliance with this standard, invasive plants are those that are included on local, state, or regional lists of plants determined to cause environmental harm and shall not be limited to those plants covered by law or regulation.
Reason:	It is our understanding that the intent of this standard is to encourage home builders to encourage building practices that are beyond that which is already required by regulation. However, the proposed definition of "Invasive Plants" would effectively: a)Allow builders to gain many points in site and lot development by doing little to nothing that is not already addressed by regulation. This not only is inconsistent with the goals of the rating system, but also reduces the builders' attention to, and incorporation of, other building practices that provide beyond-regulation benefits. See provisions 403.1(5), 403.1(6), 503.5(10), 503.5 (11), 11.503.5(10), and 11.503.5(11). Or b)Render meaningless some of the restrictions included the standard's provisions. See 403.6(3), 403.6(5), 503.5(2), 503.5(3), 505.2(2), 11.503.5(2), 11.503.5(3), and 11.505.2(2). The proposed definition of "invasive plants" is as follows: "Plants for which the species are not native to the ecosystem under consideration and that cause, or are likely to cause, economic or environmental harm or harm to human, animal or plant health. Consideration for inclusion as invasive plants shall include at a minimum those plants identified on lists created or approved by governmental entities as applicable." The first sentence is a definition. The second sentence attempts to clarify the definition. In doing so, however, it effectively tells the standard user that it is acceptable to limit the project's consideration of invasive plants to those

	included on governmental lists. The builder may as a result refer only to lists of plants covered by regulation (which typically refer to invasive plants as "noxious weeds"). Fourteen different provisions refer to invasive or non-invasive plants. To ensure that the users of the standard are implementing these provisions in the intended fashion, it would be helpful to clarify to users that noxious weeds lists are insufficient as the bases for these provisions. It may also be helpful to provide examples of lists of plants that have been determined to cause environmental harm but are not regulated. Such lists exist all over the country and are applicable to the state or local ecoregion. Sometimes individual states or the regional branch of a Federal Agency posts such a list, and other times the local governments and public may rely on lists created by invasive plant councils. Such examples, however, however, may be more suitable for the NGBS Commentary. We therefore suggest that, for the purpose of the language in the standard itself, that the definition be revised as we propose below.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC003 LogID 6131	**202 Definitions** *Final Formal Action:* **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Public Comment:	**ENVIRONMENTALLY SENSITIVE AREAS.** 1. Areas within wetlands as defined by federal, state, or local regulations; 2. Areas of steep slopes; 3."Prime Farmland" as defined by the U.S. Department of Agriculture; 4. Areas of "critical habitat" for any federal or state threatened or endangered species; 5.Areas defined by state or local jurisdiction as environmentally sensitive. 6. Shoreline buffers that have important environmental functions as identified by the state or local jurisdiction, e.g., shoreline stability, pollutant removal, streamside shading, ecological flow protection.
Reason:	The addition of "stream protection areas" to 403.12(1) as an example of an environmentally sensitive area is a good one, but it creates an inconsistency with the definition of "environmentally sensitive areas" in Section 202. A solution could be to add "Stream protection areas" to the list now included in the definition, but that would be less precise than other elements now listed there. We suggest here some language that is more consistent with those other elements, and we recommend revising the language in 403.12 to remove the redundancy with the definition.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC004 LogID 6160	**202 Definitions** *Final Formal Action:* **TBD**
Submitter:	Todd Jones, Center for Resource Solutions
Public Comment:	Renewable Energy. Energy derived from renewable energy sources.
Reason:	The definition of renewable energy is circular (self-referencing).
Substantiating Documents:	No

Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC005 LogID 6006	**202 Definitions** *Final Formal Action:* **TBD**
Submitter:	Doug Johnson, California Invasive Plant Council
Public Comment:	Plants for which the species are not native to the ecosystem under consideration and that cause, or are likely to cause, economic or environmental harm or harm to human, animal or plant health. ~~Consideration for inclusion as invasive plants shall include at a minimum those plants identified on lists created or approved by as applicable.~~ This includes all invasive plants identified on lists created or approved by applicable governmental entities. Consideration for inclusion shall also include all invasive plants listed by non-governmental organizations which assess and list invasive plants for the geographical region of interest based on applicable standards from ASTM or other standards bodies.
Reason:	The definition of "invasive plant" is a good start, but is not sufficient. The definition says, "Consideration for inclusion as invasive plants shall include at a minimum those plants identified on lists created or approved by governmental entities as applicable." First, compliance with any governmentally-approved list should not be a consideration, it should be a requirement. Second, the completeness of lists created or approved by government entities is variable. While some states and municipal governments have made the attempt to address this issue in a thorough manner, many have not. Government lists, such as noxious weed lists, are developed for particular regulatory goals, often having to do with agriculture. In such cases, lists developed by state Invasive Plant Councils like ours (similar groups are active in 30 states) are more complete and relevant to the application of landscaping guidelines. Our lists are generated with broad expert input from academia and the range of agencies involved in land management. We focus on environmental impacts, which is of direct relevance to landscaping guidelines. (We do not at this point take into account economic impacts, either positive or negative.) Our lists already serve as de facto references for land managers. In some states, like California, they have also served as the basis for landscaping guidelines, like through the PlantRight program. In order strengthen building code use of our lists, we are pursuing an ASTM standard for assessing and listing invasive plants based on their environmental impact. This standard has been in development for two years, and could be complete as early as this spring.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	INVASIVE PLANTS. Plants for which the species are not native to the ecosystem under consideration and that cause, or are likely to cause, economic or environmental harm or harm to human, animal or plant health. ~~Consideration for inclusion as invasive plants shall include at a minimum those plants identified on lists created or approved by governmental entities as applicable.~~ For the purposes of compliance with this standard, invasive plants are those that are included on local, state, or regional lists of plants determined to cause environmental harm and shall not be limited to those plants covered by law or regulation.
Committee Reason:	Consistent with action on PC002. The modified language submitted with Public Comment 002 was found to be clearer and addresses the concerns of the commenter.

PC006 LogID 6007	**202 Definitions** *Final Formal Action:* **TBD**
Submitter:	Read Porter, Environmental Law Institute
Public Comment:	**INVASIVE PLANTS~~:~~ A** p~~P~~lant~~s for which the species are~~ that is not native to the ecosystem under consideration and that cause~~s~~, or ~~are~~ is likely to cause, economic or environmental harm or harm to human, animal or plant health. ~~Consideration for inclusion as :~~Invasive plants shall include, at a minimum: (i) ~~those~~ all plants identified on any list~~s~~ of noxious, invasive, or harmful terrestrial or aquatic plants created or approved by a governmental entity with jurisdiction in a given location; and (ii) all

	plants included on any list of noxious, invasive, or harmful plants that applies to the location and was created or approved by a third party through a credible process~~ies as applicable~~.
Reason:	The definition of invasive plants in this draft standard is poorly drafted and under-inclusive. It requires improvement to adequately cover the full range of invasive plants identified by the scientific community. We recognize that this definition is primarily based on the definition of invasive species as defined by the US federal government in Executive Order 13112, which is a reasonable basis for a definition. However, modifications to the draft as indicated here undermine the clarity of the definition. Proposed amendments to the definition as presented with this comment will remove unnecessary and confusing verbiage that may undermine application of the definition in practice. In particular, it is not clear what "plants for which the species are not native…" is intended to mean, or how it may differ from a simpler construction, e.g., "a plant that is not native…" We suggest amending this clause as indicated in our proposed revision. Second, we note that the minimum standards for plants qualifying as invasive are unnecessarily vague. It would seem to be common sense that any plant that is known to be harmful should be excluded from use in green buildings, so mere "consideration for inclusion" as invasive plants under this standard is not sufficient to achieve the goal of this standard. A less vague and more appropriate formulation, as offered in our proposed language, would simply delete "consideration for inclusion." The reference in the definition to "the ecosystem under consideration" may require further clarification in the context of this standard. Users, and particularly those in highly disturbed urban areas, may view the ecosystem narrowly to mean the area directly surrounding a development. This understanding may be incompatible with scientific understanding of the movement of plants across a landscape (including spread from developed areas into natural areas) and of the diverse and important ecosystems and habitats that remain inside the urban fabric (e.g., parks). We recommend an additional definition of "ecosystem" or an explanatory note that clarifies the meaning of this term. We further note that the definition's characterization of "lists created or approved by governmental entities" is under-inclusive. First, in many locations, government noxious weed lists are limited to plants that are agricultural weeds or poisonous to livestock—and they exclude many plants that are known to be harmful. Non-governmental and quasi-governmental entities, such as the state members of the National Association of Invasive Plant Councils, have created more comprehensive lists of invasive plants in particular areas. These groups commonly bring together state, conservation, and industry representatives to identify these problematic species. To ensure adequate coverage of invasive plants, the definition should require users to consider lists of invasive plants created by non-governmental or quasi-governmental entities and to apply such lists that are credible. The reference to government lists is not only under-inclusive, but also is vague. Government entities create multiple types of lists, including those covering noxious and invasive plants with differing degrees of current and potential future harm. The definition should be clear that a species included on any applicable list of invasive, noxious, or harmful terrestrial or aquatic plants is an invasive plant for the purposes of this definition, whether or not the listing results in legal restrictions on use.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	INVASIVE PLANTS. Plants for which the species are not native to the ecosystem under consideration and that cause, or are likely to cause, economic or environmental harm or harm to human, animal or plant health. ~~Consideration for inclusion as invasive plants shall include at a minimum those plants identified on lists created or approved by governmental entities as applicable.~~ For the purposes of compliance with this standard, invasive plants are those that are included on local, state, or regional lists of plants determined to cause environmental harm and shall not be limited to those plants covered by law or regulation.
Committee Reason:	Consistent with action on PC002. The modified language submitted with Public Comment 002 was found to be clearer and addresses the concerns of the commenter.

PC007 LogID 6008	**202 Definitions** ***Final Formal Action:*** **TBD**
Submitter:	David Gorchov, Miami University
Public Comment:	Consideration for inclusion as invasive plants shall include at a minimum those plants identified on lists created or approved by ~~governmental entities~~ state invasive species councils (IPCs) as applicable.
Reason:	'Invasive Plants': Rather than focusing on government lists, the primary source of a list of invasive species should be the lists of the state Invasive Plant Council (IPC), where this is available. The reason is

	that many states list only those plant species that are regulated, e.g. sale is prohibited. These species could not be planted anyhow, regardless of whether a project seeks certification. IPC lists more completely cover invasive plant species, regardless of whether the state has decided to regulate.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	INVASIVE PLANTS. Plants for which the species are not native to the ecosystem under consideration and that cause, or are likely to cause, economic or environmental harm or harm to human, animal or plant health. ~~Consideration for inclusion as invasive plants shall include at a minimum those plants identified on lists created or approved by governmental entities as applicable.~~ For the purposes of compliance with this standard, invasive plants are those that are included on local, state, or regional lists of plants determined to cause environmental harm and shall not be limited to those plants covered by law or regulation.
Committee Reason:	Consistent with action on PC002. The language submitted with Public Comment 002 was found to be clearer and addresses the concerns of the commenter.

PC008 LogID 6010	**202 Definitions** ***Final Formal Action:*** **TBD**
Submitter:	Sara Kuebbing, Yale University School of Forestry & Environmental Studies
Public Comment:	INVASIVE PLANTS: Plants for which the species are not native to the ecosystem under consideration and that cause, or are likely to cause, economic or environmental harm or harm to human, animal, or plant health. Consideration for inclusion as an invasive plant~~s~~ shall include at a minimum those plants identified on lists created or approved by governmental entities or lists developed by state-based members of the National Association of Invasive Plant Councils.
Reason:	I am writing to comment on the National Green Building Standard ANSI Standard Public Comment Draft, dated March 6, 2015. I am a plant ecologist who studies the impacts of nonnative plant species on native communities and ecosystems, and am currently working as a postdoctoral research scholar at the Yale School of Forestry and Environmental Studies. I am very encouraged to see that Home Innovation has incorporated definitions and credits to discourage the planting of nonnative, invasive plants in developments following the National Green Building Standard. As you may be aware, the intentional planting of nonnative species in landscaping has unfortunately been an important introduction pathway for many invasive plant species, which have spread far beyond their original planting sites in landscaped homes and gardens. For example, Professors Sarah Reichard and Clement Hamilton of University of Washington found that 82% of the woody invasive species found in the United States were widely planted and sold for landscaping and horticultural purposes1. The inclusion of nonnative, invasive species in building industry standards such as this is a critical step in preventing the future spread and introduction of nonnative, invasive species. However, while I am pleased with the intention of the current draft standard, I think that the language falls short in clearly outlining and guiding the selection of nonnative species that developers should avoid: The reliance on lists created or approved by governmental entities is not sufficient for identifying and preventing the use of potential invasive plants in green building landscapes ("Invasive plants" definition, Chapter 2, Section 202 Definitions "Invasive Plants"). Government lists are notoriously conservative in their listing of invasive plant species, and therefore are not comprehensive enough to guide green building standards that aim to promote environmentally conscious development. For example, I served on the Board of Directors of the Tennessee Exotic Pest Plant Council (www.tneppc.org), a non-profit organization dedicated to raising public awareness and serving an educational and advisory role about nonnative, invasive plants in Tennessee. Part of the organization's role is maintaining a list of nonnative, invasive plants within the state, and TN EPPC currently lists 136 nonnative, invasive plant species. The overlap between TN EPPC's 136 invasive plant species and federal (US Department of Agriculture's Noxious Weed List2) and state (Tennessee's Department of Agriculture Pest Plant Rule3) invasive plant lists is only 15 plant species. There are a few reason for the stark differences between governmental lists and lists produced by organizations like TN EPPC. First, governmental lists tend to arise from Departments of Agriculture, which are institutionally and directorially more focused on problematic plants in agricultural or silvicultural settings, not in natural areas where invasive plants are also problematic. Second, the listing process for federal and state agencies can be very slow and therefore not reflect many plants that are known to already be causing substantial environmental harm.4 This phenomenon of mismatch between governmental and state plant-council is common and not just in Tennessee. Many states have

	organizations similar to TN EPPC that maintain more extensive lists for invasive plants in the state. These lists are credible, and more accurately represent the likelihood of invasion and future harm for nonnative species within that state. For the reasons stated above, I would encourage this body to adopt language that promotes lists created by state-based organizations that identify themselves as invasive plant councils, exotic pest plant councils, or exotic, invasive plant committees. The National Association of Invasive Plant Councils (http://www.naeppc.org/) maintains a list and clearinghouse for many (but not all) of these state-based invasive plant organizations, which may be good guidance for your standard.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	INVASIVE PLANTS. Plants for which the species are not native to the ecosystem under consideration and that cause, or are likely to cause, economic or environmental harm or harm to human, animal or plant health. ~~Consideration for inclusion as invasive plants shall include at a minimum those plants identified on lists created or approved by governmental entities as applicable.~~ For the purposes of compliance with this standard, invasive plants are those that are included on local, state, or regional lists of plants determined to cause environmental harm and shall not be limited to those plants covered by law or regulation.
Committee Reason:	Consistent with action on PC002. The language submitted with Public Comment 002 was found to be clearer and addresses the concerns of the commenter. Moreover it is not clear that all locations would be covered by lists prepared by the stated national association.

PC009 LogID 6021	**202 Definitions** ***Final Formal Action:*** **TBD**
Submitter:	Roger L. LeBrun, VELUX America Inc.
Public Comment:	Either revert to the prior definition, or change to: The inverse of the time rate of heat flow through a continuous building thermal envelope ~~element~~ assembly from one of its bounding surfaces to the other for a unit temperature difference between the two surfaces, under steady state conditions, per unit area (h × ft2× °F/Btu).
Reason:	R-VALUE definition was changed in a way that might be improperly applied to fenestration items. For a product that has variable thermal properties across its exposed surfaces, the R-Value is proven inaccurate as defined.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Draft Standard as Follows:* **R-VALUE (THERMAL RESISTANCE).**The inverse of the time rate of heat flow through a body ~~building thermal envelope element~~ from one of its bounding surfaces to the other surface for a unit temperature difference between the two surfaces, under steady state conditions, per unit area (h · ft2 · °F/Btu) [(m2 · K)/W].
Committee Reason:	The NGBS should reflect the current definition in the IECC 2015 and this proposal isn't consistent with what the TG believes should be in the NGBS.

PC010 LogID 6022	**202 Definitions** ***Final Formal Action:*** **TBD**
Submitter:	Roger L. LeBrun, VELUX America Inc.
Public Comment:	RENEWAL ENERGY. Energy derived from renewable energy ~~sources~~ sources.
Reason:	RENEWAL ENERGY Replace the stricken word "sources" as shown. Otherwise the defined term is defined by itself only.
Substantiating Documents:	No
Committee Action from Meeting:	Accept

Modification of Public Comment:	
Committee Reason:	

PC011 LogID 6023	**202 Definitions**	***Final Formal Action:*** **TBD**
Submitter:	Roger L. LeBrun, VELUX America Inc.	
Public Comment:	**VAPOR RETARDER CLASS.** **....** A measure of the ability of a material or assembly to limit the amount of moisture that passes through that material or assembly~~. Vapor retarder class shall be,~~ defined using the desiccant method~~, with~~ Procedure A of ASTM E96 as follows:	
Reason:	VAPOR RETARDER CLASS condense definitions to one sentence whenever possible.	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	The current definition is consistent with IRC and TG believes that to be appropriate.	

PC012 LogID 6074	**202 Definitions**	***Final Formal Action:*** **TBD**
Submitter:	Chuck Arnold, Home Innovation	
Public Comment:	Energy ~~derived from renewable energy.~~produced by a renewable energy source.	
Reason:	Renewable Energy - The term being defined should not be used to define it.	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	Based on action from PC010 and PC004, and energy source is not necessarily “produced” and TG did not agree with proposed change.	

PC013 LogID 6084	**202 Definitions**	***Final Formal Action:*** **TBD**
Submitter:	Chuck Arnold, Home Innovation	
Public Comment:	A building erected prior to the date of adoption of the appropriate code, or one for which a legal building occupancy permit has been issued.	
Reason:	Clarification for Existing Building. An occupancy permit is different than a building permit	
Substantiating Documents:	No	
Committee Action from Meeting:	Accept as Modified	
Modification of Public Comment:	*Revise Draft Standard as Follows:* A building erected prior to the date ~~of adoption~~ of the current adopted building ~~appropriate~~ code, or one for which a legal building occupancy permit has been issued.	
Committee Reason:	Clarification	

PC014 LogID 6198	**202 Definitions**	***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, Building Quality	
Public Comment:	**CONDITIONED SPACE.** An area, room or space that is enclosed within the building thermal envelope and that is directly or indirectly heated or cooled. Spaces are indirectly heated or cooled where they communicate thru openings with conditioned spaces, where they are separated from conditioned	

	spaces by uninsulated walls, floors or ceilings or where they contain uninsulated ducts, piping or other sources of heating or cooling.
Reason:	Conditioned space includes "directly" conditioned space.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	Accept because this changes makes the definition consistent with the I-Codes.

PC015 LogID 6091	**302.1 Site design and development (Green subdivisions)**	***Final Formal Action:*** **TBD**
Submitter:	Michelle Desiderio, Home Innovation	
Public Comment:	Site design and development (Green ~~subdivisions~~ communities)	
Reason:	I propose an editorial change to use the term "green Community" as opposed to "Green Subdivision." Subdivision is an industry term-of-art that is not widely used outside the industry and has a pejorative connotation. 101.2 and 101.3 might also have to be revised for consistency.	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:		

PC016 LogID 6101	**303.1 Green buildings**	***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, US-EcoLogic	
Public Comment:	**Table 303** **Threshold Point Ratings for Green Buildings**	

Green Building Categories			**Rating Level Points** (1) (2)			
			BRONZE	**SILVER**	**GOLD**	**EMERALD**
1.	**Chapter 5**	Lot Design, Preparation, and Development	**50**	**64**	**93**	**121**
2.	**Chapter 6**	Resource Efficiency	**43**	**59**	**89**	**119**
3.	**Chapter 7**	Energy Efficiency	**30**	**~~60~~45**	**~~80~~60**	**~~100~~70**
4.	**Chapter 8**	Water Efficiency	**25**	**39**	**67**	**92**
5.	**Chapter 9**	Indoor Environmental Quality	**25**	**42**	**69**	**97**
6.	**Chapter 10**	Operation, Maintenance, and Building Owner Education	**8**	**10**	**11**	**12**
7.		Additional Points from Any Category	**50**	**75**	**100**	**100**
		Total Points:	**231**	**~~349~~334**	**~~509~~489**	**~~641~~611**

	(1) In addition to the threshold number of points in each category, all mandatory provisions of each category shall be implemented. (2) For dwelling units greater than 4,000 square feet (372 m^2), the number of points in Category 7 (Additional Points from Any Category) shall be increased in accordance with Section 601.1. The "Total Points" shall be increased by the same number of points.
Reason:	Chapter 7 point thresholds do not align with new point values within the chapter.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC017 LogID 6102	**304.1 Multi-unit buildings** ***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, US-EcoLogic
Public Comment:	304.1 Multi-unit buildings. All residential portions of a building shall meet the requirements of this Standard. Partial compliance shall not be allowed. Unless otherwise noted, all units ~~and residential common areas~~ within a multi-unit building shall: 1) meet all mandatory requirements; and 2) achieve the point threshold required for the chosen environmental rating level in accordance with Table 303; and 3) achieve the same environmental rating level. Residential common areas shall: 1) meet all mandatory requirements; and 2) achieve the same practices as the units, as applicable. Points for the green building practices that apply to multiple units shall be credited once for the entire building. Where points are credited, including where a weighted average is used, practices shall be implemented in all units, as applicable. Where application of a prescribed practice allows for a different number of points for different units in a multi-unit building, the fewer number of points shall be awarded, unless noted that a weighted average is used.
Reason:	For multi-unit buildings that have shared common space it may not be possible for some spaces to achieve the required point threshold in a chapter because there are not applicable point available given the use, even though they are built to the same standards. For example a lobby of an NGBS Silver building that has no water fixtures will not be able to achieve 39 points.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Draft Standard as Follows:* **304.1 Multi-unit buildings** TC "304.1 Multi-unit buildings" \f C \l "3" **.** All residential portions of a building shall meet the requirements of this Standard. Partial compliance shall not be allowed. Unless ~~otherwise noted~~ specifically addressed in other portions of this standard, all units and residential common areas within a multi-unit building shall~~: 1)~~ meet all mandatory requirements~~;~~. Where features similar to dwelling unit features are installed in the common area, those features shall meet the standard of the dwelling unit. Green building practices for residential common areas may differ from requirements for dwelling units. ~~and 2) achieve the point threshold required for the chosen environmental rating level in accordance with Table 303; and 3) achieve the same environmental rating level.~~ Points for the green building practices that apply to multiple units shall be credited once for the entire building. Where points are credited, including where a weighted average is used, practices shall be implemented in all units, as applicable. Where application of a prescribed practice allows for a different number of points for different units in a multi-unit building, the fewer number of points shall be awarded, unless noted that a weighted average is used.
Committee Reason:	Provides clarification on how to address common areas of multi-family buildings

PC018 LogID 6092	304.1 Multi-unit buildings *Final Formal Action:* **TBD**
Submitter:	Michelle Desiderio, Home Innovation
Public Comment:	304.1 ~~Multi-unit~~ Multifamily buildings All subsequent uses of multi-unit would be revised to multifamily
Reason:	Wholesale change from the term multi-unit to multifamily with no change to the definition. Multi-unit is used within the industry but not without the industry and is not as relevant a term to most people. For the NGBS to be successful broadly we need to use terms that are more commonly used and have more meaning outside the residential construction industry.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	Revise Public Comment as Follows (changes shown in red): 304.1 ~~Multi-unit~~ Multifamily buildings All ~~subsequent~~ uses of multi-unit would be revised to multifamily
Committee Reason:	Clarification of intent

PC019 LogID 6144	305.3.1 Applicability (Whole-building rating criteria) *Final Formal Action:* **TBD**
Submitter:	Keith Dennis, NRECA
Public Comment:	The reduction in energy consumption resulting from the remodel shall be based on the estimated annual energy cost savings ~~or source energy savings~~ as determined by a third-party energy audit and analysis or utility consumption data. ~~The source energy multiplier for electricity shall be 3.16. The source energy multiplier for fuels other than electricity shall be 1.1.~~
Reason:	The source energy metric suggested in this section is deeply flawed. Assuming that electricity is 3.16 times less efficient than on-site fossil fuel combustion is based on a methodology that treats non-carbon emitting sources like solar, wind, biomass, hydro and nuclear as if they are extremely inefficient coal power plants. Using a source energy value of 3.16 and related methodologies means that any renewable energy on the grid will be treated as if it is more than 3X less efficient that fossil fuel combustion of site. Among the serious flaws in this approach is that even if the grid were 100% powered by renewable energy, consumers would be directed to burn fossil fuel in order to meet "green" codes. This is a in direct opposition to the intent of this code. Source values for other fuels suggested are also inaccurate. For a more detailed study on this issue prepared by Power Systems Engineering, see: http://www.nreca.coop/wp-content/uploads/2015/04/sourcesite_ratios_final_022015.pdf
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Public Comment as Follows (changes shown in red):* **305.3.5.1 Energy consumption reduction.** The reduction in energy consumption resulting from the remodel shall be based on the estimated annual energy cost savings or source energy savings as determined by a third-party energy audit and analysis or utility consumption data. ~~The source energy multiplier for electricity shall be 3.16. The source energy multiplier for fuels other than electricity shall be 1.1.~~
Committee Reason:	Consistent with action on PC021

PC020 LogID 6085	305.3.5 Energy efficiency *Final Formal Action:* **TBD**
Submitter:	Chuck Arnold, Home Innovation
Public Comment:	[(consumption per square foot before remodel – consumption per square foot after remodel)/consumption per square foot before remodel]*100~~%~~
Reason:	Formula needs editing to eliminate the percent sign.

Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC021 LogID 6051	**305.3.5 Energy efficiency** ***Final Formal Action:*** **TBD**
Submitter:	Steven Rosenstock, EEI
Public Comment:	305.3.5.1 Energy consumption reduction. The reduction in energy consumption resulting from the remodel shall be based on the estimated annual energy cost savings ~~or source energy savings~~ as determined by a third-party energy audit and analysis or utility consumption data. ~~The source energy multiplier for electricity shall be 3.16. The source energy multiplier for fuels other than electricity shall be 1.1.~~
Reason:	The source energy language is not consistent with previous versions of the NGBS. The values are not correct and not consistent with many other published estimates. For example, different fossil fuels have significantly different estimates. For electricity, the estimates vary widely by region of the country or the world. In addition, this will penalize customers that purchase renewable electricity from the grid.
Substantiating Documents:	Yes, substantiating documents can be found at homeinnovation.com/ngbs under the Public Comments
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	Revise Public Comment as Follows (changes shown in red): The reduction in energy consumption resulting from there model shall be based on the estimated annual energy cost savings or source energy savings as determined by a third-party energy audit and analysis or utility consumption data. ~~The source energy multiplier for electricity shall be 3.16. The source energy multiplier for fuels other than electricity shall be 1.1.~~
Committee Reason:	Retain source energy savings based on reason provided, but remove generic source multiplier

PC022 LogID 6034	**403.1 Natural resources** ***Final Formal Action:*** **TBD**
Submitter:	David S. Collins, FAIA
Public Comment:	~~(6)~~ ~~Developer has a plan for removal or containment of invasive plants, as identified by a qualified professional, on the undisturbed areas of the site.~~ ~~6~~ Why duplicated? Missing a percentage?
Reason:	Item 5 and 6 in natural resources are identical but have different values.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	Missed distinction. Item 5 disturbed area, item 6 undisturbed area

PC023 LogID 6133	**403.1 Natural resources** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Public Comment:	Section 403.12: ~~(1)~~ Environmentally sensitive areas ~~including steep slopes, prime farmland, critical habitats, stream protection areas, and wetlands~~ are avoided as follows: …
Reason:	The addition of “stream protection areas” to 403.12(1) as an example of an environmentally sensitive area is a good one, but it creates an inconsistency with the definition of “environmentally sensitive

	areas" in Section 202. We have submitted a separate comment to amend the definition. Here we recommend revising the language in 403.12 to remove the redundancy with the definition.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC024 LogID 6093	**403.1 Natural resources** ***Final Formal Action:*** **TBD**
Submitter:	Siying Zhang, US EcoLogic
Public Comment:	
Reason:	Clarify 403.1(6), what's the different requirement for (5) and (6)?
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	Consistent with action on PC022

PC025 LogID 6147	**403.11 Demolition of existing building** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Public Comment:	(One additional point awarded for every 10 percent of <u>nonhazardous</u> demolition waste recycled and/or salvaged beyond 50 percent).
Reason:	The first paragraph specifically states that the demolition waste should be nonhazardous. For clarity reasons, the "nonhazardous" condition should be included in the parenthetical note about additional points. It also is not clear if the "3" and "2" that have been added in the points column are referring to Section 403.10 or 403.11. Solution: Add the word "nonhazardous" to the parenthetical note about additional points. Clarify the intended number of points for this section.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	(One additional point awarded for every 10 percent of <u>nonhazardous</u> demolition waste recycled and/or salvaged beyond 50 percent). Base number of points should be 5 not to exceed 10 points.
Committee Reason:	Clarity

PC026 LogID 6038	**403.11 Demolition of existing building** ***Final Formal Action:*** **TBD**
Submitter:	David S. Collins, FAIA
Public Comment:	**403.11 Demolition of existing building.** A demolition waste management plan is developed, posted at the jobsite, and implemented to recycle and/or salvage ~~with a goal of recycling or salvaging~~ <u>for reuse</u> a minimum of 50 percent of the nonhazardous demolition waste. (One additional point awarded for every 10 percent of demolition waste recycled and/or salvaged beyond 50 percent).
Reason:	Do we simply want a goal, or actually recycling and salvaging?
Substantiating Documents:	No
Committee Action from Meeting:	Accept

Modification of Public Comment:	
Committee Reason:	

PC027 LogID 6035	**403.5 Stormwater management**	***Final Formal Action:*** **TBD**
Submitter:	David S. Collins, FAIA	
Public Comment:	**(2)** A hydrologic analysis is conducted that results in the design <u>and installation</u> of a stormwater management system that maintains the predevelopment (stable, natural) runoff hydrology of the site through the development or redevelopment process. Ensure that post construction runoff rate, volume and duration do not exceed predevelopment rates, volume and duration.	**10**
Reason:	Is this JUST design or design AND construction/implementation? I read this to read "no run-off" period.	
Substantiating Documents:	No	
Committee Action from Meeting:	Accept	
Modification of Public Comment:		
Committee Reason:		

PC028 LogID 6036	**403.5 Stormwater management**	***Final Formal Action:*** **TBD**
Submitter:	David S. Collins, FAIA	
Public Comment:	Green ~~infrastructure stormwater management~~ <u>Low impact development</u> practices to promote infiltration and evapotranspiration such as, but not limited to, vegetated swales, bio-retention cells, vegetated tree boxes and planters, green roofs, rain gardens, wetlands, french drains, drywells, or permeable pavements are used to manage rainfall on the lot and prevent the off-lot discharge of runoff from all storms up to and including the volume of following storm events:	
Reason:	No! Stormwater management is only one of several aspects of LID	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	Keep existing language for clarity.	

PC029 LogID 6011	**403.5 Stormwater management**	***Final Formal Action:*** **TBD**
Submitter:	Greg Johnson, Greg Johnson Consulting	
Public Comment:	Low Impact Development/Green infrastructure stormwater management practices to promote infiltration and evapotranspiration such as, but not limited to, vegetated swales, bio-retention cells, vegetated tree boxes and planters, green roofs, raingardens, wetlands, french drains, drywells, <u>lawns</u> or permeable pavements are used to manage rainfall on the lot and prevent the off-lot discharge of runoff from all storms up to and including the volume of following storm events	
Reason:	The list of Low Impact Development/Green infrastructure stormwater management practices to promote infiltration and evapotranspiration should include lawns. Grassed areas provide considerable infiltration capacity on low-sloped, level, and sunken sites. Even on higher sloped sites grass provides sheet flow control, slowing run-off and allowing it to infiltrate.	
Substantiating Documents:	No	
Committee Action from Meeting:	Accept as Modified	
Modification of Public Comment:	*Revise Public Comment as Follows (changes shown in red):* (3) Low Impact Development/Green infrastructure stormwater management practices to promote	

	infiltration and evapotranspiration ~~such as, but not limited to, vegetated swales, bio-retention cells, vegetated treeboxes and planters, green roofs, lawns, and permeable pavements~~ are used to manage rainfall on the lot and prevent the off-lot discharge of runoff from all storms up to and including the volume of following storm events:
Committee Reason:	Low Impact Development is already defined elsewhere in the standard

PC030 LogID 6094	**403.5 Stormwater management**	***Final Formal Action:*** **TBD**
Submitter:	Siying Zhang, US EcoLogic	
Public Comment:	suggest 5 -10 points depending on the % of stormwater to be treated.	
Reason:	Any points for projects installing detention pond or vault to pre-treat the stormwater?	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	No specific language proposed. Request unclear.	

PC031 LogID 6119	**403.5 Stormwater management**	***Final Formal Action:*** **TBD**
Submitter:	Siying Zhang, US EcoLogic	
Public Comment:	a detention pond or vault is designed and built on-site to the standards that 80% of TSS is be removed for 90% of the storm event. 10 points.	
Reason:	Suggest points for projects installing detention pond or vault to pre-treat the stormwater?	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	New subject. Recommend consideration during next NGBS update.	

PC032 LogID 6122	**403.6 Landscape plan**	***Final Formal Action:*** **TBD**
Submitter:	Anthony Floyd, City of Scottsdale	
Public Comment:	(2) ~~6~~ Mandatory (3) ~~7~~ Mandatory	
Reason:	Items 2 and 3 should be mandatory for all green building projects. All native plants and regionally appropriate plants should be conserved, maintained and reused to the greatest extent possible which is a reasonably expectation for all landscape designs (whether part of a green building project or not). Selecting native or regionally appropriate plants is a fundamental landscape design practice and should always be a prerequisite for sites associated with green buildings.	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	Does not accommodate urban agriculture. Unreasonable expectation.	

PC033 LogID 6124	**403.6 Landscape plan**	***Final Formal Action:*** **TBD**
Submitter:	Blaine Wilkins, Wilkins & Associates	
Public Comment:	~~(5) Turfgrass is integrated with maintenance tolerant, non-invasive flowering herbaceous plants in an amount to achieve not less than 10% of the groundcover. Plants should typically flower at less than 6 inches in height.~~	

Reason:	The fifth item seems incompatible with this document. This is a design standard, but this proposed credit requires long-term care and maintenance for it to have any environmental benefit. I know of few homeowners who would maintain such a lawn as is described here. In my experience, a homeowner will apply -- or ask a landscaping service to apply -- weed killer to short flowering plants in their lawn. And how many homeowners who invest in a brand new home will let their lawns grow to 6" before mowing it? This is an unrealistic expectation. This practice may be workable if a homeowner elects to do it himself, but I do not know many who would do so. It certainly will have little beneficial impact if it is installed by a developer or builder unless it is designed to a particular homeowners's specifications. The points are easy, and the benefit is nil. Delete it.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	Consistent with action on PC039

PC034 LogID 6009	**403.6 Landscape plan**	***Final Formal Action:*** **TBD**
Submitter:	David Gorchov	
Public Comment:	~~Turfgrass is integrated with maintenance tolerant, non-invasive flowering herbaceous plants in an amount to achieve not less than 10% of the groundcover. Plants should typically flower at less than 6 inches in height.~~	
Reason:	Part 5 should be deleted. Many homeowners will view these plants as weed and apply herbicide to their lawns, with the potential for effects on non-target species, including pets, and potentially contaminating drinking water supplies. If the intention is enhance the sources of nectar and pollen for native pollinators, then plantings of appropriate native plants should be done in sites that are not lawns. The same concern applies to 503.5 item 3. and 11.503.5 item 3	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	Substantial evidence submitted previously to the benefit of bee lawn.	

PC035 LogID 6037	**403.6 Landscape plan**	***Final Formal Action:*** **TBD**
Submitter:	David S. Collins, FAIA	
Public Comment:	Turf grass species, other vegetation, and trees that are native or regionally appropriate for local growing conditions are selected ~~giving consideration to~~ <u>to create</u> biodiversity and <u>limit</u> water use and specified on the lot plan. Non-invasive vegetation is selected.	
Reason:	How is “giving consideration” measured? There are no criteria to measure.	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	Consistent with action on PC036	

PC036 LogID 6015	**403.6 Landscape plan**	***Final Formal Action:*** **TBD**
Submitter:	Greg Johnson, Greg Johnson Consulting	
Public Comment:	(3) ~~Turf grass species, other vegetation, and trees~~ <u>Non-invasive vegetation</u> that ~~are~~ <u>is</u> native or regionally appropriate for local growing conditions ~~are~~ <u>is</u> selected ~~giving consideration to biodiversity and water use and specified on the lot plan. Non-invasive vegetation is selected~~.	

Reason:	Section 403.6 says that a landscape plan is developed, in part, to limit water use. Nothing is gained in item 5 by requiring further consideration of water use. Water use should be stricken from item 5. Item 5's requirements for specification on the landscape plan is similarly duplicative. The charging section of 403.6 addresses it -the whole section is about the plan. Requiring additional plan specificity is poor formatting of the standard. Bio-diversity in the landscape is already addressed by Sec. 403.7 which awards habitat supporting initiatives (automatically biodiverse) additional points. Finally, turfgrass and trees are vegetation and do not need to singled out in this item of the section. The proposed change to non-invasive vegetation is editorial.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Draft Standard as Follows:* (3) ~~Turf grass species, other vegetation, and trees~~ Non-invasive vegetation that ~~are~~ is native or regionally appropriate for local growing conditions ~~are selected giving consideration to~~ is selected to promote biodiversity. ~~and water use and specified on the lot plan is selected. Non-invasive vegetation is selected.~~
Committee Reason:	Simplified language

PC037 LogID 6017	**403.6 Landscape plan** ***Final Formal Action:*** **TBD**
Submitter:	Brent Mecham, Irrigation Association
Public Comment:	(~~10~~13) Plans for the common area landscape watering system include a weather-based or soil moisture-based controller. Required irrigation systems are designed in accordance with the Irrigation Association's 2014 Landscape Irrigation Best Management Practices. ~~Turf and Landscape Best Management Practices.~~
Reason:	Add clarification that it is a soil moisture based controller The reference to the BMP document should be updated to the current version that was published in 2014.
Substantiating Documents:	Yes, substantiating documents can be found at homeinnovation.com/ngbs under the Public Comments
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC038 LogID 6177	**403.6 Landscape plan** ***Final Formal Action:*** **TBD**
Submitter:	Kent Sovocool, Southern Nevada Water Authority
Public Comment:	**403.6 Landscape plan.** A landscape plan is developed to limit water and energy use in common areas while preserving or enhancing the natural environment utilizing one or more of the following:
	(1) A plan is formulated to restore or enhance natural vegetation that is cleared during construction. Landscaping is phased to coincide with achievement of final grades to ensure denuded areas are quickly vegetated. — **6**
	(2) On-site native or regionally appropriate trees and shrubs are conserved, maintained, and reused for landscaping to the greatest extent possible. — **6**
	(3) Turf grass species, other vegetation, and trees that are native or regionally appropriate for local growing conditions are selected giving consideration to biodiversity and water use and specified on the lot plan. Non-invasive — ~~**5**~~ **3**
	(4) The EPA WaterSense Water Budget Tool may be used when determining the maximum percentage of turf areas. For landscapeable areas, the percentage of all turf areas is: ~~The percentage of all turf areas are limited as part of the landscaping.~~

	(a) 0 percent. — **1 0** **(b)** Greater than 0 percent to less than 20 percent — **8** **(c)** 20 percent to less than 40 percent — **6** **(d)** 40 percent to 60 percent — **4**
Reason:	There are a number of proposed changes to Section 403.6 that are detrimental to the NGBS in terms of reducing the integrity of intent and the breadth of adoptability. Some of these apparently have their genesis from a proposal from the Outdoor Power Equipment Institute (OPEI). The gravest impacts are to section 403.6 (4). This is where OPEI has lobbied for the diminishment of turf limitations as an option for reducing outdoor water demands. In the early stages of drought in 2003, my agency worked closely with a number of stakeholders including the Southern Nevada Home Builders Association (SNHBA) to implement a policy that limited the use of turfgrass for ornamental purposes. Why turfgrass? Our research has shown that lawns receive four times as much water as other water-efficient landscapes that may include trees, shrubs, flowers, vines and other adapted plants. Research in a variety of geographic settings has demonstrated that significant savings are realized where plantings other than turfgrass are used. Locally, these policies not only mitigated water demand, they quelled calls for a moratorium on growth and new construction. These policies have had no impact on quality of life and a positive impact on economic productivity. Both builders and homebuyers are free to plant some turfgrass and to select from a palette of more than 500 other plants for their landscapes. These landscape provisions, more than any other initiative, allowed us to reduce our use by almost 29 billion gallons between 2002 and 2012 while allowing homebuilders to create housing for nearly 500,000 new residents that have located in Southern Nevada since the policy went into effect. Appropriately used, turfgrass can provide benefits, but at a cost. Numerous studies have shown that better adapted plants can provide most or all of the functions of turfgrass with lower demand for water, fertilizer, fuel and maintenance. In many utilities, the benefits of turfgrass carbon sequestration are overwhelmed by the embedded electric energy in just a few inches of irrigation water. The NGBS has thus far provided for the earning of points with landscape plans that have turf limitations. These have been optional and allowed for regional diversification. They have worked successfully in conjunction with turf limits to provide for appropriate reward in water-scarce regions such as ours. While SNWA certainly is supportive of the WaterSense program and our proposed change continues to highlight it, in regions where there is already policy to limit the use of turfgrass, using the NGBS would necessitate a special set of calculations and assessments at each home being built, yet not change the outcome due to the regulatory environment. This additional difficulty may be a disincentive that results in builders shunning the NGBS in regions where water-scarcity has become a driving force. Our included background material demonstrates that these may occur at local municipal code levels as in southern Nevada well as state levels (California). The NGBS should allow regional flexibility by allowing builders to use such already requisite approaches while highlighting the WaterSense Water Budget Tool. It should appropriately incentivize and reward builders for doing so. And just doing the calculation is insufficient. This was obviously not the intent as per the original language. We want to assure that the work is actually done, something that may have unknowingly occurred in the standard development process. Our proposal addresses both these deficiencies. Finally, a number of point modifications have occurred that significantly reduce the emphasis on water efficiency in landscape design that SNWA's proposal counters. Good landscape design is crucial to water efficiency and it does involve real on the ground enhancements. It should rank highly in points-based systems thus the reallocation of points back to 403.6 (4).
Substantiating Documents:	Yes, substantiating documents can be found at homeinnovation.com/ngbs under the Public Comments
Committee Action from Meeting:	Accept as Modified

Modification of Public Comment:	*Revise Draft Standard as Follows:* **(4)** EPA WaterSense Water Budget Tool or equivalent is used ~~to determine~~ when implementing the maximum percentage of turf areas. **2** **(5)** For landscaped vegetated areas, the maximum percentage of all turf areas is: **(a)** 0 percent **5** **(b)** Greater than 0 percent to less than 20 percent **4** **(c)** 20 percent to less than 40 percent **3** **(d)** 40 percent to 60 percent **2**
Committee Reason:	Encouraging use of tool, and allowing flexibility

PC039 LogID 6184	**403.6 Landscape plan** ***Final Formal Action:*** **TBD**
Submitter:	Kent Sovocool, Southern Nevada Water Authority
Public Comment:	**(5)** ~~Turfgrass is integrated with maintenance tolerant, non-invasive flowering herbaceous plants in an amount to achieve not less than 10% of the ground cover. Plants should typically flower at less than 6 inches in height.~~ To improve pollinator habitat, at least 10% of planted areas are composed of non-invasive flowering and nectar producing plant species.
Reason:	There are a number of proposed changes to Section 403.6 that are detrimental to the NGBS in terms of reducing the integrity of intent and the breadth of adoptability. Some of these apparently have their genesis from a proposal from the Outdoor Power Equipment Institute (OPEI). One of these is the introduction of a new concept which the proponent informally refers to as the "bee lawn" which draws upon research that has found that while a lawn composed of turfgrass provides only detrimental impacts to bee colonies, a lawn infested with flowering herbaceous plants can provide more benefits (though not at the levels of native vegetation). To this end OPEI suggests rewarding intentionally enhancing lawns in this way. But that is misleading as, in order to get the points, the major negative, putting in a monoculture composed of turfgrass, has to also happen. Again, the lawn itself is only detrimental to bees. Furthermore, a careful review shows only certain species can be facilitated by the limited plantings that can be maintained in a lawn, especially given most people mow their lawns to 4 inches or less. Research by the University of Kentucky has demonstrated that diversity of bee species declines precipitously where turfgrass is present and indeed there are even programs devoted to converting turfgrass areas to pollinator habitat. It is counterintuitive and highly strategic on OPEI's part to attempt to promote a "bee lawn" as part of a sustainability initiative and it would be terrible to see the committee endorse the concept even as modified in prior deliberation. What we need are more flowering and nectar producing plants. SNWA's proposal presents a way to do this with alternative plantings in no greater amounts that OPEI's proposal but that is scientifically justifiable.
Substantiating Documents:	Yes, substantiating documents can be found at homeinnovation.com/ngbs under the Public Comments
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Public Comment as Follows (changes shown in red):* **(5)** ~~Turfgrass is integrated with maintenance tolerant, non-invasive flowering herbaceous plants in an amount to achieve not less than 10% of the ground cover. Plants should typically flower at less than 6 inches in height.~~ To improve pollinator habitat, at least 10% of planted areas are composed of ~~non-invasive~~ flowering and nectar producing plant species. Invasive plant species shall not be utilized.
Committee Reason:	Clarification for simplicity and readability

PC040 LogID 6185	**405.1 Driveways and parking areas** ***Final Formal Action:*** **TBD**

Submitter:	Kent Sovocool, Southern Nevada Water Authority
Public Comment:	**(4)** ~~Vegetative paving systems~~ Water permeable surfaces are utilized to reduce the footprint of surface driveways, fire lanes, streets, or parking areas **(a)** 10 % to less than 25% — **1** **(b)** 25% to 75% — **2** **(c)** greater than 75% — **3**
Reason:	There are a number of proposed changes to Section 403.6 that are detrimental to the NGBS in terms of reducing the integrity of intent and the breadth of adoptability. Some of these apparently have their genesis from a proposal from the Outdoor Power Equipment Institute (OPEI). One of these would promote vegetative paving systems for driveways, fire-lanes, streets, and parking areas. Any permeable shaded area though can provide similar benefits without the enormous costs in terms of water resources for irrigation of such areas. This is obviously an inappropriate measure for arid areas. SNWA's change will allow builders in such areas to provide for the infiltration benefits without the potential resource challenges that would otherwise make this item unobtainable in some areas.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Public Comment as Follows (changes shown in red):* ~~Vegetative paving systems~~ Water permeable surfaces, including vegetative paving systems, are utilized to reduce the footprint of impervious surface driveways, fire lanes, streets or parking areas.
Committee Reason:	Adjusted for clairity

PC041 LogID 6095	**405.4 Planning**	***Final Formal Action:*** **TBD**
Submitter:	Siying Zhang, US EcoLogic	
Public Comment:	Suggest provide a 5% of lot size option or smaller projects. change it to 1/6 acre of 5% of lot, whichever is smaller.	
Reason:	405.4 (3) 1/6 acre might not be realistic for small projects.	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	Proposal is unclear	

PC042 LogID 6120	**405.4 Zoning**	***Final Formal Action:*** **TBD**
Submitter:	Siying Zhang, US EcoLogic	
Public Comment:	~~1/6 acre~~ 1/6 acre of 5% of lot, whichever is smaller.	
Reason:	405.4 (3) 1/6 acre might not be realistic for small projects.	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	Proposal is unclear	

PC043 LogID 6039	**405.4 Zoning**	***Final Formal Action:*** **TBD**
Submitter:	David S. Collins, FAIA	

Public Comment:	Provide common or public spaces of a minimum of 1/6 acre that are within ¼ mile walk to 80 percent of planned and existing units and entrances to non- residential buildings. Both existing and newly constructed squares, parks, paseos, plazas, and similar uses qualify under this criterion.
Reason:	Clarify: NEW construction (of common or public space) only? What if a park already exists?
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC044 LogID 6040	**405.6 Multi-modal transportation**	***Final Formal Action:*** **TBD**
Submitter:	David S. Collins, FAIA	
Public Comment:	(a) Create a network ~~grid~~ of sidewalks and paths that provide a minimum level of connectivity of at least 90 bikeway or pathway intersections per square mile. (b) Create a network ~~grid~~ of sidewalks and paths that provide a minimum level of connectivity of at least 140 bikeway or pathway intersections per square mile.	
Reason:	This appears to be an unusual measure that encourages intersections? Suggest renaming “grid” to “network” – we don’t need to dictate a geometry.	
Substantiating Documents:	No	
Committee Action from Meeting:	Accept	
Modification of Public Comment:		
Committee Reason:		

PC045 LogID 6041	**405.6 Multi-modal transportation**	***Final Formal Action:*** **TBD**
Submitter:	David S. Collins, FAIA	
Public Comment:	Dedicated bicycle parking and racks are indicated on the site plan and constructed for, buildings serving a residential use ~~multi-family buildings~~, and/or each developed common area.	
Reason:	Is it implied that a mixed-use building is also a multi-family building? If not, then reject the change. Change “multi-family buildings” to “buildings serving a residential use”	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	Change suggested in Public Comment could apply to single family homes as opposed to what was intended, provision is clear and accurate as written.	

PC046 LogID 6061	**405.6 Multi-modal transportation**	***Final Formal Action:*** **TBD**
Submitter:	Paul Gay, US EcoLogic	
Public Comment:		
Reason:	405.6.3a)b) add "and /or " ie ...at least 140 bikeway AND / or pathway.....	
Substantiating Documents:	No	
Committee Action from Meeting:	Accept as Modified	

Modification of Public Comment:	A system of walkways, bikeways, street crossings, ~~and~~ or pathways designed to promote connectivity to existing and planned community amenities are provided.
Committee Reason:	Clarity

PC047 LogID 6062	**405.6 Multi-modal transportation**	***Final Formal Action:*** **TBD**
Submitter:	Paul Gay, US EcoLogic	
Public Comment:		
Reason:	when will 405.6 (4) points be determined? suggest a= 2pts b= 4pts c = 6 pts	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	Consistent with action on PC054	

PC048 LogID 6043	**405.6 Multi-modal transportation**	***Final Formal Action:*** **TBD**
Submitter:	David S. Collins, FAIA	
Public Comment:	**(4)** Dedicated bicycle parking and racks are indicated on the site plan and constructed for, multi-family buildings, and/or each developed common area. (a) Minimum of 1 bicycle parking space per 3 ~~residential units~~ bedrooms (b) Minimum of 1 bicycle parking space per 2 ~~residential units~~ bedrooms (c) Minimum of 1 bicycle parking space per 1 ~~residential units~~ bedrooms	
Reason:	Suggest revising this metric to relate to quantity of bedrooms, not units. These could be 4 or 5-bedroom "units"	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	This is a substantial increase that may be difficult to achieve. The existing metrics are more appropriate and practical for multifamily buildings.	

PC049 LogID 6065	**405.6 Multi-modal transportation**	***Final Formal Action:*** **TBD**	
Submitter:	Don Whyte, Chairman, Task Group 2		
Public Comment:	**(4)** Dedicated bicycle parking and racks are indicated on the site plan and a minimum of six spaces are constructed for~~, multi-family buildings, and/or~~ each developed common area.		**6**
	- ~~(a) Minimum of 1 bicycle parking space per 3 residential units.~~		~~**2**~~
	- ~~(b) Minimum of 1 bicycle parking space per 2 residential units.~~		~~**4**~~
	- ~~(c) Minimum of 1 bicycle parking space per 1 residential unit.~~		~~**6**~~
Reason:	Task Group 2 would like to change the language below to ensure that an applicant is not doubling up on points in chapters four and five for bicycle parking.		
Substantiating Documents:	No		

Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	**(4)** Dedicated bicycle parking and racks are indicated on the site plan and a minimum of six spaces are constructed for, multi-family buildings, and/or each developed common area. — One point shall be awarded for each 6 spaces up to a maximum of 6 points. ~~(a) Minimum of 1 bicycle parking space per 3 residential units.~~ — ~~2~~ ~~(b) Minimum of 1 bicycle parking space per 2 residential units.~~ — ~~4~~ ~~(c) Minimum of 1 bicycle parking space per 1 residential unit.~~ — ~~6~~
Committee Reason:	Clairity

PC050 LogID 6086	**405.8 Mixed-use development**	***Final Formal Action:*** **TBD**
Submitter:	Chuck Arnold, Home Innovation	
Public Comment:	80% of the units should be within ½ mile walk of 5 non-residential ~~uses~~ community resources and where a system of walkways, bikeways, street crossings and pathways is designed to promote connectivity to those ~~uses~~ resources.	
Reason:	Clarification of the 5 non-residential uses.	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	Use is a commonly understood term in codes and plans.	

PC051 LogID 6063	**405.8 Mixed-use development**	***Final Formal Action:*** **TBD**
Submitter:	Paul Gay, US EcoLogic	
Public Comment:		
Reason:	where is the 1/2 mile measured from? any main entrance ?	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	Existing language is clear.	

PC052 LogID 6042	**405.8 Mixed-use development**	***Final Formal Action:*** **TBD**
Submitter:	David S. Collins, FAIA	
Public Comment:	**405.8 Mixed-use development.**(1) Mixed-use development is incorporated, or (2) for single-use sites 20 acres or less in size, 80% of the units should be within ½ mile walk of 5 commercial (non-residential) uses and where a system of walkways, bikeways, street crossings and pathways is designed to promote connectivity to those uses.	
Reason:	To clarify:	

Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Public Comment as Follows (changes shown in red):* **405.8 Mixed-use development.**1) Mixed-use development is incorporated, or (2) for single-use sites 20 acres or less in size, 80%of the units ~~should be~~ are within ½ mile walk of 5 ~~commercial (~~non-residential~~)~~ uses and where a system of walkways, bikeways, street crossings ~~and~~ or pathways is designed to promote connectivity to those uses.
Committee Reason:	All do not have to be commercial, can be institutional/civic. "Should be" replaced with "are" for clarification. Changed "and" to "or" for clarification of intent.

PC053 LogID 6044	**405.9 Open space** ***Final Formal Action:*** **TBD**
Submitter:	David S. Collins, FAIA
Public Comment:	**~~405.9 Open space.~~** ~~A portion of the gross area of the community is set aside as open space.~~ **(Points awarded for every 10 percent of the community set aside** **~~5~~**
Reason:	Duplicates the provisions in 405.4.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Draft Standard as Follows:* **405.9 Open space.** A portion of the gross area of the community is set aside as open space. **(Points awarded for every 10 percent of the community set aside** **~~5~~1**
Committee Reason:	Do not believe this is duplicative

PC054 LogID 6207	**Chapter 4 Points** ***Final Formal Action:*** **TBD**
Submitter:	Task Group 2
Public Comment:	All proposed updates to the point assignments for Chapter 4 as shown in Task Group Proposed Point Changes to 2015 NGBS Draft Standard.
Reason:	Based on Task Group 2 review of the point assignments for Chapter 4 in accordance with the established process.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	Approve all proposed updates to the point assignments for Chapter 4 as shown in 2015 NGBS Second Draft.
Committee Reason:	Based on Consensus Committee review of Task Group 2 recommendations on point assignments for Chapter 4 in accordance with the established process.

PC055 LogID 6045	**501.1 Lot (Lot selection)** ***Final Formal Action:*** **TBD**
Submitter:	David S. Collins, FAIA
Public Comment:	An infill lot is selected that is a greyfield. ~~10~~ 12
Reason:	Why is the weight of item 2 the same as one?

Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	A~~n infill~~ lot is selected that is a greyfield. 10
Committee Reason:	Word infill was duplicative

PC056 LogID 6066	**501.2 Multi-modal transportation**	***Final Formal Action:*** **TBD**
Submitter:	Don Whyte, Chairman, Task Group 2	
Public Comment:	**(6)** Dedicated bicycle parking and racks are indicated on the site plan and constructed for mixed-use <u>and</u>~~,~~ multi-family buildings~~, and/or common areas~~:	
	(a) Minimum of 1 bicycle parking space per 3 residential units	**2**
	(b) Minimum of 1 bicycle parking space per 2 residential units	**4**
	(c) Minimum of 1 bicycle parking space per 1 residential unit.	**6**
Reason:	Task Group 2 would like to change the language below to ensure that an applicant is not doubling up on points in chapters four and five for bicycle parking.	
Substantiating Documents:	No	
Committee Action from Meeting:	Accept	
Modification of Public Comment:		
Committee Reason:		

PC057 LogID 6082	**501.2 Multi-modal transportation**	***Final Formal Action:*** **TBD**
Submitter:	Chuck Arnold, Home Innovation	
Public Comment:	No more than two each of the following use category can be counted toward the total: Recreation, Retail, Civic, and <u>other</u> Services.	
Reason:	Revision of the new wording for clarification.	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	Word “other” is inappropriate in this circumstance. Services is a use category.	

PC058 LogID 6137	**501.2 Multi-modal transportation**	***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, US-EcoLogic	
Public Comment:	A lot is selected within one-half mile (805 m) of six or more community resources ~~(e.g., recreational facilities (such as pools, tennis courts, basketball courts), parks, grocery store, post office, place of worship, community center, daycare center, bank, school, restaurant, medical/dental office, Laundromat/dry cleaner)].~~ No more than two each of the following use category can be counted toward the total: Recreation, Retail, Civic, and Services. <u>Examples of resources in each category are:</u> <u>Recreation: recreational facilities (such as pools, tennis courts, basketball courts), parks.</u> <u>Retail: grocery store, restaurant, retail store.</u> <u>Civic: post office, place of worship, community center.</u> <u>Services: bank, daycare center, school, medical/dental office, Laundromat/dry cleaners.</u>	

Reason:	501.2 (4) is confusing as to what the community resource categories are. Are their 4 categories (Recreation, Retail, Civic, and Services) OR 12 categories (recreational facilities, parks, grocery store, post office, place of worship, community center, daycare center, bank, school, restaurant, medical/dental office, Laundromat/dry cleaner) in which to count the 6 required.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Public Comment as Follows (changes shown in red):* A lot is selected within one-half mile (805 m) of six or more community resources ~~(e.g., recreational facilities (such as pools,tennis courts, basketball courts), parks, grocery store, post office, place of worship, community center, daycare center, bank, school, restaurant, medical/dental office, Laundromat/dry cleaner)).~~ No more than two each of the following use category can be counted toward the total: Recreation, Retail, Civic, and Services. Examples of resources in each category ~~are,~~ include, but are not limited to the following: Recreation: recreational facilities (such as pools, tennis courts, basketball courts),parks. Retail: grocery store, restaurant, retail store. Civic: post office, place of worship, community center. Services: bank, daycare center, school, medical/dental office, Laundromat/dry cleaners.
Committee Reason:	Did not want to limit the lists.

PC059 LogID 6046	**503.2 Slope disturbance**	***Final Formal Action:*** **TBD**
Submitter:	David S. Collins, FAIA	
Public Comment:	**503.2 Slope disturbance.** Slope disturbance is minimized by one or more of the following:	-
	(2) Hydrological/soil stability study is completed and used to guide the design of all buildings on the site.	**~~4~~5**
	(3) All or a percentage of driveways and parking are aligned with natural topography to reduce cut and fill.	-
	(a) 10 percent to 25 percent	**~~3~~1**
	(b) 25 percent to 75 percent	**4**
	(c) greater than 75 percent	**6**
	(4) Long-term erosion effects are reduced through the design and implementation of clustering, terracing, retaining walls, landscaping, and restabilization techniques.	**~~5~~6**
Reason:	How is the minimizing disturbance measures? Does this duplicate #4, which is better worded?	
Substantiating Documents:	No	
Committee Action from Meeting:	Accept	
Modification of Public Comment:		
Committee Reason:		

PC060 LogID 6012	**503.4 Stormwater management**	***Final Formal Action:*** **TBD**
Submitter:	Greg Johnson, Greg Johnson Consulting	

Public Comment:	(3) Low Impact Development/Green infrastructure stormwater management practices to promote infiltration and evapotranspiration such as, but not limited to, vegetated swales, bio-retention cells, vegetated tree boxes and planters, green roofs, lawns, and permeable pavements are used to manage rainfall on the lot and prevent the off-lot discharge of runoff from all storms up to and including the volume of following storm events:
Reason:	Grassed areas provide considerable infiltration capacity on low-sloped, level, and sunken sites. Even on higher sloped sites grass provides sheet flow control, slowing run-off and allowing it to infiltrate.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Public Comment as Follows (changes shown in red):* (3) Low Impact Development/Green infrastructure stormwater management practices to promote infiltration and evapotranspiration ~~such as, but not limited to, vegetated swales, bio-retention cells, vegetated treeboxes and planters, green roofs, lawns, and permeable pavements~~ are used to manage rainfall on the lot and prevent the off-lot discharge of runoff from all storms up to and including the volume of following storm events:
Committee Reason:	Defined in definitions chapter

PC061 LogID 6014	**503.5 Landscape plan** ***Final Formal Action:*** **TBD**
Submitter:	Greg Johnson, Greg Johnson Consulting
Public Comment:	(2) ~~Turf grass species, other vegetation, and trees~~ Non-invasive vegetation that ~~are~~ is native or regionally appropriate for local growing conditions ~~are~~ is selected ~~giving consideration to biodiversity and water use and specified on the lot plan~~. ~~Non-invasive vegetation is selected~~.
Reason:	Section 503.5 says that a landscape plan is developed, in part, to limit water use. Nothing is gained in item 2 by requiring further consideration of water use. Water use should be stricken from item 2. Item 2's requirements for specification on the landscape plan is similarly duplicative. The charging section of 503.5 addresses it -the whole section is about the plan. Requiring additional plan specificity is poor formatting of the standard. Bio-diversity in the landscape is already addressed by Sec. 503.6 which awards habitat supporting initiatives (automatically biodiverse) additional points. Finally, turfgrass and trees are vegetation and do not need to singled out in this item of the section. The proposed change to non-invasive vegetation is editorial.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Draft Standard as Follows:* (2) ~~Turf grass species, other vegetation, and trees~~ Non-invasive vegetation that ~~are~~ is native or regionally appropriate for local growing conditions ~~are~~ is selected ~~giving consideration~~ to promote biodiversity ~~and water use and specified on the lot plan. Non-invasive vegetation is selected~~.
Committee Reason:	Simplified language

PC062 LogID 6047	**503.5 Landscape plan** ***Final Formal Action:*** **TBD**	
Submitter:	David S. Collins, FAIA	
Public Comment:	**503.5 Landscape plan.** A plan for the lot is developed to limit water and energy use while preserving or enhancing the natural environment. **(Where "front" only or "rear" only plan is implemented, only half of the points (rounding down to a whole number) are awarded for Items (1)-(6)**	
	(1) A plan is formulated and implemented that ~~to~~ protects, restores, or enhances natural vegetation on the lot.	**6**
Reason:	It isn't enough to simply develop such a plan it has to do something.	

Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC063 LogID 6125	**503.5 Landscape plan** ***Final Formal Action:*** **TBD**
Submitter:	Blaine Wilkins, Wilkins & Associates
Public Comment:	~~(3) Turf grass is integrated with maintenance tolerant, non-invasive flowering herbaceous plants in an amount to achieve not less than 10% of the groundcover. Plants should typically flower at less than 6 inches in height.~~
Reason:	The third item seems incompatible with this document. This is a design standard, but this proposed credit requires long-term care and maintenance for it to have any environmental benefit. I know of few homeowners who would maintain such a lawn as is described here. In my experience, a homeowner will apply -- or ask a landscaping service to apply -- weed killer to short flowering plants in their lawn. And how many homeowners who invest in a brand new home will let their lawns grow to 6" before mowing it? This is an unrealistic expectation. This practice may be workable if a homeowner elects to do it himself, but I do not know many who would do so. It certainly will have little beneficial impact if it is installed by a developer or builder unless it is designed to a particular homeowners's specifications. The points are easy, and the benefit is nil. Delete it.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	Consistent with action on PC039

PC064 LogID 6123	**503.5 Landscape plan** ***Final Formal Action:*** **TBD**
Submitter:	Anthony Floyd, City of Scottsdale
Public Comment:	(1) ~~6~~ Mandatory (2) ~~7~~ Mandatory
Reason:	Items 1 and 2 should be mandatory for all green building projects. All native plants and regionally appropriate plants should be conserved, maintained and reused to the greatest extent possible which is a reasonably expectation for all landscape designs (whether part of a green building project or not). Selecting native or regionally appropriate plants for local growing conditions is a fundamental landscape design practice and should always be a prerequisite for sites associated with green buildings.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	Does not accommodate urban agriculture. Unreasonable expectation.

PC065 LogID 6127	**503.5 Landscape plan** ***Final Formal Action:*** **TBD**
Submitter:	Anthony Floyd, City of Scottsdale
Public Comment:	(10) An invasive plant removal and containment ~~Developer has a~~ plan ~~for removal or containment of invasive plants from the~~ shall be prepared where invasive plants are located on ~~disturbed~~ areas of the site that will be disturbed during construction. ~~3~~ Mandatory

Reason:	Item 10 should be mandatory for disturbed portions of sites associated with green building projects. Existing invasive plants should be removed or contained based on a plan prepared by a qualified landscape professional. The removal of invasive plants and selection of native or regionally appropriate plants for local conditions is a fundamental practice of good landscape design and should be a prerequisite for all green building sites.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	The change in text is not substantive. Do not agree with the point change. Using points as an incentive will better encourage the intended result.

PC066 LogID 6128	**503.5 Landscape plan** ***Final Formal Action:*** **TBD**
Submitter:	Anthony Floyd, City of Scottsdale
Public Comment:	(11) An invasive plant removal and containment ~~Developer has a~~ plan ~~for removal or containment of invasive plants on the~~ is prepared for invasive plants located on ~~undisturbed~~ areas of the site that will be undisturbed during construction. ~~6~~ 3
Reason:	The language of item 11 is revised for consistency with item 10 proposed language revision except that item 11 pertains to undisturbed areas. 'Developer' is not mentioned in any of the other landscape checklist items, so why should 'developer' be mentioned in items 10 and 11. Finally, the points are reduced from 6 to 3 since item 10 is proposed to be mandatory.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	The change in text is not substantive. Do not agree with the point change. Using points as an incentive will better encourage the intended result.

PC067 LogID 6186	**503.5 Landscape plan** ***Final Formal Action:*** **TBD**
Submitter:	Kent Sovocool, Southern Nevada Water Authority
Public Comment:	(2) Turf grass species, other vegetation, and trees that are native or regionally appropriate forlocal growing conditions are selected giving consideration to biodiversity and water use and specified on the lot plan. Non-invasive vegetation is selected. The EPA WaterSense Water Budget Tool may be used when determining the maximum percentage of turf areas. For landscapeable areas, the percentage of all turf areas is: ~~The percentage of all turf areas are limited as part of the landscaping.~~ (a) 0 percent (b) Greater than 0 percent to less than 20 percent (c) 20 percent to less than 40 percent (d) 40 percent to 60 percent (~~4~~) ~~EPA WaterSense Water Budget Tool is used to determine the maximum percentage of turf areas.~~
Reason:	There are a number of proposed changes to Section 403.6 that are detrimental to the NGBS in terms of reducing the integrity of intent and the breadth of adoptability. Some of these apparently have their genesis from a proposal from the Outdoor Power Equipment Institute (OPEI). The gravest impacts are to section 403.6 (4). This is where OPEI has lobbied for the diminishment of turf limitations as an option for

	reducing outdoor water demands. In the early stages of drought in 2003, my agency worked closely with a number of stakeholders including the Southern Nevada Home Builders Association (SNHBA) to implement a policy that limited the use of turfgrass for ornamental purposes. Why turfgrass? Our research has shown that lawns receive four times as much water as other water-efficient landscapes that may include trees, shrubs, flowers, vines and other adapted plants. Research in a variety of geographic settings has demonstrated that significant savings are realized where plantings other than turfgrass are used. Locally, these policies not only mitigated water demand, they quelled calls for a moratorium on growth and new construction. These policies have had no impact on quality of life and a positive impact on economic productivity. Both builders and homebuyers are free to plant some turfgrass and to select from a palette of more than 500 other plants for their landscapes. These landscape provisions, more than any other initiative, allowed us to reduce our use by almost 29 billion gallons between 2002 and 2012 while allowing homebuilders to create housing for nearly 500,000 new residents that have located in Southern Nevada since the policy went into effect. Appropriately used, turfgrass can provide benefits, but at a cost. Numerous studies have shown that better adapted plants can provide most or all of the functions of turfgrass with lower demand for water, fertilizer, fuel and maintenance. In many utilities, the benefits of turfgrass carbon sequestration are overwhelmed by the embedded electric energy in just a few inches of irrigation water. The NGBS has thus far provided for the earning of points with landscape plans that have turf limitations. These have been optional and allowed for regional diversification. They have worked successfully in conjunction with turf limits to provide for appropriate reward in water-scarce regions such as ours. While SNWA certainly is supportive of the WaterSense program and our proposed change continues to highlight it, in regions where there is already policy to limit the use of turfgrass, using the NGBS would necessitate a special set of calculations and assessments at each home being built, yet not change the outcome due to the regulatory environment. This additional difficulty may be a disincentive that results in builders shunning the NGBS in regions where water-scarcity has become a driving force. Our included background material demonstrates that these may occur at local municipal code levels as in southern Nevada well as state levels (California). The NGBS should allow regional flexibility by allowing builders to use such already requisite approaches while highlighting the WaterSense Water Budget Tool. It should appropriately incentivize and reward builders for doing so. And just doing the calculation is insufficient. This was obviously not the intent as per the original language. We want to assure that the work is actually done, something that may have unknowingly occurred in the standard development process. Our proposal addresses both these deficiencies. Finally, a number of point modifications have occurred that significantly reduce the emphasis on water efficiency in landscape design that SNWA's proposal counters. Good landscape design is crucial to water efficiency and it does involve real on the ground enhancements. It should rank highly in points-based systems thus the reallocation of points to 403.6 (4).
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Draft Standard as Follows:*

EPA WaterSense Water Budget Tool <u>or equivalent</u> is used ~~to determine~~ <u>when implementing</u> the maximum percentage of turf areas.	**2**
For landscaped vegetated areas, the maximum percentage of all turf areas is:	
(a) 0 percent.	**5**
(b) Greater than 0 percent to less than 20 percent	**4**
(c) 20 percent to less than 40 percent	**3**
(d) 40 percent to 60 percent	**2**

Committee Reason:	Consistent with action on PC038

PC068 LogID 6187	**503.5 Landscape plan**	***Final Formal Action:*** **TBD**
Submitter:	Kent Sovocool, Southern Nevada Water Authority	

Public Comment:	(3) ~~Turfgrass is integrated with maintenance tolerant, non-invasive flowering herbaceous plants in an amount to achieve not less than 10% of the groundcover. Plants should typically flower at less than 6 inches in height.~~ To improve pollinator habitat, at least 10% of planted areas are composed of non-invasive flowering and nectar producing plant species.
Reason:	There are a number of proposed changes to Section 403.6 that are detrimental to the NGBS in terms of reducing the integrity of intent and the breadth of adoptability. Some of these apparently have their genesis from a proposal from the Outdoor Power Equipment Institute (OPEI). One of these is the introduction of a new concept which the proponent informally refers to as the "bee lawn" which draws upon research that has found that while a lawn composed of turfgrass provides only detrimental impacts to bee colonies, a lawn infested with flowering herbaceous plants can provide more benefits (though not at the levels of native vegetation). To this end OPEI suggests rewarding intentionally enhancing lawns in this way. But that is misleading as, in order to get the points, the major negative, putting in a monoculture composed of turfgrass, has to also happen. Again, the lawn itself is only detrimental to bees. Furthermore, a careful review shows only certain species can be facilitated by the limited plantings that can be maintained in a lawn, especially given most people mow their lawns to 4 inches or less. Research by the University of Kentucky has demonstrated that diversity of bee species declines precipitously where turfgrass is present and indeed there are even programs devoted to converting turfgrass areas to pollinator habitat. It is counterintuitive and highly strategic on OPEI's part to attempt to promote a "bee lawn" as part of a sustainability initiative and it would be terrible to see the committee endorse the concept even as modified in prior deliberation. What we need are more flowering and nectar producing plants. SNWA's proposal presents a way to do this with alternative plantings in no greater amounts that OPEI's proposal but that is scientifically justifiable.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Public Comment as Follows (changes shown in red):* (3) ~~Turf grass is integrated with maintenance tolerant, non-invasive flowering herbaceous plants in an amount to achieve not less than 10% of the groundcover. Plants should typically flower at less than 6 inches in height.~~ To improve pollinator habitat, at least 10% of planted areas are composed of ~~non-invasive~~ flowering and nectar producing plant species. Invasive plant species shall not be utilized.
Committee Reason:	Consistent with action on PC039

PC069 LogID 6048	**503.6 Wildlife habitat**	***Final Formal Action:*** **TBD**
Submitter:	David S. Collins, FAIA	
Public Comment:	**(1 1)** Developer ~~has~~ implements a plan for removal or containment of invasive plants on the undisturbed areas of the site.	
Reason:	Having a plan doesn't do anything.	
Substantiating Documents:	No	
Committee Action from Meeting:	Accept	
Modification of Public Comment:		
Committee Reason:		

PC070 LogID 6049	**503.7 Environmentally sensitive areas**	***Final Formal Action:*** **TBD**
Submitter:	David S. Collins, FAIA	
Public Comment:	**(2)** On lots with environmentally sensitive areas, mitigation and/or restoration is conducted to preserve ecosystem functions lost through development and construction activities.	
Reason:	What is the method of measurement for achieving this/	

Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	No recommendation or solution

PC071 LogID 6148	**503.8 Demolition of existing building** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Public Comment:	(One additional point awarded for every 10 percent of nonhazardous demolition waste recycled and/or salvaged beyond 50 percent).
Reason:	The first paragraph specifically states that the demolition waste should be nonhazardous. For clarity reasons, the "nonhazardous" condition should be included in the parenthetical note about additional points. It also appears that no point values have been assigned to this section. Solution: Include the word "nonhazardous" in the parenthetical note about additional points. Include the intended number of available points for this section.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC072 LogID 6188	**505.1 Driveways and parking areas** ***Final Formal Action:*** **TBD**
Submitter:	Kent Sovocool, Southern Nevada Water Authority
Public Comment:	~~Vegetative paving systems~~ Water permeable surfaces are utilized to reduce the footprint of surface driveways, fire lanes, streets or parking areas. **(a)** 10 % to less than 25% **1** **(b)** 25% to 75% **2** **(c)** greater than 75% **3**
Reason:	There are a number of proposed changes to Section 403.6 that are detrimental to the NGBS in terms of reducing the integrity of intent and the breadth of adoptability. Some of these apparently have their genesis from a proposal from the Outdoor Power Equipment Institute (OPEI). One of these would promote vegetative paving systems for driveways, fire-lanes, streets, and parking areas. Any permeable shaded area though can provide similar benefits without the enormous costs in terms of water resources for irrigation of such areas. This is obviously an inappropriate measure for arid areas. SNWA's change will allow builders in such areas to provide for the infiltration benefits without the potential resource challenges that would otherwise make this item unobtainable.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Draft Standard as Follows:* ~~Vegetative paving systems~~ Water permeable surfaces, including vegetative paving systems, are utilized to reduce the footprint of impervious surface driveways, fire lanes, streets or parking areas.
Committee Reason:	Consistent with action on PC040

PC073 LogID 6189	**505.2 Heat island mitigation** ***Final Formal Action:*** **TBD**

Submitter:	Kent Sovocool, Southern Nevada Water Authority
Public Comment:	Roofs: Not less than 75 percent of the exposed surface of the roof ~~is vegetated. Invasive plant species are not permitted~~.is in accordance with one or a combination of the following methods. **(a)** Minimum initial SRI of 78 for a low-sloped roof (a slope less than or equal to 2:12) and a minimum initial SRI of 29 for a steep-sloped roof (a slope of more than 2:12).The SRI is calculated in accordance with ASTM E1980. Roof products are certified and labeled. **(b)** Roof is vegetated using technology capable of withstanding the climate conditions of the jurisdiction and the microclimate conditions of the building lot. Invasive plant species are not permitted.
Reason:	Roof Heat island mitigation by the use of vegetation is not appropriate nor is it generally practical in the arid southwest. The irrigation requirements are enormous and the heat on roof materials is so intense that the few experiments with this have commonly failed over the long-term. It would be better to bring back the non-vegetative option in such circumstances. We recommend rejecting the modification to only allow vegetative roofs.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Draft Standard as Follows:* Roofs: Not less than 75 percent of the exposed surface of the roof is vegetated using technology capable of withstanding the climate conditions of the jurisdiction and the microclimate conditions of the building lot. Invasive plant species are not permitted.
Committee Reason:	Part (a) of the public comment is addressed in section 602.2 Roof Surfaces.

PC074 LogID 6050	**505.2 Heat island mitigation** ***Final Formal Action:*** **TBD**
Submitter:	David S. Collins, FAIA
Public Comment:	Minimum initial SRI of 78 for low-sloped roof (a slope less than or equal to 2:12) and a minimum initial SRI of 29 for a steep-sloped roof (a slope of more than 2:12). The SRI is calculated in accordance with ASTM E1980. Roof products are certified and labeled.
Reason:	Why is the cool roof criteria eliminated?
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	Addressed in Section 602.2 Roof Surfaces

PC075 LogID 6135	**505.3 Density** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Public Comment:	
Reason:	EPA agrees that the greater levels of density should be rewarded with greater points. However, we are concerned about the very high number of points now being proposed for the new density levels. Whereas previously 11 points were rewarded for the highest density levels, 17 points are now available. Compact development (i.e., density) is beneficial in that it minimizes the need to develop greenfields and prime agricultural land. However, its ability to lead to other types of environmental benefits, particularly the reduction of greenhouse gas emissions due to transportation, are highly dependent on other factors in its neighborhood, including whether public transportation is available nearby, whether there are shops and services for people to walk to, and other factors. The number of points currently proposed misrepresents the environmental benefits that density provides in and of itself. To be sure, it should be well-rewarded, but not with so many points that the builder has reduced incentive to

	implement those building practices that combined with density create sustainability “synergies.” We propose that the points be reconsidered, leaving 11 points as the maximum possible, and be allocated from lowest density to highest density as follows: 5, 6, 7, 9, 11 . Also, we would like to point out that there is a similar provision in 405.7 for which no changes have been proposed. We recommend that 405.7 be revised to be consistent with 505.3.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	Consistent with action on PC077

PC076 LogID 6078	**505.6 Multi-unit plug-in vehicle charging**	***Final Formal Action:*** **TBD**
Submitter:	Chuck Arnold, Home Innovation	
Public Comment:	Plug-in electric vehicle charging capability is provided for <u>at least</u> 1 percent of parking stalls.	
Reason:	Clarification on the % of charging capability.	
Substantiating Documents:	No	
Committee Action from Meeting:	Accept	
Modification of Public Comment:		
Committee Reason:		

PC077 LogID 6208	**Chapter 5 Points**	***Final Formal Action:*** **TBD**
Submitter:	Task Group 2	
Public Comment:	All proposed updates to the point assignments for Chapter 5 as shown in Task Group Proposed Point Changes to 2015 NGBS Draft Standard.	
Reason:	Based on Task Group 2 review of the point assignments for Chapter 5 in accordance with the established process.	
Substantiating Documents:	No	
Committee Action from Meeting:	Accept as Modified	
Modification of Public Comment:	Approve all proposed updates to the point assignments for Chapter 5 as shown in 2015 NGBS Second Draft.	
Committee Reason:	Based on Consensus Committee review of Task Group 2 recommendations on point assignments for Chapter 5 in accordance with the established process.	

PC078 LogID 6064	**601.7 Prefinished materials**	***Final Formal Action:*** **TBD**
Submitter:	Paul Gay, US EcoLogic	
Public Comment:		
Reason:	add back "pre finished hard flooring", this will encourage their use	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	Flooring is listed already in the new “d” and “e” items.	

PC079 LogID 6142	**601.7 Prefinished materials**	***Final Formal Action:*** **TBD**

Submitter:	Aaron Gary, US-EcoLogic
Public Comment:	**601.7 Prefinished materials.** (e) exterior wall coverings or systems~~, floor system, and/or ceiling systems~~ not requiring paint or stain or other type of finishing application
Reason:	What is an exterior floor system or an exterior ceiling system?
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	Examples of exterior floor system or exterior ceiling systems include porch and enclosed rooms outside the thermal envelope. See IRC for examples. This explanation should be covered in NGBS Commentary.

PC080 LogID 6206	**602.1.5 Termite barrier** ***Final Formal Action:*** **TBD**
Submitter:	Chuck Arnold, Home Innovation
Public Comment:	**In geographic areas that have a moderate to heavy or very heavy infestation potential in accordance with figure 6(3), a continuous physical barrier used with a low toxicity bait and kill termite treatment plan is ~~selected and~~ implemented.**
Reason:	The charging language states that you must use a continuous physical foundation termite barrier but option 3 contradicts that by stating that you can use a low toxicity bait and kill termite treatment plan.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Draft Standard as Follows:* 602.1.5 Termite barrier. Continuous physical foundation termite barrier is provided. ~~in accordance as follows:~~ ~~(1) In geographic areas that have slight to moderate infestation potential in accordance with Figure 6(3) a continuous physical barrier is used.~~ ~~(2)~~ (1) In geographic areas that have moderate to heavy ~~or very heavy~~ infestation potential in accordance with figure 6(3),a ~~continuous physical barrier used with~~ no or low toxicity treatment is also installed. 4 Points ~~(3)~~ (2) In geographic areas that have a ~~moderate to heavy or~~ very heavy infestation potential in accordance with figure 6(3), ~~a continuous physical barrier is used with~~ in addition a low toxicity bait and kill termite treatment plan is selected and implemented. 4 Points
Committee Reason:	Provide more clarity to regions and required actions

PC081 LogID 6068	**602.1.7.3 Moisture control based on hygrothermal simulation or field study analysis** ***Final Formal Action:*** **TBD**
Submitter:	Paul Gay, US EcoLogic
Public Comment:	
Reason:	clarification needed. does the term" building envelope assembly" include the exterior air/moisture barrier , insulation, studs and interior air barrier? or are we focused on just the exterior air/moisture barrier? is the information required easily available (eg on a web site) or will this incur additional costs?
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	Building envelope assembly is a widely-used term and does not warrant explanation within standard itself. Explanation within the NGBS Commentary may be useful.

	Situations will vary whether or not additional costs are incurred (e.g., existing field study may be available).

PC082 LogID 6069	**604.1 Recycled content** ***Final Formal Action:*** **TBD**
Submitter:	Paul Gay, US EcoLogic
Public Comment:	
Reason:	award points "per 2" as originally written. this encourages the purchase of products that have recycled content
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	NGBS already encourages the purchase of recycled-content products.

PC083 LogID 6067	**605.1 Construction waste management plan** ***Final Formal Action:*** **TBD**
Submitter:	Chuck Arnold, Home Innovation
Public Comment:	**605.1 Construction waste management plan.** A construction waste management plan is developed, posted at the jobsite, and implemented diverting, through reuse, salvage or recycling, a minimum of 50 percent (by weight) of nonhazardous construction and demolition waste from disposal. For this practice, land clearing debris is not considered construction waste. Materials used as alternative daily cover are considered construction waste and do not count toward recycling or salvaging. <u>Waste materials generated from land clearing, soil and sub-grade excavation and all manner of vegetative debris shall not be in the calculations.</u> For remodeling projects or demolition of an existing facility, the waste management plan includes the recycling of 95 percent of electronic waste components (such as printed circuit boards from computers, building automation systems, HVAC, fire and security control boards) by an EPA certified E-Waste recycling facility. **Exceptions:** ~~Waste materials generated from land clearing, soil and sub-grade excavation and all manner of vegetative debris shall not be in the calculations.~~ ~~A recycling facility (traditional or E-Waste) offering material receipt documentation is not available within 50 miles of the jobsite.~~
Reason:	The inclusion of “exceptions” for this non-mandatory practice seems inappropriate. Item (1) should not be identified as an “exception”; it is simply clarifying text about how the practice is achieved. As the practice itself does not specifically mention material receipt documentation, the inclusion of exception (2) raises questions about implementation/verification of the practice. The pathway for a home/building not located within 50 miles of a recycling center to achieve points is unclear. I recommend allowing the Adopting Entities to determine verification method, such as material receipt documentation requirements, and the appropriate allowances for jobsites not located within 50 miles of a recycling center.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	

Committee Reason:	Intentionally kept the land clearing waste text separate with the thought that provisions would be included on land-clearing waste in Chapter 4. We do not agree that exceptions are inappropriate for this type of practice. Moving Items (1) and (2) to the charging language would create redundancy with existing language on land cover. Exception (2) is valid since transportation to further recycling facilities is resource-demanding.

PC084 LogID 6150	**605.1 Construction waste management plan** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Public Comment:	**605.1 Construction waste management plan.** …diverting~~,~~ through methods such as reuse, salvage, ~~or~~ recycling or manufacturer reclamation, a minimum of 50 percent (by weight) of nonhazardous construction and demolition ~~waste~~ materials from disposal in landfills and combustion, excluding energy and material recovery. For this practice, land clearing debris is not considered construction waste. Materials used as alternative daily cover are considered construction waste and do not count toward recycling or salvaging. For remodeling projects or demolition of an existing facility, the waste management plan includes the recycling of 95 percent of electronic waste components (such as printed circuit boards from computers, building automation systems, HVAC, fire and security control boards) by ~~an EPA~~ third-party certified E-Waste recycling facility. **Exceptions:** ~~1) Waste materials generated from land clearing, soil and sub-grade excavation and all manner of vegetative debris shall not be in the calculations.~~ A recycling facility (traditional or E-Waste)offering material receipt documentation is not available within 50 miles of the jobsite.
Reason:	The section is instructing stakeholders to divert construction and demolition materials from disposal. Commonly, such language would clarify that the materials should be diverted from disposal in landfills and combustion, excluding energy and material recovery. (note that we are referring to "combustion" rather than "incineration;" although frequently misunderstood, combustion is a broader activity that does include energy and material recovery, but incineration is done so as to treat or resize waste for the purpose of disposal and does not include energy or material recovery; because of the common misunderstanding, we do recommend acknowledging energy recovery, but including it under the broader, correct activity, i.e., combustion.) Further, the list of methods that count toward the diversion practice is very limited. Other types of diversion, such as through manufacturer reclamation, are feasible and often practiced. That said, even with the addition of manufacturer reclamation, the list of diversion methods would not be complete and should be presented as such. The C&D debris that gets diverted is a resource (material) and not waste and should be referred to accordingly. It is unclear what is intended by an "EPA-certified" e-waste recycling facility; EPA does not "certify" e-waste recycling facilities. Currently, the Responsible Recycling Standard (R2) and the e-Stewards standard are the two available e-waste certification programs to which facilities may be certified. See: http://www.sustainableelectronics.org/ and http://e-stewards.org/ Finally, if the intent of the "Exceptions" section is to indicate specific circumstances when the practice does not apply, or to acknowledge situations when it cannot be met by the person seeking the points, then it is unclear why the first item is listed. How is stating "Waste materials generated from land clearing, soil and sub-grade excavation and all manner of vegetative debris shall not be in the calculations," an Exception? (We would argue this is an exclusion from the calculation, not an exception to the practice.) The second item in the Exceptions, "A recycling facility (traditional or E-Waste) offering material receipt documentation is not available within 50 miles of the jobsite," implies that a recycling facility not available within 50 miles would preclude the person from achieving the points available through the practice. Solution: Introduce that materials should be diverted from disposal in landfills and combustion, excluding energy and material recovery. Broaden the list of diversion methods indicating that the list is not all-inclusive. Refer to construction and demolition materials and not waste. Replace "EPA-certified" e-waste recycling facility with "third-party certified" e-waste recycling facility. Delete the first item listed under Exceptions.

Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Draft Standard as Follows:* **605.1 Construction waste management plan.** A construction waste management plan is developed, posted at the jobsite, and implemented diverting, through reuse, salvage, ~~or~~ recycling or manufacturer reclamation, a minimum of 50 percent (by weight) of nonhazardous construction and demolition waste from disposal. For this practice, land clearing debris is not considered construction waste. Materials used as alternative daily cover are considered construction waste and do not count toward recycling or salvaging.
Committee Reason:	Combustion language is unclear. The exception should not be brought in.

PC085 LogID 6070	**606.2 Wood-based products** ***Final Formal Action:*** **TBD**
Submitter:	Paul Gay, US EcoLogic
Public Comment:	
Reason:	is the term "component" defined anywhere?
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Draft Standard as Follows:* **Component.** See "Major Component" and/or "Minor Component".
Committee Reason:	Add a definition for “Component” and direct readers to “See Major Component” and “See Minor Component” definitions.

PC086 LogID 6151	**610.1 Life cycle assessment** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Public Comment:	**610.1.1 Whole-building life cycle assessment.** A whole-building LCA is performed in conformance with ASTME-2921 using SO14044 compliant life cycle assessment and data compliant with ISO 14044 or other recognized standards. 1. Execute LCA at the whole-building level through a comparative analysis between the final and reference building designs as set forth under Standard Practice, ASTM E-2921. The assessment criteria includes the following environmental impact categories: a. Primary energy use b. Global warming potential c. Acidification potential d. Eutrophication potential e. Ozone depletion potential f. Smog potential g. Material Use h. Waste 2. Execute LCA on regulated loads throughout the building operations life cycle stage. Conduct simulated energy performance analyses in accordance with Section 702.2.1 ICC IECC analysis (IECC Section 405) in establishing the comparative performance of final versus reference building designs. Primary energy use savings and global warming potential avoidance from simulation analyses results are determined using EPA NERC electricity generation and other fuels energy conversion factors and electricity generation and other fuels emission rates for the Sub-Region in which the building is located. 3. Execute full LCA, including use and end-of-life phases~~,~~ For the use phase, calculate ~~through calculation of~~ operating energy impacts (c) – (f) using EPA NERC regional emissions factors

	[provide full reference to NERC document or provide factor tables]. <u>For the use phase, also include impacts associated with material replacements.</u>
Reason:	Using less material and recovering more is crucial to our economic and environmental future. Whether less material is used and more recovered over the life cycle of the designed building should be evaluated against a reference building. To that end, material use and waste impact categories should be included in life-cycle assessments. In addition, the "full" life cycle assessment should include all life cycle phases, including use and end-of-life phases. While the NGBS-proposed language emphasizes that the assessment should include the use phase, it omits mentioning the end-of-life phase. Finally, the language for the use phase indicates that impacts related to energy use should be evaluated, but remains silent on the need to evaluate impacts associated with the replacement of materials. Solution: Add the material use and waste impact categories to the assessment criteria. Emphasize that the boundary of the assessment should include the end-of-life phase. Emphasize that the assessment of the use phase should include the analysis of impacts associated with the replacement of materials.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	Adding new categories may add value but would require additional work to incorporate, as they are not already covered byASTM-2921. No acceptable measuring system exists currently for waste and material use. Scope of material use is very broad when water and fuel is considered. Change in Item (3) does nothing to clarify energy impacts and overly complicates the text. "End-of-life" is not precise language and is covered by demolition requirements of cited standards. "For the use phase" is not a precise term used by the existing standards for life cycle assessment. "Material replacements" are covered in ASTM E-2921.

PC087 LogID 6162	**610.1.1 Whole-building life cycle assessment** ***Final Formal Action:*** **TBD**
Submitter:	Todd Jones, Center for Resource Solutions
Public Comment:	(b) ~~Global warming potential~~ <u>Direct and indirect greenhouse gas emissions</u>
Reason:	(1)(b) "Global warming potential" is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the building to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions. We suggest clarifying this.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	The commenter's reason is for clarity but the proposed language adds confusion. "Global Warming Potential" is the term currently used in rating systems and codes. Any LCA practitioner incompliance with ISO 14044 will consider direct and indirect greenhouse gas emissions as part of the global warming potential impact category. Outputs from many LCA software programs are aligned with Global Warming Potential. "Global Warming Potential" is broad term, not just focused on CO2.

PC088 LogID 6071	**610.1.1 Whole-building life cycle assessment** ***Final Formal Action:*** **TBD**
Submitter:	Paul Gay, US EcoLogic
Public Comment:	
Reason:	raise the point threshold. 15 points for a whole building assessment doesn't seem to adequately award the work needed to meet the credit, especially if a product LCA is worth 10 points.
Substantiating Documents:	No

Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	15 points is adequate incentive for this potential tool. Assumption based on total points of product LCA may be incorrect based. Commenter did not offer an alternative point allotment.

PC089 LogID 6052	**610.1.1 Whole-building life cycle assessment** ***Final Formal Action:*** **TBD**
Submitter:	Steven Rosenstock, EEI
Public Comment:	**(2)** Execute LCA on regulated loads throughout the building operations life cycle stage. Conduct simulated energy performance analyses in accordance with Section 702.2.1 ICC IECC analysis (IECC Section 405) in establishing the comparative performance of final versus reference building designs. Primary energy use savings and global warming potential avoidance from simulation analyses results are determined using energy supplier, utility, or EPA ~~NERC~~ electricity generation and other fuels energy conversion factors and electricity generation and other fuels emission rates for the locality or Sub-Region in which the building is located **5** **(3)** Execute full LCA, including use-phase, through calculation of operating energy impacts (c) – (f) using energy supplier, utility, or EPA ~~NERC~~ local or regional emissions factors ~~[provide full reference to NERC document or provide factor tables].~~
Reason:	This will clarify the language in the section, to look at all forms of energy supplied to the building, and to refer to the most appropriate sources for estimates being used.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Draft Standard as Follows:* **(2)** Execute LCA on regulated loads throughout the building operations life cycle stage. Conduct simulated energy performance analyses in accordance with Section 702.2.1 ICC IECC analysis (IECC Section 405) in establishing the comparative performance of final versus reference building designs. Primary energy use savings and global warming potential avoidance from simulation analyses results are determined using energy supplier, utility, or EPA ~~NERC~~ electricity generation and other fuels energy conversion factors and electricity generation and other fuels emission rates for the locality or Sub-Region in which the building is located **5** **(3)** Execute full LCA, including use-phase, through calculation of operating energy impacts (c) – (f) using local or regional emissions factors from energy supplier, utility, or EPA ~~NERC local or regional emissions factors~~ ~~[provide full reference to NERC document or provide factor tables].~~
Committee Reason:	No regional emissions factors were listed in NERC. Reference to EPA would help include additional regions. Proposal required editorial change. “EPA local” was unclear.

PC090 LogID 6163	**610.1.2.1 Product LCA** ***Final Formal Action:*** **TBD**
Submitter:	Todd Jones, Center for Resource Solutions
Public Comment:	Product LCA. A product with improved environmental impact measures compared to another product(s) intended for the same use is selected. The environmental impact measures used in the assessment ~~are selected from~~ include the following: (b) ~~Global warming potential~~ Direct and indirect greenhouse gas emissions (associated with product manufacturing and delivery)

Reason:	"Global warming potential" is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the product to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions associated with the product's manufacturing and delivery. We suggest clarifying this.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	The commenter's reason is for clarity but the proposed language adds confusion. "Global Warming Potential" is the term currently used in rating systems and codes. Any LCA practitioner in compliance with ISO 14044 will consider direct and indirect greenhouse gas emissions as part of the global warming potential impact category. Outputs from many LCA software programs are aligned with Global Warming Potential. "Global Warming Potential" is broad term, not just focused on CO2.

PC091 LogID 6164	**610.1.2.2 Building assembly LCA**	***Final Formal Action:*** **TBD**
Submitter:	Todd Jones, Center for Resource Solutions	
Public Comment:	(b) ~~Global warming potential~~ Direct and indirect greenhouse gas emissions	
Reason:	(b) "Global warming potential" is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the building assembly to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions associated with the building assembly. We suggest clarifying this.	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	The commenter's reason is for clarity but the proposed language adds confusion. "Global Warming Potential" is the term currently used in rating systems and codes. Any LCA practitioner in compliance with ISO 14044 will consider direct and indirect greenhouse gas emissions as part of the global warming potential impact category. Outputs from many LCA software programs are aligned with Global Warming Potential. "Global Warming Potential" is broad term, not just focused on CO2.	

PC092 LogID 6072	**611.4 Product declarations**	***Final Formal Action:*** **TBD**
Submitter:	Paul Gay, US EcoLogic	
Public Comment:		
Reason:	is declaring a minimum of 10 different products a realistic target?	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	This is a realistic target based on product availability in the market.	

PC093 LogID 6209	**Chapter 6 Points**	***Final Formal Action:*** **TBD**
Submitter:	Task Group 3	
Public Comment:	All proposed updates to the point assignments for Chapter 6 as shown in Task Group Proposed Point Changes to 2015 NGBS Draft Standard.	
Reason:	Based on Task Group 3 review of the point assignments for Chapter 6 in accordance with the established process.	

Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	Approve all proposed updates to the point assignments for Chapter 6 as shown in 2015 NGBS Second Draft.
Committee Reason:	Based on Consensus Committee review of Task Group 3 recommendations on point assignments for Chapter 6 in accordance with the established process.

PC094 LogID 6202	**701.1 Mandatory requirements (Energy Efficiency)** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, Building Quality
Public Comment:	701.1 Mandatory Requirements. Unless otherwise noted, buildings in the Tropical Climate Zone shall comply with Climate Zone 1 requirements.
Reason:	Some might be confused by the Tropical Climate Zone, which is really a subset of Zone 1. Sometimes the Climate Zone 1 requirements work for the tropics, sometime they do not.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC095 LogID 6178	**701.1 Mandatory requirements (Energy Efficiency)** ***Final Formal Action:*** **TBD**
Submitter:	Jeff Inks, Window & Door Manufacturers Assn.
Public Comment:	This comment is submitted on behalf of TG-5 – Energy Efficiency. Points for Chapter 7 – Energy Efficiency must still be updated by the NGBS Committee as a result of the approved changes that have been implemented throughout the chapter. In addition points need to be determined for the new tropical zone as well as for the Threshold Point Ratings, including what % above the 2015 IECC is needed for the Silver, Gold & Emerald tiers.
Reason:	
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	Approve all proposed updates to the point assignments for Chapter 7 as shown in 2015 NGBS Second Draft.
Committee Reason:	Consistent with action on PC143

PC096 LogID 6118	**701.1.2 Minimum Prescriptive Path requirements** ***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, US-EcoLogic
Public Comment:	701.1.2 Minimum Prescriptive Path requirements. A building complying with Section 703 shallobtain a minimum of 30 points from Section 703 and shall include a minimum of two practicesfrom Section 705. Multi-unit buildings are not eligible for achieving a rating using this path.
Reason:	Point totals for Prescriptive measures (based on % of improvement for the measure) do not correlate between single family homes and multi-unit buildings. The prescriptive points therefore should not apply to multi-unit.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	

Committee Reason:	As written, this could eliminate the prescriptive compliance path for multifamily buildings, which is an important element for multifamily builder/owners.

PC097 LogID 6132	**701.1.2 Minimum Prescriptive Path requirements** ***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, US-EcoLogic
Public Comment:	**701.1.2 Minimum Prescriptive Path requirements.** A ~~building~~ single family home complying with Section 703 shall obtain a minimum of 30 points from Section 703 and shall include a minimum of two practices from Section 705. A multi-unit building complying with Section 703 shall obtain a minimum of XX points from Section 703 and shall include a minimum of two practices from Section 705. New point assignment needed for each 703 credit.
Reason:	The percentage of improvement calculations used to develop the points associated with specific measures in the Prescriptive path were based on a single family house and do not accurately reflect multi-unit buildings. A multi-unit building will need different point allocations on each credit and potentially a different total point for certification.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	Approve all proposed updates as shown in Appendix A: PC097 Modification.
Committee Reason:	Based on Consensus Committee review in accordance with the established process.

PC098 LogID 6117	**701.1.4 Alternative bronze level compliance** ***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, US-EcoLogic
Public Comment:	701.1.43 Alternative bronze and silver level compliance. As an alternative, any building that qualifies as an ENERGY STAR Version 3.0 Certified Home or ENERGY STAR Multifamily High Rise Version 1.0 Rev. ~~02~~03 building achieves the bronze level for Chapter 7. As an alternative, any building that qualifies as an ENERGY STAR Version 3.1 Certified Home or ENERGY STAR Multifamily High Rise Version1.0 Rev. ~~02~~03(with the baseline at ASHRAE 90.1-2010) building achieves the silver level for Chapter 7. The buildings achieving compliance under Section 701.1.4 are not eligible for achieving a rating level above bronze silver
Reason:	Update references to current version of ENERGY STAR.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC099 LogID 6096	**701.1.4 Alternative bronze level compliance** ***Final Formal Action:*** **TBD**
Submitter:	Siying Zhang, US EcoLogic
Public Comment:	
Reason:	possibility of adding 2015 IECC code as alternative compliance path?
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	Already required – 2015 IECC is base.

PC100 LogID 6196	**701.1.4 Alternative bronze level compliance** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, Building Quality

Public Comment:	Add as the next to last sentence: As an alternative in the Tropical Climate Zone, any building that meets the requirements in IECC Section R401.2.1 (Tropical Zone) achieves the silver level for Chapter 7.
Reason:	The IECC requirements in Section R401.2.1 (Tropical Zone) include: -- no heating -- no more than 1/2 the occupied space is cooled -- provision for using tropical breezes for cooling -- 90% solar water heating. These requirements would meet or exceed the silver level for Chapter 7.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Public Comment as Follows (changes shown in red):* As an alternative in the Tropical Climate Zone, any building that meets all of the requirements in IECC Section R401.2.1(Tropical Zone) achieves the silver level for Chapter 7.
Committee Reason:	Clarification to requirements.

PC101 LogID 6194	**701.4.3.2 Air sealing and insulation**	***Final Formal Action:*** **TBD**
Submitter:	Annette Rosenblum, MBIA	
Public Comment:	Proposed resolution: 701.4.3.2 Air sealing and insulation. Grade ~~2 and~~ 3.... with a Table showing no points awarded for Grade 2.	
Reason:	The information provided in the comments by Randall Melvin support the use of Grade 2 insulation. The Maryland Building Industry Association agrees that Grade 2 use should be allowed. While grade 2 insulation installation is not perfect and will receive no points, it is still a relatively decent installation. It should be allowed by the NGBS as it adds critical practicality and flexibility to the Standard. Code Sections R101.3 Intent and R102.1 General support flexibility in the code and the use of any material or insulating system that meets the intent of the code, respectively.	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	Committee does not want to allow Grade 2 insulation.	

PC102 LogID 6103	**701.4.3.3 Multi-unti air leakage alternative**	***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, US-EcoLogic	
Public Comment:	701.4.3.3 Multi-unit air leakage alternative. Multi-unit buildings in compliance with IECC section C402.5 (Air leakage-thermal envelope), as applicable, are deemed to comply with Sections 701.4.3.1and 701.4.3.2.	
Reason:	Exception should only apply to multi-unit buildings that already fall under the the Commercial sections of the IECC.	
Substantiating Documents:	No	
Committee Action from Meeting:	Accept as Modified	
Modification of Public Comment:	*Revise Public Comment as Follows (changes shown in red):* 701.4.3.3 Multi-unit air leakage alternative. Multi-unit buildings four or more stories in height and in compliance with IECC section C402.5 (Air leakage-thermal envelope)~~, as applicable,~~ are deemed to comply with Sections 701.4.3.1 and 701.4.3.2.	
Committee Reason:	Clarification of intent.	

PC103 LogID 6104	**701.4.4 High-efficacy lighting**	***Final Formal Action:*** **TBD**

Submitter:	Aaron Gary, US-EcoLogic
Public Comment:	701.4.4 High-efficacy lighting. Lighting efficacy <u>in dwelling units</u> is in accordance with one of the following:...
Reason:	The lighting power density of 1.1 watts/square foot cited as a mandatory is only relevant to dwelling units. Residential associated spaces within multi-unit buildings will have different targets based on use (per the 2015 IECC).
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC104 LogID 6097	**701.4.4 High-efficacy lighting**	***Final Formal Action:*** **TBD**
Submitter:	Siying Zhang, US EcoLogic	
Public Comment:		
Reason:	clarify the applicability for multifamily buildings. In-unit lighting or this is in-unit+common spaces + exterior?	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	In favor of action on PC103	

PC105 LogID 6145	**702.2.1 ICC IECC analysis**	***Final Formal Action:*** **TBD**
Submitter:	Keith Dennis, NRECA	
Public Comment:	Energy efficiency features are implemented to achieve energy cost ~~or source energy~~ performance that meets the ICC IECC. A documented analysis using software in accordance with ICC IECC, Section R405, or ICC IECC Section 506C407.2 through 506C407.5, applied as defined in the ICC IECC, is required.	
Reason:	The source energy metric suggested in this section is deeply flawed. This methodology treats non-carbon emitting sources like solar, wind, biomass, hydro and nuclear as if they are extremely inefficient coal power plants. Using a source energy metric and related methodologies as proposed means that any renewable energy on the grid will be treated as if it is more than 3X less efficient that fossil fuel combustion of site. Among the serious flaws in this approach is that even if the grid were 100% powered by renewable energy, consumers would be directed to burn fossil fuel in order to meet “green” codes. This is a in direct opposition to the intent of this code. Source values for other fuels suggested are also inaccurate. For a more detailed study on this issue prepared by Power Systems Engineering, see: http://www.nreca.coop/wp-content/uploads/2015/04/sourcesite_ratios_final_022015.pdf	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	Consistent with action on PC019 and PC021	

PC106 LogID 6053	**702.2.1 ICC IECC analysis**	***Final Formal Action:*** **TBD**
Submitter:	Steven Rosenstock, EEI	
Public Comment:	**702.2 Energy <u>cost</u> ~~cost~~ performance levels.**	

Reason:	The proposed change will make this standard consistent with the previous versions of the standard, which reached a consensus to use energy cost performance.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	Based on action on PC105 and PC107

PC107 LogID 6054	**702.2.1 ICC IECC analysis**	***Final Formal Action:*** **TBD**
Submitter:	Steven Rosenstock, EEI	
Public Comment:	**702.2.1 ICC IECC analysis.** **Energy efficiency features are implemented to achieve energy cost ~~or source energy~~ performance that meets the ICC IECC. A documented analysis using software in accordance with ICC IECC, Section R405, or ICC IECC Section 506C407.2 through 506C407.5, applied as defined in the ICC IECC, is required.**	
Reason:	The proposed change is not consistent with previous versions of the standard, and will not be consistent with other consensus standards (such as ASHRAE 90.1, ASHRAE 189.1, etc), which have achieved significant energy savings by using energy cost as the primary metric. Task Group 7 rejected the use of source energy in several votes.	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	Consistent with action on PC019 and PC020	

PC108 LogID 6055	**702.2.2 Energy performance analysis**	***Final Formal Action:*** **TBD**
Submitter:	Steven Rosenstock, EEI	
Public Comment:	**702.2.2 Energy <u>cost</u> performance analysis.** **Energy <u>cost</u> savings levels above the ICC IECC are determined through an analysis that includes improvements in building envelope, air infiltration, heating system efficiencies, cooling system efficiencies, duct sealing, water heating system efficiencies, lighting, and appliances. Points are assigned using the following formula:**	
Reason:	Reinsert the word "cost" to be consistent with the previous versions of the standard.	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	Based on action on PC105 and PC107	

PC109 LogID 6098	**702.2.2 Energy performance analysis**	***Final Formal Action:*** **TBD**
Submitter:	Siying Zhang, US EcoLogic	
Public Comment:		
Reason:	Add a formula for projects using 90.1 models with ASHRAE 90.1-2010 as baseline.	

Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	Unclear what proponent is actually recommending. No formula is provided nor is there an indication of what 90.1 models are being referenced. Current formula applies to all residential buildings covered by the standard.

PC110 LogID 6179	**703.1 Mandatory practices** ***Final Formal Action:*** **TBD**
Submitter:	Jeff Inks, Window & Door Manufacturers Assn.
Public Comment:	
Reason:	This comment is submitted on behalf of TG-5 – Energy Efficiency. TG-5 is recommending that 30 points be assigned for meeting the mandatory practices of section 703. TG-5 is recommending that 30 points be assigned to be consistent with the previous editions of the NGBS for meeting the minimum requirements for achieving a bronze level rating.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC111 LogID 6025	**703.1.1 UA compliance** ***Final Formal Action:*** **TBD**
Submitter:	Roger L. LeBrun, VELUX America Inc.
Public Comment:	**703.1.1 UA Compliance.** The building thermal envelope is in compliance with Section 703.1.1.1 or 703.1.1.2. **703.1.1.2 Prescriptive R-values and Fenestration Requirements.** The building thermal envelope is in accordance with the insulation and fenestration requirements of 2015 IECC Table R402.1.1 or Tables C402.1.3 and C402.4. The SHGC is in accordance with the 2015 IECC requirements.
Reason:	UA only relates to the thermal envelope, so that phrase is needed in two places.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC112 LogID 6087	**703.1.3 Duct testing** ***Final Formal Action:*** **TBD**
Submitter:	Chuck Arnold, Home Innovation
Public Comment:	Exception: Section 703.1.3 is not required for Tropical Climate Zone.
Reason:	Need to add the same exception for tropical climate zones as listed for the rest of 703.1
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove

Modification of Public Comment:	
Committee Reason:	If duct systems are installed in the Tropical Zone, they should be tested.

PC113 LogID 6180	**703.2 Building envelope**	***Final Formal Action:*** **TBD**
Submitter:	Jeff Inks, Window & Door Manufacturers Assn.	
Public Comment:		
Reason:	This comment is submitted on behalf of TG-5 – Energy Efficiency. Delete entire section 703.2.2 without replacement and move all of Section 703.2.2 to new Section 701.4.3.2.1. Given only Grade 1 insulation installation is permitted, there is no longer the need for the provisions in Section 703.2.2. As such, Grade 1 insulation installation is a minimum energy efficiency requirement in the NGBS and therefore is better located in Section 701, under Section 701.4.3 – Insulation and air sealing.	
Substantiating Documents:	No	
Committee Action from Meeting:	Accept	
Modification of Public Comment:		
Committee Reason:	Consistent with action on PC101.	

PC114 LogID 6195	**703.2.2 Insulation installation**	***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, Building Quality	
Public Comment:	Section 703.2.2 .... ~~Grade 3 insulation installation is not permitted. Grade 2 installation is permitted only for bronze level buildings.~~ text not shown in unchanged.	
Reason:	Section 703.2.2.1 was changed to allow only Grade 1 insulation. A coordinating change was not made with Section 703.2.2, as it makes no sense to mention Grade 2 or Grade 3 insulation any more.	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	In favor of action on PC113	

PC115 LogID 6090	**703.2.2 Insulation installation**	***Final Formal Action:*** **TBD**
Submitter:	Chuck Arnold, Home Innovation	
Public Comment:	The insulation installation is graded by a third party and is in accordance with Sections 703.12.2.1, 703.12.2.2, and/or 703.12.2.3 as applicable. Grade <u>2 &</u> 3 insulation installation is not permitted. ~~Grade 2 installation is permitted only for bronze level buildings.~~ Table 703.2.2 needs to be modified as well.	
Reason:	Grade 2 Insulation installation is not permitted per 701.4.3.2	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	In favor of action on PC113	

PC116 LogID 6204	**703.2.6.1 Fenestration Specifications**	***Final Formal Action:*** **TBD**

Submitter:	Craig Conner, Building Quality
Public Comment:	For both Section 703.2.6.1and 703.2.6.2 Exception: Windows and doors in the Tropical Climate Zone shaded by a projection factor of 0.30 or more.
Reason:	The tropical sun is overhead and does not get low in the sky. Where there are large shading devices or overhangs, the SHGC is not of much importance. For example large outdoor/indoor areas that are lanais can include substantial shading overhead.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	The tropical sun does get low, adds to air conditioning load, and 75% of the time this would be beneficial.

PC117 LogID 6026	**703.2.6.2 Enhanced Fenestration Specifications** ***Final Formal Action:*** **TBD**
Submitter:	Roger L. LeBrun, VELUX America Inc.
Public Comment:	Change CZ4 SHGC for Windows & Exterior Doors to **0.35** Change CZ4 SHGC for Skylights and TDDs to **0.30** Change CZ4 U-Factor for Skylights and TDDs to **0.45** Change CZ5 U-Factor for Skylights and TDDs to **0.42**
Reason:	In Table 703.2.6.2(c): 1. The SHGC values for Climate Zone 4 need to be lower than for Table (b) 2. The skylight U-Factors are in the triple pane range, and should be higher. The increase in stringency from Table (b) should be similar to that used for window U-Factor.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Public Comment as Follows (changes shown in red):* ~~Change CZ4 SHGC for Windows & Exterior Doors to **0.35**~~ ~~Change CZ4 SHGC for Skylights and TDDs to **0.30**~~ Change CZ4 U-Factor for Skylights and TDDs to **0.45** Change CZ5 U-Factor for Skylights and TDDs to **0.42**
Committee Reason:	The proposed reductions in SHGC may not be appropriate for climate zone 4 (in some cases it may increase energy usage and in other cases not). In addition, while the SHGC for windows & doors in Table 703.2.6.2(c) CZ4 is the same as in Table 703.2.6.2(b), the U-factor in Table 703.2.6.2(c) is lower for those products.

PC118 LogID 6056	**703.3.3 Heat pump heating efficiency** ***Final Formal Action:*** **TBD**
Submitter:	Steven Rosenstock, EEI
Public Comment:	**Table 703.3.3(2)** **Gas Engine-Driven Heat Pump Heating** 6-8 b b. Equipment designed to operate in cold climates is recommended to have a condensing furnace (at least 90 AFUE) as a backup system when installing a gas-fired heat pump in Zones 5-8.

Reason:	The modifications shown below will improve the table. There are no minimum federal efficiency standards for gas-fired heat pumps, so the backup system could have very low efficiency. Points for higher efficiency electric heating systems should be higher than for gas heat pump systems in all climate zones.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	

PC119 LogID 6057	**703.3.4 Cooling efficiency** *Final Formal Action:* **TBD**
Submitter:	Steven Rosenstock, EEI
Public Comment:	**Table 703.3.4(2)** **Gas Engine-Driven Heat Pump Cooling** **Efficiency** **Climate Zone** 1 2 3 4 5 6-8 **POINTS** >1.2 COP at 95?F ~~**7**~~ **2** ~~**5**~~ **1** ~~**2**~~ **0** ~~**1**~~ **0** ~~**1**~~ **0** **0**
Reason:	Gas cooling technology uses much more energy than electric cooling technology. For example, a 12.5 EER electric system is equivalent to 3.66 COP, compared to a 1.2 COP gas cooling system. Points for gas equipment should always be much less than for electric cooling equipment of any EER value shown, since they are using so much more energy.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Public Comment as Follows (changes shown in red):* **Table 703.3.4(2)** **Gas Engine-Driven Heat Pump Cooling** **Efficiency** **Climate Zone** 1 2

	3 4 5 6-8 **POINTS** >1.2 COP at 95?F ~~7~~ ~~2~~ 3 ~~5~~ ~~1~~ 6 ~~2~~ ~~0~~ 3 ~~1~~ ~~0~~ 1 ~~1~~ ~~0~~ 1 **0**
Committee Reason:	Small residential size may not be widely available so relying on points for electric equipment.

PC120 LogID 6197	**703.3.4 Cooling efficiency** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, Building Quality
Public Comment:	Add a footnote to Table 703.3.4(1) For the Tropical Climate Zone: not air conditioning half the occupied space is 20 points. not air conditioning any occupied space is 40 points.
Reason:	One important energy saving strategy in the Tropical Climate Zone is not to air condition part or all of the home. IECC Section R401.2.1 (Tropical Zone option) requires half the occupied space to be un-airconditioned. Obviously no air conditioning saves more energy than a high SEER. This is shown as a footnote to Table 703.3.4(1), but it also could be a sentence in the section.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Draft Standard as Follows:* *Add a footnote to Table 703.3.4(1)* Tropical Climate Zone: where none of the occupied space is air conditioned and where ceiling fans are provided for bedrooms and the largest space which is not used as a bedroom, 20 points is awarded.
Committee Reason:	Eliminate the reference to partial air-conditioning in favor of no air-conditioning installed to simplify the verification process and to align the point level with the expected energy savings.

PC121 LogID 6181	**703.3.9 In multi-unit buildings, energy data available to occupants** ***Final Formal Action:*** **TBD**
Submitter:	Jeff Inks, Window & Door Manufacturers Assn.
Public Comment:	This comment is submitted on behalf of TG-5 – Energy Efficiency. Move entire Section 703.3.9 to Section 705 – Additional Practices and maintain one point award for the practice.
Reason:	TG-5 believes credit for this practice should be earned as an additional practice rather than earned as an option included under Section 703.3.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC122 LogID 6105	**703.4.4 Duct Leakage** ***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, US-EcoLogic
Public Comment:	703.4.4 Duct Leakage. The entire central HVAC duct system, including air handlers and register boots, is tested by a third party for total leakage at a pressure differential of 0.1 inches w.g. (25 Pa)and maximum

	air leakage is equal to or less than ~~6 percent of the system design flow rate~~ 3 cubic feet per minutes per 100 square feet of conditioned floor area.
Reason:	Align with 2015 IECC
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Draft Standard as Follows:* 703.3.4 Duct Leakage. The entire central HVAC duct system, including air handlers and register boots, is tested by a third party for total leakage at a pressure differential of 0.1 inches w.g. (25 Pa) and maximum air leakage is equal to or less than 6 percent of the system design flow rate or 4 cubic feet per minute per 100 square feet of conditioned floor area.
Committee Reason:	To be consistent with the IECC and QI 5.

PC123 LogID 6182	**703.6.2 Recessed luminaires** ***Final Formal Action:*** **TBD**
Submitter:	Jeff Inks, Window & Door Manufacturers Assn.
Public Comment:	This comment is submitted on behalf of TG-5 – Energy Efficiency. Move entire Section 703.6.2 to Section 705 – Additional Practices, under Section 705.2 accordingly and award one point for the practice.
Reason:	TG-5 believes credit for this practice should be earned as an additional practice rather than earned as an option included under Section 703.6.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC124 LogID 6183	**703.6.4 Induction cooktop** ***Final Formal Action:*** **TBD**
Submitter:	Jeff Inks, Window & Door Manufacturers Assn.
Public Comment:	This comment is submitted on behalf of TG-5 – Energy Efficiency. Move entire Section 703.6.4 to Section 705 – Additional Practices, as new Section 705.3. Maintain one point award for the practice.
Reason:	TG-5 believes credit for this practice should be earned as an additional practice rather than earned as an option included under Section 703.6.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC125 LogID 6099	**704.1 HERS index target compliance** ***Final Formal Action:*** **TBD**
Submitter:	Siying Zhang, US EcoLogic
Public Comment:	
Reason:	Clarify the version of Energy Star protocal
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	Consistent with actions on PC098, PC189, and PC190

PC126 LogID 6106	705.1 Application of additional practice points *Final Formal Action:* **TBD**
Submitter:	Aaron Gary, US-EcoLogic
Public Comment:	705.1 Application of additional practice points. Points from Section 705 can be added to points earned in Section 702 (Performance Path), Section 703 (Prescriptive Path), Section 704 (HERS Index Target Path), or Section 701.1.~~3~~4(alternative bronze and silver level compliance).
Reason:	clean up section references
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	Note: Identical to PC127

PC127 LogID 6088	705.1 Application of additional practice points *Final Formal Action:* **TBD**
Submitter:	Chuck Arnold, Home Innovation
Public Comment:	Application of additional practice points. Points from Section 705 can be added to points earned in Section 702 (Performance Path), Section 703 (Prescriptive Path), Section 704 (HERS Index Target Path), or Section 701.1.~~3~~4 (alternative bronze and silver level compliance).
Reason:	Needs to be reworded so it matches changes made to 701.1.4
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	Note: Identical to PC126

PC128 LogID 6073	705.2.1 Lighting controls *Final Formal Action:* **TBD**
Submitter:	Chuck Arnold, Home Innovation
Public Comment:	25-49 percent 50-74 percent 75 percent or more
Reason:	The percentages listed should provide a specific range and not list a specific percentage. This should be done for each of the subsections - interior, exterior, and multi-unit common areas.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Draft Standard as Follows:* ***For sections 705.2.1.1 Interior lighting, 705.2.1.2 Exterior lighting, and 705.2.1.3(1) Multi-unit common areas make the following change:*** (~~1) 25 percent of lighting fixtures.~~ (~~2~~1) 50 percent to less than 75 percent of lighting fixtures. (~~3~~2) a minimum of 75 percent of lighting fixtures ***For section 705.2.1.3(2) Multi-unit common areas and 705.2.1.4 make the following change:*** (a) ~~A minimum of~~ 50 percent to less than 75 percent or to local minimum requirements
Committee Reason:	To be consistent with other provisions in Chapter 7 and removal of 25 percent from provisions

PC129 LogID 6205	705.2.1 Lighting controls *Final Formal Action:* **TBD**
Submitter:	Craig Conner, Building Quality

Public Comment:	
Reason:	The terms "vacancy sensor" and "occupancy sensor" overlap and should be combined. Sensor is something that is used outside of lighting, so the terms should not specify lighting. See Sections 705.2.1.1 and 705.2.1.3. Some parts of NGBS use just "occupancy sensor" those can remain as is.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Draft Standard as Follows:* ~~**VACANCY SENSOR.** Devices that generally use passive infrared and/or ultrasonic technology or a combination of multiple sensing technologies to determine if a space is occupied. If a space is unoccupied, the device will automatically turn the lights off, but the device does not automatically turn lights on.~~ **705.2.1.1 Interior lighting.** Indwelling units, permanently installed interior lighting fixtures are controlled with an ~~vacancy sensor,~~ occupancy sensor, or dimmer: **705.2.1.3 Multi-unit common areas.** (1) In a multi-unit building, ~~vacancy sensors,~~ occupancy sensors~~,~~ or dimmers are installed in common areas (except corridors and stairwells).
Committee Reason:	Occupancy sensor is an umbrella term that covers vacancy sensors.

PC130 LogID 6107	**705.3 Return ducts and transfer grilles** *Final Formal Action:* **TBD**
Submitter:	Aaron Gary, US-EcoLogic
Public Comment:	705.3 Return ducts and transfer grilles. Return ducts or transfer grilles are installed in every room with a door. Return ducts or transfer grilles are not required for bathrooms, kitchens, closets, pantries, and laundry rooms.~~5~~2 (points)
Reason:	Point value of this credit is overvalued in comparison to others that provide more measurable energy performance improvement given revised point threshold for Chapter 7.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC131 LogID 6108	**705.4.3 Air handler leakage** *Final Formal Action:* **TBD**
Submitter:	Aaron Gary, US-EcoLogic
Public Comment:	Remove 705.4.3 Air handler Leakage in its entirety.
Reason:	This credit is mandatory code requirement of the 2015 IECC and should not be worth additional points.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC132 LogID 6109	**705.5.1 Third-party inspections (Installation and performance verification)** *Final Formal Action:* **TBD**
Submitter:	Aaron Gary, US-EcoLogic
Public Comment:	705.5.1 Third-party on-site inspection is conducted to verify compliance with all of the following, as applicable. Minimum of two inspections are performed: one inspection after insulation is installed and

	prior to covering, and another inspection upon completion of the building. Where multiple buildings or dwelling units of the same model are built by the same builder, a representative sample inspection of a minimum of 15 percent of the buildings or dwelling units is permitted. ~~5~~ 3 (points)
Reason:	This credit is overvalued in light of revised Chapter 7 thresholds.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC133 LogID 6110	**705.5.2.1 Building envelope leakage testing** ***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, US-EcoLogic
Public Comment:	705.5.2.1 Building envelope leakage testing. Building envelope leakage testing is performed in accordance with the following: (Points awarded only for buildings where building envelope leakage testing is not required by 2015 IECC.) (1) A blower door test and a visual inspection are performed as described in ~~701.4.3.2~~ IECC C402.5. ~~5TBD~~3 (points) (2) Third-party verification is completed. 5~~TBD~~ (points)
Reason:	Align target with 2015 IECC for Commercial Multifamily projects (which are the only projects eligible for this credit).
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise the Draft Standard as follows:* **705.5.2.1 ~~Building envelope~~ Air leakage ~~testing~~ validation of building or dwelling units.** A visual inspection is performed as described in 701.4.3.2(2) ~~Building envelope~~ and air leakage testing is performed in accordance with ASTM E779 or ASTM E1827.~~the following:~~ **(Points awarded only for buildings where building envelope leakage testing is not required by 2015 IECC.)** **(1)** A blower door test ~~and a visual inspection are performed as described in 701.4.3.2~~. — **~~TBD~~3** **(2)** Third-party verification is completed. — **~~TBD~~5**
Committee Reason:	This mod provides direct references how to comply with the standard.

PC134 LogID 6079	**705.5.2.1 Building envelope leakage testing** ***Final Formal Action:*** **TBD**
Submitter:	Chuck Arnold, Home Innovation
Public Comment:	~~(Points awarded only for buildings where building envelope leakage testing is not required by 2015 IECC.)~~
Reason:	The new language specifying points awarded only for buildings where building envelope leakage testing is not required by 2015 IECC results in points only being awarded for homes in a tropical zone. This restriction should be removed.
Substantiating Documents:	No

Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	Building envelope leakage testing is not required by the commercial provisions of the IECC which are applicable to multi-unit residential buildings with four or more stories.

PC135 LogID 6111	**705.5.2.2 HVAC airflow testing** ***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, US-EcoLogic
Public Comment:	705.5.2.2 HVAC airflow testing. Balanced HVAC airflows are demonstrated by flow hood or other acceptable flow measurement tool by a third party. Test results are in accordance with both of the following:~~8~~ 5 (points)
Reason:	The points for this credit are overvalued given the revised Chapter 7 thresholds.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC136 LogID 6113	**705.5.3 Insulating hot water pipes** ***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, US-EcoLogic
Public Comment:	705.5.3 Insulating hot water pipes. Insulation with a minimum thermal resistance (R-value)of at least R-3 is applied to the following, as applicable:1 (Points awarded only where these practices are not required by ~~2015~~ IECC.)
Reason:	Remove 2015 from text for consistency (alternatively add 2015 into text for all credits where the IECC is referenced.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC137 LogID 6112	**705.52.3 HVAC duct leackage testing** ***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, US-EcoLogic
Public Comment:	705.5.2.3 HVAC duct leakage testing. One of the following is achieved: (Points awarded only for buildings where duct leakage testing is not required by ~~2015~~IECC.) (1) Duct leakage is in accordance with ~~2015~~ IECC R403.3.3 and R403.3.4. ~~X~~ 3 (points) (2) Duct leakage is in accordance with ~~2015~~ IECC R403.3.3 and R403.3.4, and testing is conducted by an independent third-party. ~~X~~ 5 (points)
Reason:	Remove 2015 reference for consistency (alternatively add 2015 into all credits where the "IECC" is referenced. Suggested points for each measure.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC138 LogID 6089	**705.52.3 HVAC duct leackage testing** ***Final Formal Action:*** **TBD**

Submitter:	Chuck Arnold, Home Innovation
Public Comment:	~~(Points awarded only for buildings where duct leakage testing is not required by 2015 IECC.)~~
Reason:	The new language specifying points awarded only for buildings where building envelope leakage testing is not required by 2015 IECC results in points only being awarded for homes in a tropical zone. This restriction should be removed.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	Duct leakage testing is not required by the commercial provisions of the IECC which are applicable to multi-unit residential buildings with four or more stories.

PC139 LogID 6100	**706.3 Smart Appliances and Systems**	***Final Formal Action:*** **TBD**
Submitter:	Siying Zhang, US EcoLogic	
Public Comment:		
Reason:	define smart appliances...	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	Proponent provided no definition for consideration and what “smart appliances” are is already sufficiently understood.	

PC140 LogID 6114	**706.5 On-site renewable energy system**	***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, US-EcoLogic	
Public Comment:	706.5 On-site renewable energy system. An on-site renewable energy system(s) is installed on the property (Points awarded for every ~~100 W~~ 1 kW of system rating installed for every 2,000 square feet of total conditioned floor area of the building. Points shall not be awarded in this section for solar thermal or geothermal systems that provide space heating, space cooling, or water heating, Points for these systems are awarded in Section 703.)	
Reason:	Points are assigned for renewable energy are overvalued given the revised chapter 7 thresholds. For example a 5 KW PV system (which is now fairly affordable) is worth 50 points on a 2000 SF home. Under the revised Chapter 7 thresholds this now places a home that meets the minimum compliance thresholds + a 5 KW PV system into Emerald certification.	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Public Comment:		
Committee Reason:	Based upon previous action on points for this practice.	

PC141 LogID 6166	**706.5 On-site renewable energy system**	***Final Formal Action:*** **TBD**
Submitter:	Todd Jones, Center for Resource Solutions	
Public Comment:	An on-site renewable energy system(s) is installed on the property, and the renewable energy certificates (RECs) are retained and retired on-site for the building’s own consumption.	
Reason:	If the intent of this requirement is that buildings use/consume the renewable electricity from an onsite system (as opposed to installing an onsite system and generating green power for other grid consumers, or which the utility could potentially use to meet a state requirement), then the building must retain and retire the renewable energy certificates (RECs) associated with the electricity generated onsite.	

Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	May not be available in all areas and would add significant record keeping/administrative burden especially for single family construction.

PC142 LogID 6201	**706.7 Grid-interactive electric thermal storage system** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, Building Quality
Public Comment:	~~**706.7 Grid-interactive electric thermal storage system.** A grid-interactive electric thermal storage system is installed.~~ ~~(1) Grid-Interactive Water Heating System~~ ~~(2) Grid-Interactive Space Heating System~~ ~~**GRID-INTERACTIVEELECTRIC THERMAL STORAGE (GETS).** An energy storage system that provides electric system grid operators such as utilities, independent system operators (ISOs) and regional transmission organizations (RTOs), with variable control of a building's space heating and service water heating end uses.~~ **706.9 Automatic demand response.** Automatic demand response system is installed that curtails energy usage upon a signal from the utility or an energy service provider ~~is installed~~.
Reason:	Smart Appliance (706.3), Automatic Demand Response (706.9), and Grid Interactive Electric Thermal Storage System (706.7) are overlapping and double or triple counting. A water heater could do all three, for example. Delete 706.7, which seems the most poorly defined and badly named; as well as incomplete (Grid-interactive Space Cooling System would be possible too). This change leaves the other two sections, one section for having the appliance and the other for connecting them to the utility. This also made an editorial change in Section 706.9.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	The practice proposed for deletion does not result in duplicative credit.

PC143 LogID 6213	**Chapter 7 Points** ***Final Formal Action:*** **TBD**
Submitter:	Task Group 5
Public Comment:	All proposed updates to the point assignments for Chapter 7 as shown in Task Group Proposed Point Changes to 2015 NGBS Draft Standard.
Reason:	Based on Task Group 5 review of the point assignments for Chapter 7 in accordance with the established process.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	Approve all proposed updates to the point assignments for Chapter 7 as shown in 2015 NGBS Second Draft.
Committee Reason:	Based on Consensus Committee review of Task Group 5 recommendations on point assignments for Chapter 7 in accordance with the established process.

PC144 LogID 6018	**801.6.1 Multi-stream rotating nozzles (Irrigation systems)** ***Final Formal Action:*** **TBD**
Submitter:	Brent Mecham, Irrigation Association

Public Comment:	801.6.1 Sprinkler ~~Multi-stream, multi-trajectory rotating nozzles are installed in lieu of or spray head~~ nozzles shall have a maximum precipitation rate of 1.20 inches per hour for turf or landscaping. Nozzle performance is tested by an accredited third party laboratory and results are posted on Smart Water Application Technologies website or similar.
Reason:	Simplify language to cover all sprinkler and nozzles that could be used including new technology that is being developed, but to limit the choices with the specified maximum precipitation rate. Establish a common location where nozzle performance can be posted such as Smart Water Application Technologies (SWAT) which has done this for a number of years for controller, soil moisture sensors etc. www.irrigation.org/SWAT is often referenced in many landscape/irrigation ordinances. When/If EPA WaterSense labels the nozzles, that would be a future reference.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC145 LogID 6149	**801.6.2 Drip irrigation is installed** ***Final Formal Action:*** **TBD**
Submitter:	Lauren Helixon, US EcoLogic
Public Comment:	
Reason:	This credit is too stringent and limited in scope. For part 1, this strategy assumes drip irrigation is the preferred method to irrigate landscape beds, but this is not always the case. For example, what if a landscape bed includes a tree or is comprised of only a tree with mulch? In this situation it might be more appropriate to install a bubbler feature so as to provide adequate amounts of water for the root system. How would this situation be handled by the standard? As it relates to part 2 of the credit, it is infeasible to expect all turf landscaping to utilize drip irrigation. Rather than an "all or nothing" strategy, why not provide a point threshold based upon a percentage of turf irrigated with drip irrigation?
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	Specific changes to the credit were not proposed. As a green code, the NGBS is designed to be more stringent that common practice. Drip systems can be used for trees by using zones, adjusting the number of emitters and the flow rate of emitters. If all turf grass in a design is not suitable for underground drip then the credit is not achievable.

PC146 LogID 6129	**801.6.3 Irrigation plan and implementation** ***Final Formal Action:*** **TBD**
Submitter:	Anthony Floyd, City of Scottsdale
Public Comment:	801.6.3 Irrigation plan and implementation are executed by a professional certified by a WaterSense labeled program or equivalent qualified professional as approved by Adopting Entity. ~~5~~ Mandatory
Reason:	Any irrigation plan should be prepared by a qualified irrigation professional to ensure a water efficient design and installation based on landscape plant selection and placement. A WaterSense certified professional or equivalent qualified professional is crucial to designing any effective irrigation system and therefore should be mandatory, particularly for sites associated with green buildings. Adopting entities need qualified professionals preparing qualified plans. Otherwise, unqualified plans lead to substandard installations and unintended outcomes.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified

Modification of Public Comment:	*Revise Draft Standard as Follows:* Where an irrigation system is installed, an Irrigation plan and implementation are executed by a qualified professional certified by a WaterSense labeled program or equivalent program as approved by Adopting Entity. ~~5~~ Mandatory
Committee Reason:	Provides clarification as to who can create and implement these plans. Not mandatory to install irrigation system.

PC147 LogID 6019	**801.6.4 Irrigation system(s) smart controller or no irrigation is installed**	***Final Formal Action:*** **TBD**
Submitter:	Brent Mecham, Irrigation Association	
Public Comment:	(2) Irrigation controllers are labeled by EPA ~~in accordance with~~ WaterSense program.~~Specification for Weather-BasedIrrigation Controllers Version 1.0, 2011~~	
Reason:	Open the door for other types of controllers that could be labeled by the EPA WaterSense program besides just weather-based controller. EPA is looking at labeling other products. Changes would then keep this timeless and in case modifications to the listed specification are made. To earn the label, the products are tested by qualified labs and have to meet minimum performance specifications.	
Substantiating Documents:	No	
Committee Action from Meeting:	Accept	
Modification of Public Comment:		
Committee Reason:		

PC148 LogID 6020	**801.6.5 Irrigation zones with pressure regulation**	***Final Formal Action:*** **TBD**
Submitter:	Brent Mecham, Irrigation Association	
Public Comment:	801.6.5 All ~~sprinkler~~ irrigation zones utilize pressure regulation or pressure compensation so ~~sprinklers~~ emission devices (sprinklers and drip emitters) operate at manufacturer's recommended operating pressure.	
Reason:	All irrigation zones should have proper pressure regulation including the drip irrigation zones for the emission devices to have proper operating pressures. There is a slight difference between pressure regulation and pressure compensation, so both technologies should be included.	
Substantiating Documents:	No	
Committee Action from Meeting:	Accept as Modified	
Modification of Public Comment:	*Revise Public Comment as Follows (changes shown in red):* 801.6.5 All ~~sprinkler~~ irrigation zones utilize pressure regulation ~~or pressure compensation~~ so ~~sprinklers~~ emission devices(sprinklers and drip emitters) operate at manufacturer's recommended operating pressure.	
Committee Reason:	Unsure about the added cost with adding pressure compensation pumps.	

PC149 LogID 6156	**802.1 Reclaimed, gray, or recycled water (Innovative practices)**	***Final Formal Action:*** **TBD**
Submitter:	Marie Nisson, US EcoLogic	
Public Comment:	(Points awarded for either Section 802.~~5~~6 or 802.1, not both.)	
Reason:	The numbering for the practice has changed due to additions included in the draft. This recommendation matches the intent of the statement with the new numbering	
Substantiating Documents:	No	
Committee Action from Meeting:	Accept	

Modification of Public Comment:	
Committee Reason:	

PC150 LogID 6016	**802.2 Reclaimed water, greywater, or rainwater pre-piping** *Final Formal Action:* **TBD**
Submitter:	Dana Bres, US HUD
Public Comment:	802.2 Reclaimed water, graywater, or rainwater pre-piping. Reclaimed, graywater, or rainwater systems are rough plumbed (and permanently marked, tagged or labeled) into buildings for future use where service is not yet available or permitted by applicable codes or by the authority having jurisdiction.
Reason:	The property may be sold to a new owner before reclaimed, graywater or rainwater systems are permitted by the AHJ. Permanently marking the rough plumbing will prevent cross connects and assist the future homeowner
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC151 LogID 6032	**802.2 Reclaimed water, greywater, or rainwater pre-piping** *Final Formal Action:* **TBD**
Submitter:	Michael Cudahy, PPFA
Public Comment:	802.2Reclaimed water, graywater, or rainwater pre-piping. Reclaimed, graywater, or rainwater systems are rough plumbed into buildings for future use. ~~where service is not yet available or permitted by applicable codes or by the authority having jurisdiction.~~
Reason:	The roughing in of piping for future water conserving systems should be encouraged beyond areas where it is not yet permitted. Designing a building for future use of these systems deserves some credit. In many cases, and especially in a slab on grade home, a retrofit is too costly and difficult.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC152 LogID 6210	**Chapter 8 Points** *Final Formal Action:* **TBD**
Submitter:	Task Group 4
Public Comment:	All proposed updates to the point assignments for Chapter 8 as shown in Task Group Proposed Point Changes to 2015 NGBS Draft Standard.
Reason:	Based on Task Group 4 review of the point assignments for Chapter 8 in accordance with the established process.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	Approve all proposed updates to the point assignments for Chapter 8 as shown in 2015 NGBS Second Draft.
Committee Reason:	Based on Consensus Committee review of Task Group 4 recommendations on point assignments for Chapter 8 in accordance with the established process.

PC153 LogID 6158	901.1.4 Gas fireplaces and direct heating equipment vented outdoors *Final Formal Action:* **TBD**
Submitter:	Michelle Desiderio, Home Innovation
Public Comment:	Mandatory <u>for fireplaces within dwelling units.</u>
Reason:	Continue to have the practice Mandatory for fireplaces within dwelling units but allow for unvented fireplaces in common areas, with the option to get points if they are vented. The NGBS mandates fireplaces must be vented to the outdoors because of concern for unvented fireplaces within SF homes and MF dwelling units. However, many multifamily buildings are installing one single fireplace in the lobby. This one fireplace, if it is not vented can render the entire MF building from being certified under the NGBS. While there is reasonable concern regarding the indoor environmental quality in apartments or homes with unvented fireplaces, there is not nearly the concern with one fireplace in the lobby area of a MF building. The proposal below would change the points for this practice to make it not mandatory to vent fireplaces that are in the lobby/common area of MF buildings but still require venting for fireplaces in SF homes or MF dwelling units.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC154 LogID 6130	901.12 Carbon monoxide alarms *Final Formal Action:* **TBD**
Submitter:	Anthony Floyd, City of Scottsdale
Public Comment:	901.12 Carbon monoxide (CO) alarms. A carbon monoxide (CO) alarm is <u>provided in accordance with the IRC Section R315</u> ~~installed in a central location of each sleeping area in the immediate vicinity of the bedrooms. The CO alarm(s) is located in accordance with NFPA 720 and is hardwired with a battery backup. The alarm device(s) is certified by a third-party for conformance to either CSA 6.19 or UL 2034.~~ ~~4~~ <u>Mandatory</u>
Reason:	Carbon monoxide (CO) alarms are required by 2015 IRC when there is a fuel-fired appliance located in the house or where there is an attached garage with an opening into the dwelling. CO alarm locations are prescribed by the IRC and no longer NFPA 720. As a code requirement, CO alarms should be mandatory and not point-based. This eliminates “unfairness” of home fuel differences and the ability for a home to achieve NGBS points.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC155 LogID 6199	901.2.2 Solid fuel-burning appliances are not installed *Final Formal Action:* **TBD**
Submitter:	Joe Seymour, Biomass Thermal Energy Council
Public Comment:	Page 90, 901.2.2 Fireplaces, woodstoves, pellet stoves, or masonry heaters are not installed 7 Change: **7** to ~~**7**~~ and replace with **0**
Reason:	"Remove Point Total for Section 901.2.2" Reason statement: Chapter 9, Indoor Environmental Quality, section 901.2.1, awards various point totals for code-compliant wood-burning stoves and heaters, whereas section 901.2.2 awards the highest total, seven points for non-installation of woodstoves, pellet stoves and masonry heaters. These adjoining sections, taken together, provide unclear guidance

	on installing clean, highly efficient wood-burning technologies. In fact, several wood-burning appliances achieve the highest efficiencies available for renewable heating. Furthermore, maintaining different point classes for installation and non-installation make no sense when taking in consideration widely-available, clean, wood-burning technologies that meet NGBS principles.
Substantiating Documents:	Yes, substantiating documents can be found at homeinnovation.com/ngbs under the Public Comments
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	901.2.2 Fireplaces, woodstoves, pellet stoves, or masonry heaters are not installed ~~7~~6
Committee Reason:	Not installing fireplaces provides environmental benefit equal to that in practices above.

PC156 LogID 6136	**901.7 Floor materials** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Public Comment:	"Points are awarded for every 10% of conditioned floor space using one of the below materials, up to a maximum of 6 points:"
Reason:	The new language states: "Points are awarded for every 10% of conditioned floor space using one of the below materials:" yet the number of points available (6) indicates that no points are available past 60%. We feel that for this credit that it is appropriate to leave six as the maximum number of points available and suggest language to clarify this in the provision. There is a similar issue in Chapter 11, Section 11.901.7, which has parallel language for remodeling.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC157 LogID 6030	**902.1.5 Fenestration cross-ventilation** ***Final Formal Action:*** **TBD**
Submitter:	Roger L. LeBrun, VELUX America Inc.
Public Comment:	902.1.5 Fenestration in spaces other than those identified in 902.1.1 through 902.1.4 are designed for stack effect or cross-ventilation in accordance with all of the following: Operable windows, skylights and sliding glass doors with a total area of at least 15 percent of the conditioned floor area are provided. (2) Insect screens are provided for all operable windows, skylights and sliding glass doors. (3) Wherever practical, ~~A~~an operable skylight is installed, and a minimum of two operable windows or sliding glass doors are placed in adjacent or opposite walls. If there is only one wall surface in that space exposed to the exterior, the minimum windows or sliding glass doors may be on the same wall.

	(1)
Reason:	Stack effect natural ventilation is much more effective than cross-ventilation. It should be provided wherever cross-ventilation is not possible, and is preferable to cross-ventilation whenever practical.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Public Comment as Follows (changes shown in red):* 902.1.5 Fenestration in spaces other than those identified in 902.1.1 through 902.1.4 are designed for stack effect or cross-ventilation in accordance with all of the following: (1) Operable windows, operable skylights ~~and~~ or sliding glass doors with a total area of at least 15 percent of the conditioned floor area are provided. (2) Insect screens are provided for all operable windows, operable skylights and sliding glass doors. (3) ~~Wherever practical, Aan operable skylight is installed, and a~~ minimum of two operable windows or sliding glass doors are placed in adjacent or opposite walls. If there is only one wall surface in that space exposed to the exterior, the minimum windows or sliding glass doors may be on the same wall.
Committee Reason:	Removing the implied mandatory for a skylight.

PC158 LogID 6077	**902.2.2 Whole building ventilation airflow is tested** ***Final Formal Action:*** **TBD**
Submitter:	Chuck Arnold, Home Innovation
Public Comment:	902.2.3 MERV filters 8 ~~or greater~~to13 are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of MERV 8 to 13 filters. 902.2.4 MERV filters 14 or greater are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of the filter used.
Reason:	Additional language has been adopted for this section in Chapter 11. The Chapter 11 additions should be added in Chapter 9.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Public Comment as Follows (changes shown in red):* 902.2.3 MERV filters 8 ~~or greater~~ to 13are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of MERV 8 to 13 filters. – 2 points 902.2.4 MERV filters 14 or greater are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of the filter used.– 3 points
Committee Reason:	Consistency with Chapter 11.

PC159 LogID 6139	**902.2.3 MERV 8 filters** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Public Comment:	902.2.3 MERV filters8 ~~or greater~~ to 13 are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of MERV 8 to 13 filters.

Reason:	To maintain consistency between the sections, incorporate the new language of 11.902.2.3 into Section 902.2.3.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	In favor of action on PC158

PC160 LogID 6076	**904.1 Indoor air quality (IAQ) during construction** ***Final Formal Action:*** **TBD**
Submitter:	Chuck Arnold, Home Innovation
Public Comment:	....water damage (per ASTM D7338-10 section 7.4.3), ~~and visible dust~~.
Reason:	It is unreasonable to expect there will be no visible dust during construction.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Draft Standard as Follows:* **904.1 Indoor Air Quality (IAQ) During Construction.** Wood is dry before close-in (602.1.7(3)), materials comply with emission criteria (901.4- 901.11), sources of water infiltration or condensation observed during construction have been eliminated, accessible interior surfaces are dry and free of visible suspect growth (per ASTM D7338-10 section 6.3), and water damage (per ASTM D7338-10 section 7.4.3)~~, and visible dust~~.
Committee Reason:	It is unreasonable to expect there will be no visible dust during construction.

PC161 LogID 6075	**904.2 Indoor air quality (IAQ) post completion** ***Final Formal Action:*** **TBD**
Submitter:	Chuck Arnold, Home Innovation
Public Comment:	Verify there are no moisture, mold, and dust issues per 602.1.7(3), 901.4-901.11, ASTM D7338 section 6.3 and ASTM D7338 section 7.4.3.
Reason:	It is unclear from the wording what is to be checked.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC162 LogID 6157	**Other for Chapter 7 (include section number and title below)** ***Final Formal Action:*** **TBD**
Submitter:	Michelle Desiderio, Home Innovation
Public Comment:	704.4.2 Performance of the heating and/or cooling system is verified through commissioning by the HVAC contractor .....
Reason:	Editorial change to add the term "Commissioning" to the practice below (because that is the official term for the actions) and the NGBS is often compared unfavorably to LEED because there is not a specific practice for "commissioning."
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	

Committee Reason:	"Commissioning" implies 3rd party verification which is not required by this section.

PC163 LogID 6140	**Other for Chapter 9 (include section number and title below)** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Public Comment:	902.2.4 MERV filters14 or greater are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of the filter used.
Reason:	To maintain consistency between the sections, incorporate the new language of 11.902.2.4 into a new Section 902.2.4.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	In favor of action on PC158

PC164 LogID 6211	**Chapter 9 Points** ***Final Formal Action:*** **TBD**
Submitter:	Task Group 3
Public Comment:	All proposed updates to the point assignments for Chapter 9 as shown in Task Group Proposed Point Changes to 2015 NGBS Draft Standard.
Reason:	Based on Task Group 3 review of the point assignments for Chapter 9 in accordance with the established process.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	Approve all proposed updates to the point assignments for Chapter 9 as shown in 2015 NGBS Second Draft.
Committee Reason:	Based on Consensus Committee review of Task Group 3 recommendations on point assignments for Chapter 9 in accordance with the established process.

PC165 LogID 6058	**1001.1 Building owner's manual is provided** ***Final Formal Action:*** **TBD**
Submitter:	Steven Rosenstock, EEI
Public Comment:	~~Detailed information about the National Green Building Standard, its requirements, and how NGBS compliance was determined, along with a~~A green building program certificate or completion document.
Reason:	Detailed information about the NGBS is not needed by the homeowner to operate or maintain the green features of the home. How detailed is this supposed to be?
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Draft Standard as Follows:* ~~Detailed information about the National Green Building Standard, its requirements, and how NGBS compliance was determined, along with a~~ A National Green Building Standard ~~green building program~~ certificate with weblink and ~~or~~ completion document.
Committee Reason:	Clarity as to requirements as to what to provide homeowner

PC166 LogID 6167	**1001.1 Building owner's manual is provided** ***Final Formal Action:*** **TBD**
Submitter:	Todd Jones, Center for Resource Solutions

Public Comment:	(6) Information on available local Green-ecertified (or equivalent) utility green power programs or renewable electricity products, as well as information on how to find other certified renewable energy products using the Green-e website ~~utility programs that purchase a portion of energy from renewable energy providers~~.
Reason:	(6) Many utilities will purchase a portion of energy of renewable energy providers. We recommend clarification of this requirement such that information is related to utility programs/products that deliver renewable electricity to customers. We also recommend strengthening this requirement by requiring that this be information about renewable energy products/options available to the building, either from the local utility (e.g. differentiated renewable electricity/green power products/options) or competitive electricity suppliers (if in a deregulated region), or REC products that are available nationally. The Green-e website can be used to find green power options in your area. We also recommend that information be provided specifically about Green-e certified utility green power programs/products, competitive electricity products, and stand-alone REC products.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	The practice is adequately written as is.

PC167 LogID 6059	**1001.2 Training of homeowners** ***Final Formal Action:*** **TBD**
Submitter:	Steven Rosenstock, EEI
Public Comment:	1001. 2 Training of initial homeowners. Initial ~~H~~homeowners are familiarized with the role of occupants in achieving green goals. On-site training is provided to the responsible party(ies) regarding equipment operation and maintenance, control systems, and occupant actions that will improve the environmental performance of the building. These include:
Reason:	The proposed change will make the requirement more reasonable. Otherwise, as written, the builder will be required to train every homeowner over the 50-100 year life of the home.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC168 LogID 6159	**1001.2 Training of homeowners** ***Final Formal Action:*** **TBD**
Submitter:	Michelle Desiderio, Home Innovation
Public Comment:	~~On-site~~ Training is provided to the responsible party(ies) regarding equipment operation and maintenance, control systems, and occupant actions that will improve the environmental performance of the building.
Reason:	Remove the word "on-site" to allow for virtual or off-site training.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC169 LogID 6143	1003.3 Education	*Final Formal Action:* TBD
Submitter:	Aaron Gary, US-EcoLogic	
Public Comment:	1003.3 Education. A URL for the National Green Building Standard is included on site signage or builder website (or property website for multi-unit buildings), and marketing materials for homes certified under the National Green Building Standard.	
Reason:	Production builders and multifamily developers promote NGBS through their websites. An allowance for this promotion in lieu of a building sign should be allowed since the promotion and sharing of the URL is still achieved.	
Substantiating Documents:	No	
Committee Action from Meeting:	Accept as Modified	
Modification of Public Comment:	*Revise Public Comment as Follows (changes shown in red):* 1003.3 Education. A URL for the National Green Building Standard is included on site signage ~~or~~ and builder website (or property website for multi-unit buildings), and marketing materials for homes certified under the National Green Building Standard.	
Committee Reason:	Increases visibility of the NGBS.	

PC170 LogID 6212	Chapter 10 Points	*Final Formal Action:* TBD
Submitter:	Task Group 1	
Public Comment:	All proposed updates to the point assignments for Chapter 10 as shown in Task Group Proposed Point Changes to 2015 NGBS Draft Standard.	
Reason:	Based on Task Group 1 review of the point assignments for Chapter 10 in accordance with the established process.	
Substantiating Documents:	No	
Committee Action from Meeting:	Accept as Modified	
Modification of Public Comment:	Approve all proposed updates to the point assignments for Chapter 10 as shown in 2015 NGBS Second Draft.	
Committee Reason:	Based on Consensus Committee review of Task Group 1 recommendations on point assignments for Chapter 10 in accordance with the established process.	

PC171 LogID 6190	11.503.5 Landscape plan	*Final Formal Action:* TBD
Submitter:	Kent Sovocool, Southern Nevada Water Authority	
Public Comment:	The EPA WaterSense Water Budget Tool may be used when determining the maximum percentage of turf areas. For landscapeable areas, the percentage of all turf areas is: ~~The percentage of all turf areas are limited as part of the landscaping.~~	
	(a) 0 percent.	**8**
	(b) Greater than 0 percent to less than 20 percent	**6**
	(c) 20 percent to less than 40 percent	**4**
	(d) 40 percent to 60 percent	**2**
Reason:	There are a number of proposed changes to Section 403.6 that are detrimental to the NGBS in terms of reducing the integrity of intent and the breadth of adoptability. Some of these apparently have their genesis from a proposal from the Outdoor Power Equipment Institute (OPEI). The gravest impacts are to section 403.6 (4). This is where OPEI has lobbied for the diminishment of turf limitations as an option for reducing outdoor water demands. In the early stages of drought in 2003, my agency worked closely with a number of stakeholders including the Southern Nevada Home Builders Association (SNHBA) to implement a policy that limited the use of turfgrass for ornamental purposes. Why turfgrass? Our research has shown that lawns receive four times as much water as other water-efficient landscapes	

	that may include trees, shrubs, flowers, vines and other adapted plants. Research in a variety of geographic settings has demonstrated that significant savings are realized where plantings other than turfgrass are used. Locally, these policies not only mitigated water demand, they quelled calls for a moratorium on growth and new construction. These policies have had no impact on quality of life and a positive impact on economic productivity. Both builders and homebuyers are free to plant some turfgrass and to select from a palette of more than 500 other plants for their landscapes. These landscape provisions, more than any other initiative, allowed us to reduce our use by almost 29 billion gallons between 2002 and 2012 while allowing homebuilders to create housing for nearly 500,000 new residents that have located in Southern Nevada since the policy went into effect. Appropriately used, turfgrass can provide benefits, but at a cost. Numerous studies have shown that better adapted plants can provide most or all of the functions of turfgrass with lower demand for water, fertilizer, fuel and maintenance. In many utilities, the benefits of turfgrass carbon sequestration are overwhelmed by the embedded electric energy in just a few inches of irrigation water. The NGBS has thus far provided for the earning of points with landscape plans that have turf limitations. These have been optional and allowed for regional diversification. They have worked successfully in conjunction with turf limits to provide for appropriate reward in water-scarce regions such as ours. While SNWA certainly is supportive of the WaterSense program and our proposed change continues to highlight it, in regions where there is already policy to limit the use of turfgrass, using the NGBS would necessitate a special set of calculations and assessments at each home being built, yet not change the outcome due to the regulatory environment. This additional difficulty may be a disincentive that results in builders shunning the NGBS in regions where water-scarcity has become a driving force. Our included background material demonstrates that these may occur at local municipal code levels as in southern Nevada well as state levels (California). The NGBS should allow regional flexibility by allowing builders to use such already requisite approaches while highlighting the WaterSense Water Budget Tool. It should appropriately incentivize and reward builders for doing so. And just doing the calculation is insufficient. This was obviously not the intent as per the original language. We want to assure that the work is actually done, something that may have unknowingly occurred in the standard development process. Our proposal addresses both these deficiencies. Finally, a number of point modifications have occurred that significantly reduce the emphasis on water efficiency in landscape design that SNWA's proposal counters. Good landscape design is crucial to water efficiency and it does involve real on the ground enhancements. It should rank highly in points-based systems thus the reallocation of points to 403.6 (4).
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Draft Standard as Follows:*

EPA WaterSense Water Budget Tool or equivalent is used ~~to determine~~ when implementing the maximum percentage of turf areas;	**2**
~~Or~~ for landscaped vegetated areas, the maximum percentage of all turf areas is:	
(a) 0 percent.	**~~10~~5**
(b) Greater than 0 percent to less than 20 percent	**~~8~~4**
(c) 20 percent to less than 40 percent	**~~6~~3**
(d) 40 percent to 60 percent	**~~4~~ 2**

Committee Reason:	Consistent with action on PC038

PC172 LogID 6191	**11.503.5 Landscape plan** *Final Formal Action:* **TBD**
Submitter:	Kent Sovocool, Southern Nevada Water Authority
Public Comment:	(3) ~~Turfgrass is integrated with maintenance tolerant, non-invasive flowering herbaceous plants in an amount to achieve not less than 10% of the ground cover. Plants should typically flower at less than 6 inches in height.~~

	To improve pollinator habitat, at least 10% of planted areas are composed of non-invasive flowering and nectar producing plant species.
Reason:	There are a number of proposed changes to Section 403.6 that are detrimental to the NGBS in terms of reducing the integrity of intent and the breadth of adoptability. Some of these apparently have their genesis from a proposal from the Outdoor Power Equipment Institute (OPEI). One of these is the introduction of a new concept which the proponent informally refers to as the "bee lawn" which draws upon research that has found that while a lawn composed of turfgrass provides only detrimental impacts to bee colonies, a lawn infested with flowering herbaceous plants can provide more benefits (though not at the levels of native vegetation). To this end OPEI suggests rewarding intentionally enhancing lawns in this way. But that is misleading as, in order to get the points, the major negative, putting in a monoculture composed of turfgrass, has to also happen. Again, the lawn itself is only detrimental to bees. Furthermore, a careful review shows only certain species can be facilitated by the limited plantings that can be maintained in a lawn, especially given most people mow their lawns to 4 inches or less. Research by the University of Kentucky has demonstrated that diversity of bee species declines precipitously where turfgrass is present and indeed there are even programs devoted to converting turfgrass areas to pollinator habitat. It is counterintuitive and highly strategic on OPEI's part to attempt to promote a "bee lawn" as part of a sustainability initiative and it would be terrible to see the committee endorse the concept even as modified in prior deliberation. What we need are more flowering and nectar producing plants. SNWA's proposal presents a way to do this with alternative plantings in no greater amounts that OPEI's proposal but that is scientifically justifiable.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Draft Standard as Follows:* (3) ~~Turfgrass is integrated with maintenance tolerant, non-invasive flowering herbaceous plants in an amount to achieve not less than 10% of the ground cover. Plants should typically flower at less than 6 inches in height.~~ To improve pollinator habitat, at least 10% of planted areas are composed of flowering and nectar producing plant species. Invasive plant species shall not be utilized.
Committee Reason:	Consistent with action on PC039

PC173 LogID 6192	**11.503.5 Landscape plan**	***Final Formal Action:*** **TBD**
Submitter:	Kent Sovocool, Southern Nevada Water Authority	
Public Comment:	**(4)** ~~EPA WaterSense Water Budget Tool is used to determine the maximum percentage of turf areas.~~	~~**2**~~
Reason:	There are a number of proposed changes to Section 403.6 that are detrimental to the NGBS in terms of reducing the integrity of intent and the breadth of adoptability. Some of these apparently have their genesis from a proposal from the Outdoor Power Equipment Institute (OPEI). The gravest impacts are to section 403.6 (4). This is where OPEI has lobbied for the diminishment of turf limitations as an option for reducing outdoor water demands. In the early stages of drought in 2003, my agency worked closely with a number of stakeholders including the Southern Nevada Home Builders Association (SNHBA) to implement a policy that limited the use of turfgrass for ornamental purposes. Why turfgrass? Our research has shown that lawns receive four times as much water as other water-efficient landscapes that may include trees, shrubs, flowers, vines and other adapted plants. Research in a variety of geographic settings has demonstrated that significant savings are realized where plantings other than turfgrass are used. Locally, these policies not only mitigated water demand, they quelled calls for a moratorium on growth and new construction. These policies have had no impact on quality of life and a positive impact on economic productivity. Both builders and homebuyers are free to plant some turfgrass and to select from a palette of more than 500 other plants for their landscapes. These landscape provisions, more than any other initiative, allowed us to reduce our use by almost 29 billion gallons between 2002 and 2012 while allowing homebuilders to create housing for nearly 500,000 new residents that have located in Southern Nevada since the policy went into effect. Appropriately used, turfgrass can provide benefits, but at a cost. Numerous studies have shown that better adapted plants can provide most or all of the functions of turfgrass with lower demand for water, fertilizer, fuel and maintenance. In many utilities, the benefits of turfgrass carbon sequestration are overwhelmed by the	

	embedded electric energy in just a few inches of irrigation water. The NGBS has thus far provided for the earning of points with landscape plans that have turf limitations. These have been optional and allowed for regional diversification. They have worked successfully in conjunction with turf limits to provide for appropriate reward in water-scarce regions such as ours. While SNWA certainly is supportive of the WaterSense program and our proposed change continues to highlight it, in regions where there is already policy to limit the use of turfgrass, using the NGBS would necessitate a special set of calculations and assessments at each home being built, yet not change the outcome due to the regulatory environment. This additional difficulty may be a disincentive that results in builders shunning the NGBS in regions where water-scarcity has become a driving force. Our included background material demonstrates that these may occur at local municipal code levels as in southern Nevada well as state levels (California). The NGBS should allow regional flexibility by allowing builders to use such already requisite approaches while highlighting the WaterSense Water Budget Tool. It should appropriately incentivize and reward builders for doing so. And just doing the calculation is insufficient. This was obviously not the intent as per the original language. We want to assure that the work is actually done, something that may have unknowingly occurred in the standard development process. Our proposal addresses both these deficiencies. Finally, a number of point modifications have occurred that significantly reduce the emphasis on water efficiency in landscape design that SNWA's proposal counters. Good landscape design is crucial to water efficiency and it does involve real on the ground enhancements. It should rank highly in points-based systems thus the reallocation of points to 403.6 (4).
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	In favor of action on PC171

PC174 LogID 6126	**11.503.5 Landscape plan** ***Final Formal Action:*** **TBD**
Submitter:	Blaine Wilkins, Wilkins & Associates
Public Comment:	
Reason:	The third item seems incompatible with this document. This is a design standard, but this proposed credit requires long-term care and maintenance for it to have any environmental benefit. I know of few homeowners who would maintain such a lawn as is described here. In my experience, a homeowner will apply -- or ask a landscaping service to apply -- weed killer to short flowering plants in their lawn. This practice may be workable if a homeowner elects to do it himself. I recommend either deleting this or adding language that makes these points only applicable if those who already or will live in the building specifically request it.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	This practice resides in the remodeling chapter and the homeowner is most likely aware and actively selected to have this practice implemented.

PC175 LogID 6193	**11.505.1 Driveways and parking areas** ***Final Formal Action:*** **TBD**
Submitter:	Kent Sovocool, Southern Nevada Water Authority
Public Comment:	**4)** ~~Vegetative paving systems~~ Water permeable surfaces are utilized to reduce thefootprint of surface driveways, fire lanes, streets or parking areas.
	(a) 10 % to less than 25% **1**

	(b) 25% to 75%	**2**
	(c) greater than 75%	**3**
	4) ~~Vegetative paving systems~~ Water permeable surfaces are utilized to reduce thefootprint of surface driveways, fire lanes, str eets or parking areas.	
	(a) 10 % to lessthan 25%	**1**
	(b) 25% to 75%	**2**
	(c) greater than 75%	**3**

Reason:	There are a number of proposed changes to Section 403.6 that are detrimental to the NGBS in terms of reducing the integrity of intent and the breadth of adoptability. Some of these apparently have their genesis from a proposal from the Outdoor Power Equipment Institute (OPEI). One of these would promote vegetative paving systems for driveways, fire-lanes, streets, and parking areas. Any permeable shaded area though can provide similar benefits without the enormous costs in terms of water resources for irrigation of such areas. This is obviously an inappropriate measure for arid areas. SNWA's change will allow builders in such areas to provide for the infiltration benefits without the potential resource challenges that would otherwise make this item unobtainable.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC176 LogID 6152	**11.605.2 Construction waste management plan** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Public Comment:	**11.605.2 Construction waste management plan.** …diverting~~,~~ through methods such as reuse, salvage, ~~or~~ recycling or manufacturer reclamation, a minimum of 50 percent (by weight) of nonhazardous construction and demolition ~~waste~~ materials from disposal in landfills and combustion, excluding energy and material recovery. For this practice, land clearing debris is not considered construction waste. Materials used as alternative daily cover are considered construction waste and do not count toward recycling or salvaging. For remodeling projects or demolition of an existing facility ~~by a EPA certified E-Waste recycling facility~~, the waste management plan includes the recycling of 95%of electronic waste components (such as printed circuit boards from computers, building automation systems, HVAC, fire and security control boards), by a third-party certified E-Waste recycling facility. **Exceptions:** ~~1) Waste materials generated from land clearing, soil and sub-grade excavation and all manner of vegetative debris shall not be in the calculations.~~ ~~2)~~ A recycling facility(traditional or E-Waste) offering material receipt documentation is not available within 50 miles of the jobsite.
Reason:	The section is instructing stakeholders to divert construction and demolition materials from disposal. Commonly, such language would clarify that the materials should be diverted from disposal in landfills and combustion, excluding energy and material recovery. (note that we are referring to "combustion" rather than "incineration;" although frequently misunderstood, combustion is a broader activity that does include energy and material recovery, but incineration is done so as to treat or resize waste for the purpose of disposal and does not include energy or material recovery; because of the common

	misunderstanding, we do recommend acknowledging energy recovery, but including it under the broader, correct activity, i.e., combustion.) Further, the list of methods that count toward the diversion practice is very limited. Other types of diversion, such as through manufacturer reclamation, are feasible and often practiced. That said, even with the addition of manufacturer reclamation, the list of diversion methods would not be complete and should be presented as such. The C&D debris that gets diverted is a resource (material) and not waste and should be referred to accordingly. There appears to be an error in the sentence structure for the paragraph dealing with e-waste; it is inconsistent with the language in Section 605.1; this should be corrected. It is also unclear what is intended by an "EPA-certified" e-waste recycling facility; EPA does not "certify" e-waste recycling facilities. Currently, the Responsible Recycling Standard (R2) and the e-Stewards standard are the two available e-waste certification programs to which facilities may be certified. See: http://www.sustainableelectronics.org/ and http://e-stewards.org/ Finally, if the intent of the "Exceptions" section is to indicate specific circumstances when the practice does not apply, or to acknowledge situations when it cannot be met by the person seeking the points, then it is unclear why the first item is listed. How is stating "Waste materials generated from land clearing, soil and sub-grade excavation and all manner of vegetative debris shall not be in the calculations," an Exception? (We would argue this is an exclusion from the calculation, not an exception to the practice.) The second item in the Exceptions, "A recycling facility (traditional or E-Waste) offering material receipt documentation is not available within 50 miles of the jobsite," implies that a recycling facility not available within 50 miles would preclude the person from achieving the points available through the practice. Solution: Introduce that materials should be diverted from disposal in landfills and combustion, excluding energy and material recovery. Broaden the list of diversion methods indicating that the list is not all-inclusive. Refer to construction and demolition materials and not waste. Replace "EPA-certified" e-waste recycling facility with "third-party certified" e-waste recycling facility. Delete the first item listed under Exceptions.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	**11.605.2 Construction waste management plan.** A construction waste management plan is developed, posted at the jobsite, and implemented diverting~~,~~ through methods such as reuse, salvage~~,~~ ~~or~~ recycling, or manufacturer reclamation, a minimum of 50 percent (by weight) of nonhazardous construction and demolition ~~waste~~ materials, excluding land-clearing waste, from disposal in landfills and combustion, excluding energy and material recovery. Materials used as alternative daily cover are considered construction waste and do not count toward recycling or salvaging. **6** For remodeling projects or demolition of an existing facility ~~by a EPA certified E-Waste recycling facility~~, the waste management plan includes the recycling of 95% of electronic waste components (such as printed circuit boards from computers, building automation systems, HVAC, fire and security control boards), by a third-party certified E-Waste recycling facility.
Committee Reason:	The waste materials from soil and subgrade excavation have different characteristics than typical demolition waste and should not be included in calculations.

PC177 LogID 6170	**11.610.1.1 Whole-building life cycle assessment** ***Final Formal Action:*** **TBD**
Submitter:	Todd Jones, Center for Resource Solutions
Public Comment:	(b) ~~Global warming potential~~ Direct and indirect greenhouse gas emissions
Reason:	(1)(b) "Global warming potential" is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the building to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions. We suggest clarifying this.
Substantiating Documents:	No

Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	"global warming potential" is a defined term in ASTM E-2921.

PC178 LogID 6153	**11.610.1.1 Whole-building life cycle assessment** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Public Comment:	**11.610.1.1 Whole-building life cycle assessment.** A whole-building LCA is performed in conformance with ASTM E-2921 using SO14044 compliant life cycle assessment and data compliant with ISO 14044 or other recognized standards. 1. Execute LCA at the whole-building level through a comparative analysis between the final and reference building designs as set forth under Standard Practice, ASTM E-2921. The assessment criteria includes the following environmental impact categories: a. Primary energy use b. Global warming potential c. Acidification potential d. Eutrophication potential e. Ozone depletion potential f. Smog potential g. Material Use h. Waste 2. Execute LCA on regulated loads throughout the building operations life cycle stage. Conduct simulated energy performance analyses in accordance with Section 702.2.1 ICC IECC analysis (IECC Section 405) in establishing the comparative performance of final versus reference building designs. Primary energy use savings and global warming potential avoidance from simulation analyses results are determined using EPA NERC electricity generation and other fuels energy conversion factors and electricity generation and other fuels emission rates for the Sub-Region in which the building is located. 3. Execute full LCA, including use and end-of-life phases~~,~~. For the use phase, calculate ~~through calculation of~~ operating energy impacts (c) – (f) using EPA NERC regional emissions factors [provide full reference to NERC document or provide factor tables]. For the use phase, also include impacts associated with material replacements.
Reason:	Using less material and recovering more is crucial to our economic and environmental future. Whether less material is used and more recovered over the life cycle of the designed building should be evaluated against a reference building. To that end, material use and waste impact categories should be included in life-cycle assessments. In addition, the "full" life cycle assessment should include all life cycle phases, including use and end-of-life phases. While the NGBS-proposed language emphasizes that the assessment should include the use phase, it omits mentioning the end-of-life phase. Finally, the language for the use phase indicates that impacts related to energy use should be evaluated, but remains silent on the need to evaluate impacts associated with the replacement of materials. Solution: Add the material use and waste impact categories to the assessment criteria. Emphasize that the boundary of the assessment should include the end-of-life phase. Emphasize that the assessment of the use phase should include the analysis of impacts associated with the replacement of materials.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	Consistent with action on PC086

PC179 LogID 6171	**11.610.1.2.1 Product LCA** ***Final Formal Action:*** **TBD**
Submitter:	Todd Jones, Center for Resource Solutions

Public Comment:	Product LCA. A product with improved environmental impact measures compared to another product(s) intended for the same use is selected. The environmental impact measures used in the assessment ~~are selected from~~ include the following: (b) ~~Global warming potential~~ Direct and indirect greenhouse gas emissions (associated with product manufacturing and delivery)
Reason:	"Global warming potential" is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the product to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions associated with the product's manufacturing and delivery. We suggest clarifying this.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	"global warming potential" is a defined term in ASTM E-2921.

PC180 LogID 6172	**11.610.1.2.2 Building assembly LCA** ***Final Formal Action:*** **TBD**
Submitter:	Todd Jones, Center for Resource Solutions
Public Comment:	(b) ~~Global warming potential~~ Direct and indirect greenhouse gas emissions
Reason:	(b) "Global warming potential" is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the building assembly to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions associated with the building assembly. We suggest clarifying this.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	"global warming potential" is a defined term in ASTM E-2921.

PC181 LogID 6200	**11.901.2.2 Solid fuel-burning appliances are not installed** ***Final Formal Action:*** **TBD**
Submitter:	Joe Seymour, Biomass Thermal Energy Council
Public Comment:	Fireplaces, woodstoves, pellet stoves, or masonry heaters are not installed. ~~7~~ Change: **7** to ~~**7**~~ and replace with **0**
Reason:	"Remove Point Total for Section 11.901.2.2" Reason: Chapter 11, Remodeling, section 11.901.2.2 repeats this inconsistency from 901.2.2 in providing the highest number of points, 7 points, for the non-installation of woodstoves, pellet stoves and masonry heaters. To repeat, similar to 901.2.1, 11.901.2.1 awards various point totals for code-compliant wood-burning stoves and heaters, whereas section 11.901.2.2, like 901.2.2, awards the highest total, seven points for non-installation of woodstoves, pellet stoves and masonry heaters. These adjoining sections, taken together, provide unclear guidance on installing clean, highly efficient wood-burning technologies. As mentioned before, many wood-burning appliances achieve the highest efficiencies available for renewable heating. Furthermore, maintaining different point classes for installation and non-installation make no sense when taking in consideration widely-available, clean, wood-burning technologies that meet NGBS principles.
Substantiating Documents:	Yes, substantiating documents can be found at homeinnovation.com/ngbs under the Public Comments
Committee Action from Meeting:	Disapprove

Modification of Public Comment:	
Committee Reason:	Clarification is needed for “clean, highly efficient wood-burning technologies”

PC182 LogID 6138	**11.901.7 Floor materials** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Public Comment:	Points are awarded for every 10% of conditioned floor space using one of the below materials, up to a maximum of 6 points:
Reason:	The new language states: “Points are awarded for every 10% of conditioned floor space using one of the below materials:” yet the number of points available (6) indicates that no points are available past 60%. We feel that for this credit that it is appropriate to leave six as the maximum number of points available and suggest language to clarify this in the provision.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC183 LogID 6031	**11.902.1.5 Fenestration cross-ventilation** ***Final Formal Action:*** **TBD**
Submitter:	Roger L. LeBrun, VELUX America Inc.
Public Comment:	11.902.1.5 [identical to ID 6030 for 902.1.5] Fenestration in spaces other than those identified in 11.902.1.1through 11.902.1.4 are designed for stack effect or cross-ventilation in accordance with all of the following: (1) Operable windows, skylights and sliding glass doors with a total area of at least 15 percent of the conditioned floor area are provided. (2) Insect screens are provided for all operable windows, skylights and sliding glass doors. (3) Wherever practical, ~~A~~anoperable skylight is installed, and a minimum of two operable windows or sliding glass doors are placed in adjacent or opposite walls. If there is only one wall surface in that space exposed to the exterior, the minimum windows or sliding glass doors may be on the same wall.
Reason:	Stack effect natural ventilation is much more effective than cross-ventilation. It should be provided wherever cross-ventilation is not possible, and is preferable to cross-ventilation whenever practical.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	*Revise Public Comment as Follows (changes shown in red):* 11.902.1.5 Fenestration in spaces other than those identified in 902.1.1 through 902.1.4 are designed for stack effect or cross-ventilation in accordance with all of the following: (1) Operable windows, operable skylights ~~and~~ or sliding glass doors with a total area of at least 15 percent of the conditioned floor area are provided. (2) Insect screens are provided for all operable windows, operable skylights and sliding glass doors. (3) ~~Wherever practical, Aan operable skylight is installed, and a~~ minimum of two operable windows or sliding glass doors are placed in adjacent or opposite walls. If there is only one wall surface in that space exposed to the exterior, the minimum windows or sliding glass doors may be on the same wall.
Committee Reason:	Consistent with action on PC157

PC184 LogID 6154	**12.1(A).605.1 Construction waste management plan** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency

Public Comment:	**12.1(A).605.1 Construction waste management plan.** A construction waste management plan ~~that includes targets for diversion~~ is developed, posted at the jobsite, and implemented~~.~~ diverting, through methods such as reuse, salvage, recycling or manufacturer reclamation, a targeted amount (by weight)of nonhazardous construction and demolition materials from disposal in landfills and combustion, excluding energy and material recovery. For remodeling projects, the waste management plan includes the recycling of 95 percent of electronic waste components (such as printed circuit boards from computers, building automation systems, HVAC, fire and security control boards) by a third-party certified E-Waste recycling facility. Exception: A recycling facility(traditional or E-Waste) offering material receipt documentation is not available within 50 miles of the jobsite.
Reason:	Construction waste management targets may be constrained in the remodeling of functional areas because of the sizes of projects. However, beyond the targeted diversion rate, it is not clear why parameters introduced in construction waste management practices in Chapters 6 and 11 would not apply in the case of functional areas. We suggest including those parameters.
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC185 LogID 6155	**12.1(A).610.1.1 Functional area life cycle assessment** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Public Comment:	**12.1(A).610.1.1 Functional area life cycle assessment.** An LCA is performed in conformance with ASTM E-2921 for an entire functional area using ISO 14044 compliant a life cycle assessment. 1. Execute LCA at the functional-area level through a comparative analysis between the final and reference building designs as set forth under Standard Practice, ASTM E-2921. The assessment criteria includes the following environmental impact categories: a. Primary energy use b. Global warming potential c. Acidification potential d. Eutrophication potential e. Ozone depletion potential f. Smog potential g. Material Use h. Waste 2. Execute LCA on regulated loads throughout the building operations life cycle stage. Conduct simulated energy performance analyses in accordance with Section 702.2.1 ICC IECC analysis (IECC Section 405) in establishing the comparative performance of final versus reference building designs. Primary energy use savings and global warming potential avoidance from simulation analyses results are determined using EPA NERC electricity generation and other fuels energy conversion factors and electricity generation and other fuels emission rates for the Sub-Region in which the building is located. 3. Execute full LCA, including use and end-of-life phases~~,~~.For the use phase, calculate ~~through calculation of~~ operating energy impacts (c) – (f) using EPA NERC regional emissions factors [provide full reference to NERC document or provide factor tables]. For the use phase, also include impacts associated with material replacements.
Reason:	Using less material and recovering more is crucial to our economic and environmental future. Whether less material is used and more recovered over the life cycle of the designed building should be evaluated against a reference building. To that end, material use and waste impact categories should be included in life-cycle assessments. In addition, the “full” life cycle assessment should include all life cycle phases,

	including use and end-of-life phases. While the NGBS-proposed language emphasizes that the assessment should include the use phase, it omits mentioning the end-of-life phase. Finally, the language for the use phase indicates that impacts related to energy use should be evaluated, but remains silent on the need to evaluate impacts associated with the replacement of materials. Solution: Add the material use and waste impact categories to the assessment criteria. Emphasize that the boundary of the assessment should include the end-of-life phase. Emphasize that the assessment of the use phase should include the analysis of impacts associated with the replacement of materials.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	Adds significant responsibility to contractor for minimal potential benefit.

PC186 LogID 6175	**12.1(A).610.1.1 Functional area life cycle assessment** ***Final Formal Action:*** **TBD**
Submitter:	Todd Jones, Center for Resource Solutions
Public Comment:	(b) ~~Global warming potential~~ Direct and indirect greenhouse gas emissions
Reason:	(1)(b) "Global warming potential" is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the functional area to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions. We suggest clarifying this.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	"global warming potential" is a defined term in ASTM E-2921.

PC187 LogID 6176	**12.1(A).610.1.2 Life cycle assessment for a product or assembly** ***Final Formal Action:*** **TBD**
Submitter:	Todd Jones, Center for Resource Solutions
Public Comment:	(b) ~~Global warming potential~~ Direct and indirect greenhouse gas emissions
Reason:	12.1(A).610.1.2(1)(b) and 12.1(A).610.1.2(2)(b) "Global warming potential" is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the product or assembly to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions. We suggest clarifying this.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Public Comment:	
Committee Reason:	"global warming potential" is a defined term in ASTM E-2921.

PC188 LogID 6141	**12.5.3 Bathroom** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Public Comment:	When the space to be converted includes a bathroom, the remodel shall also comply with the practices in Section 12.3.
Reason:	There is a typographical error in this section that is corrected in the proposed resolution below.
Substantiating Documents:	No

Committee Action from Meeting:	Accept
Modification of Public Comment:	
Committee Reason:	

PC189 LogID 6115	**1302 Referenced Documents**	***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, US-EcoLogic	
Public Comment:	ENERGY STAR Certified Homes, Version 3(Rev. ~~07~~08) HERS Index Target Procedure for National Program Requirements	
Reason:	Update ENERGY STAR for Homes to current version, Version 3 (revision 8).	
Substantiating Documents:	No	
Committee Action from Meeting:	Accept	
Modification of Public Comment:		
Committee Reason:		

PC190 LogID 6116	**1302 Referenced Documents**	***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, US-EcoLogic	
Public Comment:	Insert reference for: ENERGY STAR Multifamily Highrise, Version 1 (Rev 03). - January 2015 - 701.1.3	
Reason:	The Standard awards credit for ENERGY STAR Multfamily High-rise certification in Section 701.1.4 but the appropriate documents are not referenced in Chapter 13.	
Substantiating Documents:	No	
Committee Action from Meeting:	Accept	
Modification of Public Comment:		
Committee Reason:		

PC191 LogID 6214	**Chapter 13 Referenced Documents**	***Final Formal Action:*** **TBD**
Submitter:	Task Groups	
Public Comment:	All proposed updates to the Referenced Documents for Chapter 13 as shown in Task Group Proposed Referenced Document Changes to 2015 NGBS Draft Standard.	
Reason:	Based on Task Group review of the Referenced Documents for Chapter 13 in accordance with the established process.	
Substantiating Documents:	No	
Committee Action from Meeting:	Accept as Modified	
Modification of Public Comment:	Approve all proposed updates to the Referenced Standards for Chapter 13 as shown in 2015 NGBS Second Draft.	
Committee Reason:	Based on Consensus Committee review of Task Group recommendations of the Referenced Documents for Chapter 13 in accordance with the established process.	

PC192 LogID 6215	**Chapter 11 Points**	***Final Formal Action:*** **TBD**
Submitter:	Task Group 7	
Public Comment:	Points in Chapter 11 Remodeling are updated to be consistent with all proposed updates to the point assignments for Chapters 5-10 as shown in Task Group Proposed Point Changes to 2015 NGBS Draft Standard.	
Reason:	Based on Task Group 7 review of the point assignments for Chapter 11 in accordance with the established process.	

Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Public Comment:	Approve all proposed updates to the point assignments for Chapter 11 as shown in 2015 NGBS Second Draft.
Committee Reason:	Based on Consensus Committee review of Task Group 7 recommendations on point assignments for Chapter 11 in accordance with the established process.

Ballot Comments

BC01	202 Definitions *Final Formal Action:* TBD
Submitter:	Steven Rosenstock, EEI
Ballot Comment:	I agree with many of the definitions. However, I would suggest a few changes to improve the language as written in the proposal: 1) Remove "NGBS" and "IGCC" and "IBC" from the definition terms. 2) Modify as follows: ~~IECC~~ **COEFFICIENT OF PERFORMANCE (COP) . –COOLING**. The ratio of the rate of heat removal to the rate of energy ~~heat~~input, in consistent units, for a complete refrigerating system of some specific portion of the system under designated operating conditions.
Reason:	
Substantiating Documents:	No
Committee Action from Meeting:	Accept
Modification of Ballot Comment:	
Committee Reason:	

BC02	202 Definitions *Final Formal Action:* TBD
Submitter:	Steven Rosenstock, EEI
Ballot Comment:	~~**IRC**~~ **GROUND SOURCE HEAT PUMP LOOP SYSTEM**. Piping buried in horizontal or vertical excavations or placed in a body of water for the purpose of transporting heat transfer liquid to and from a heat pump. ~~Included in this definition are~~ Examples include closed loop systems in which the liquid is recirculated and open loop systems in which the liquid is drawn from a well or other source. ~~**IGCC**~~ **GROUND SOURCE ~~OR GEOEXCHANGE~~**. Where the earth is used as a heat sink in air conditioning or heat source in heating ~~heat pump island~~ systems. This also applies to systems utilizing subsurface water. ~~Ground source heating and cooling uses the relatively constant temperature of the earth below the frost~~ ~~line. This steady temperature profile allows the earth to be used as a heat source in the winter and as a heat sink in the summer.~~
Reason:	Some of the language is not needed (IRC, IGCC), some of the language is more of a description rather than a definition, and the term "GeoExchange" (R)is a registered trademark term that should not be used in a Standard.
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Ballot Comment:	*Replace the current definition with:* **GROUND SOURCE HEAT PUMP~~OR GEOEXCHANGE~~**. Where the earth is used as a heat sink in air conditioning or heat source in heating ~~heat pump island~~ systems. This also applies to systems utilizing subsurface water.
Committee Reason:	Some of the language is not needed (IRC, IGCC), some of the language is more of a description rather than a definition.

BC03	305.3.5 Energy efficiency *Final Formal Action:* TBD
Submitter:	Steven Rosenstock, EEI
Ballot Comment:	This action is inconsistent with the language approved in the first 2 versions this standard, and the new language should be deleted.

	As an alternative, the following language could be used: The reduction in energy consumption result in from the remodeling shall be based on the estimated energy cost savings or ~~source~~site energy savings as determined by a third-party energy audit and analysis or utility consumption data. ~~The source energy multiplier for electricity shall be 3.16. The source energy multiplier for fuels other than electricity shall be 1.1.~~
Reason:	The source estimates used are not consistent with estimates shown in other documents, such IGCC, EPA Portfolio Manager, EPA e-GRID, and other studies that have been produced. The estimates are backward looking and do not account for the significant variation in estimates when looking at regional or local or international supply chains. In addition, source estimates are not found on utility bills. Only measurable and verifiable site energy savings can be determined by a 3rd-party energy audit/analysis or utility consumption data.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Ballot Comment:	
Committee Reason:	Based on consistency with IECC and based on CC action on PC021.

BC04	**305.3.5 Energy efficiency**	***Final Formal Action:*** **TBD**
Submitter:	Charles Foster, Foster Associates	
Ballot Comment:		
Reason:	This is unfair to renewable energy. The 3.16 multiplier assumes that a btu of electricity from solar or wind is the same as a btu of electricity generated by an old coal fired plant.	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Ballot Comment:		
Committee Reason:	Based on consistency with IECC and based on CC action on PC021. No alternative text proposed. The multiplier has been removed by the action on PC021.	

BC05	**602.1.9 Flashing**	***Final Formal Action:*** **TBD**
Submitter:	Theresa Weston, DuPont Building Innovations	
Ballot Comment:		
Reason:	This language was modified on the fly during the committee meeting. While I voted for it at the time, on reflection I believe it is flawed. While I support the inclusion of liquid applied flashing the proposed change does not incorporate a performance metric on that liquid applied flashing material. As is this would open the door to any coating or paint that was applied according to the manufacturer's installation instructions, regardless of whether it had the properties to perform as a durable flashing.	
Substantiating Documents:	No	
Committee Action from Meeting:	Accept as Modified	
Modification of Ballot Comment:	All window and door head and jamb flashing is either self-adhered flashing complying with AAMA 711-~~07~~ 13 or liquid applied flashing complying with AAMA 714-15 and installed in accordance with fenestration or flashing manufacturer's installation instructions.	
Committee Reason:	Agree that performance metric should be incorporated for liquid applied flashing.	

BC06	**701.4.3.2 Air sealing and insulation**	***Final Formal Action:*** **TBD**
Submitter:	Jerry Phelan, Bayer MaterialScience	

Ballot Comment:	The proponent and the TG got this right and the CC got this wrong and the term "spray foam" must be re-inserted.
Reason:	The proponent proposed and the TG approved the addition of "spray foam" as part of this proposal. A CC Member brought anecdotal and unverified information to the table regarding "field installation issues" that was incorporated into the Committee Reason. This is both inaccurate in an overwhelming portion of installations and inappropriate. Spray foam is indeed integral to the wall system and other assemblies when "properly installed" - using the words of the current Standard and was not changed by the proposed and as modified versions. In fact, unlike the other product types in the current and proposed language, spray foam can be readily inspected on the job site as to it being properly installed. Furthermore, there are a myriad of materials or systems that" can have field issues". As far as "type of spray foam is not defined", the term "spray foam" is universally used to describe open and closed cell foam which are both integral to the assembly system including other proposals that were not modified by the CC.
Substantiating Documents:	No
Committee Action from Meeting:	Withdrawn
Modification of Ballot Comment:	
Committee Reason:	

BC07	**702.2.1 ICC IECC analysis** ***Final Formal Action:*** **TBD**
Submitter:	Steven Rosenstock, EEI
Ballot Comment:	I would ask that the new language be removed, or replaced as follows: 702.2 Energy ~~cost~~cost or energy savings performance levels 702.2.1 ICC IECC analysis. Energy efficiency features are implemented to achieve energy cost or ~~source~~site energy performance that meets the ICC IECC. A documented analysis using software in accordance with ICC IECC, Section R405, or ICC IECC Section 506.2 through 506.5, applied as defined in the ICC IECC, is required. 702.2.2 Energy ~~cost~~ performance analysis. Energy ~~cost~~ savings or energy cost savings levels above the ICC IECC are determined through an analysis that includes improvements in building envelope, air infiltration, heating system efficiencies, cooling system efficiencies, duct sealing, water heating system efficiencies, lighting, and appliances.
Reason:	This action is totally inconsistent with previous versions of the standard and inconsistent with the action of Task Group 5. P187 was disapproved by Task Group 5 by a vote of 6-4-2. It was also disapproved by the full committee. P189 was disapproved by Task Group 5 by a unanimous vote of 10-0-0. It was also disapproved by the full committee. Other proposals dealing with source energy estimates, such as P182 and P184, were also disapproved by Task Group 5 (by votes of 9-1-1) as well as the full committee. In addition, the proposed language of 702.2.2 makes it appear that only energy savings using source energy estimates, rather than cost, can be used.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove

Modification of Ballot Comment:	
Committee Reason:	Based on consistency with IECC and based on CC action on PC021.

BC08	**703.2 HVAC equipment efficiency** *Final Formal Action:* **TBD**
Submitter:	Randall Melvin, Randy Melvin's High Performance Building and Code Solutions, LLC
Ballot Comment:	The efficiency of the more than one unit systems should be allowed to be pro-rated with points being proportionally awarded.
Reason:	
Substantiating Documents:	No
Committee Action from Meeting:	Accept as Modified
Modification of Ballot Comment:	For multiple heating or cooling systems in one home, practices 703.3.1 through 703.3.6 apply to the system that supplies 80% or more of the total installed heating or cooling capacity. Where multiple systems each serve less than 80% of the total installed heating or cooling capacity, points under Sections 703.3.1 through 703.3.6 are awarded for either the system eligible for the fewest points or the weighted average of the systems. The weighted average shall be calculated in accordance with Equation XX and based upon the efficiency and capacity of the equipment as selected in accordance with ACCA Manual S with it loads calculated in accordance with Manual J. Weighted average =[(E1*C1)+(E2*C2)+…+(En*Cn)] / (C1+C2+…+Cn) **(Equation XX)** E – rated AHRI efficiency for unit C – rated heating or cooling capacity for unit n – total number of units
Committee Reason:	Provide greater flexibility and provides better accuracy for calculating energy savings. Equation was added to show how the calculation is done.

BC09	**705 Innovative practices** *Final Formal Action:* **TBD**
Submitter:	Christopher Mathis, Mathis Consulting Company
Ballot Comment:	
Reason:	I disagree with the committee action and vote to disapprove P260. The presence of an electric vehicle charging station is not inherently green. Without consideration of a local fuel source from which the electricity is generated, this change undermines the intent of ICC700.
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Ballot Comment:	
Committee Reason:	EV are designated as a green technology in other green programs. Upstream power-plant emissions are declining.

BC10	**704 HERS Index Target Path** *Final Formal Action:* **TBD**
Submitter:	Steven Rosenstock, EEI
Ballot Comment:	
Reason:	There are significant problems with the HERS methodology and how the score is calculated. There can be a lot of "game playing" that results in homes that have a good HERS score but use more energy than other homes with a higher HERS score.
Substantiating Documents:	No

Committee Action from Meeting:	Disapprove
Modification of Ballot Comment:	
Committee Reason:	The revisions to the methodology limit “game playing”. The proposed procedure based on EPA HERS Index Target removes many shortcomings from the HERS Index. HERS Path is meeting or exceeding the energy efficiency intent of IECC. This path (704) allows the use of the existing HERS infrastructure.

BC11	**704 HERS Index Target Path**	***Final Formal Action:*** **TBD**
Submitter:	Charles Foster, Foster Associates	
Ballot Comment:		
Reason:	I supported the original proposal but oppose the modification. As noted in previous proposals, the use of a single multiplier to "convert" site electricity to source is unfair to renewable energy.	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Ballot Comment:		
Committee Reason:	The commenter didn’t provide a specific language or resolution. The proposed procedure based on EPA HERS Index Target removes many shortcomings from the HERS Index. HERS Path is meeting or exceeding the energy efficiency intent of IECC. This path (704)allows the use of the existing HERS infrastructure.	

BC12	**704 HERS Index Target Path**	***Final Formal Action:*** **TBD**
Submitter:	Christopher Mathis, Mathis Consulting Company	
Ballot Comment:		
Reason:	I disagree with the committee action and vote to disapprove P269. While the use of home energy ratings is a valuable contributor to heightening public awareness of building performance and providing builders a valuable comparative tool, home energy ratings alone do not ensure compliance with the minimum and mandatory requirements of the code. If this proposal were refined to ensure compliance with the minimum and mandatory requirements of the IECC then home energy ratings could become a component of ICC 700 compliance.	
Substantiating Documents:	No	
Committee Action from Meeting:	Disapprove	
Modification of Ballot Comment:		
Committee Reason:	The proposed procedure based on EPA HERS Index Target removes many shortcomings from the HERS Index. HERS Path is meeting or exceeding the energy efficiency intent of IECC. This path (704) allows the use of the existing HERS infrastructure.	

BC13	**B200 Whole-building ventilation**	***Final Formal Action:*** **TBD**
Submitter:	Neil Leslie, Gas Technology Institute/Carbon Management Information Center	

Ballot Comment:	The proposal should have been approved without modification. As an ASHRAE representative on the committee, it is important for me to note that the ASHRAE consensus process and resulting standard updates, including the 2013 version of Standard 62.2, represent the most up-to-date expertise and information and should be the version referenced in other standards. This is especially important in this case because this is the first time the ASHRAE standard is included in the reference documents section.
Reason:	
Substantiating Documents:	No
Committee Action from Meeting:	Disapprove
Modification of Ballot Comment:	
Committee Reason:	Consistent with previous action of the committee.

Held Public Comments

H001 LogID 6033	**400.0 Intent (Site Design and Development)** ***Final Formal Action:*** **TBD**
Submitter:	David S. Collins, FAIA
Public Comment:	Sites located within 100-year floor plains shall not be permitted to use this rating system.
Reason:	What about eliminating eligibility of sites located within 100-year flood plains, /? Add the following text:
Substantiating Documents:	No
Committee Action from Meeting:	Held
Modification of Public Comment:	
Committee Reason:	*The changes recommended by this Public Comment to this section of the Draft Standard (March 6, 2015) do not pertain to the changes made during the development of the Draft Standard. In accordance with the development procedures, this comment is designated as* ***Held****.*

H002 LogID 6161	**606.3 Manufacturing energy** ***Final Formal Action:*** **TBD**
Submitter:	Todd Jones, Center for Resource Solutions
Public Comment:	Materials manufactured using renewable energy for a minimum of 33 percent of the primary manufacturing process energy. Non-electric energy used in manufacturing materials must be derived from (1) renewable sources~~,~~ or (2) combustible waste sources~~, or (3) renewable energy credits (RECs) are used for major components of the building~~. Electricity used in manufacturing materials must be paired with renewable energy certificates (RECs), which must be retired. The building may purchase RECs on behalf of the building material supplier where the supplier has not purchased/used renewable electricity, with RECs, for manufacturing of building materials. Green-e certification (or equivalent) is required [or recommended] for renewable electricity purchases and materials manufactured using renewable electricity.
Reason:	This requirement refers to renewable energy use in manufacturing of building materials, and therefore may refer to use of both electricity and non-electric energy in manufacturing. Currently, the options 1-3 are not differentiated as applying to either electricity or non-electric energy use. However, since RECs are required to claim use of renewable electricity in all cases, including from on-site renewable generation equipment, we suggest differentiating between electricity used in manufacturing, in which case RECs are required, and non-electric energy used in manufacturing. It is also not clear that in option 3, RECs are being purchased by the building to be applied to the building materials, i.e. its supply chain, and not to the building's own electricity usage, and that RECs/RE may also be purchased or used by the supplier of the building materials. Finally, we recommend that Green-e certification be required, or at least recommended, to ensure that use of renewable electricity has been properly verified.

Substantiating Documents:	No
Committee Action from Meeting:	Held
Modification of Public Comment:	
Committee Reason:	*The changes recommended by this Public Comment to this section of the Draft Standard (March 6, 2015) do not pertain to the changes made during the development of the Draft Standard. In accordance with the development procedures, this comment is designated as **Held**.*

H003 LogID 6024	**701.4.3.4 Fenestration air leakage** ***Final Formal Action:*** **TBD**
Submitter:	Roger L. LeBrun, VELUX America Inc.
Public Comment:	Strike the last sentence: **701.4.3.** **701.4.3.4 Fenestration air leakage.** Windows, skylights and sliding glass doors have an air infiltration rate of no more than 0.3 cfm per square foot (1.5 L/s/m2), and swinging doors no more than 0.5 cfm per square foot (2.6 L/s/m2), when tested in accordance with NFRC 400 or AAMA/WDMA/CSA 101/I.S.2/A440 by an accredited, independent laboratory and listed and labeled. ~~This practice does not apply to site-built windows, skylights, and doors.~~
Reason:	A green code should not leave a gaping hole by exempting "site-built" windows, skylights and doors. Only rated products meeting the mandatory requirements are acceptable, no matter how they are built, otherwise what does mandatory really mean?
Substantiating Documents:	No
Committee Action from Meeting:	Held
Modification of Public Comment:	
Committee Reason:	*The changes recommended by this Public Comment to this section of the Draft Standard (March 6, 2015) do not pertain to the changes made during the development of the Draft Standard. In accordance with the development procedures, this comment is designated as **Held**.*

H004 LogID 6203	**701.4.3.4 Fenestration air leakage** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, Building Quality
Public Comment:	701.4.3.4 Fenestration air leakage. add: <u>Jalousie windows shall have an air infiltration rate of no more than 1.3 cfm per square foot.</u>
Reason:	Jalousie windows are tropical windows made to admit breezes. Sealing them tight is expensive and non-sensical.
Substantiating Documents:	No
Committee Action from Meeting:	Held
Modification of Public Comment:	
Committee Reason:	*The changes recommended by this Public Comment to this section of the Draft Standard (March 6, 2015) do not pertain to the changes made during the development of the Draft Standard. In accordance with the development procedures this comment is designated as **Held**.*

H005 LogID 6027	703.7.3 Passive cooling design *Final Formal Action:* **TBD**
Submitter:	Roger L. LeBrun, VELUX America Inc.
Public Comment:	703.7.3 (3) Windows and/or venting skylights are located to facilitate cross and stack effect ventilation.
Reason:	The Standard should mention stack effect ventilation. It is more efficient than a whole house fan, particularly in two story dwellings.
Substantiating Documents:	No
Committee Action from Meeting:	Held
Modification of Public Comment:	
Committee Reason:	*The changes recommended by this Public Comment to this section of the Draft Standard (March 6, 2015) do not pertain to the changes made during the development of the Draft Standard. In accordance with the development procedures this comment is designated as* ***Held****.*

H006 LogID 6029	703.7.4 Passive solar heating design *Final Formal Action:* **TBD**
Submitter:	Roger L. LeBrun, VELUX America Inc.
Public Comment:	Additional glazing, no greater than 12 percent, is permitted on the south wall. This additional glazing is in accordance with the requirements of Section 703.7.1. For every square foot of roof glazing on the south-facing roof slope, three square feet of allowed wall glazing is omitted.
Reason:	Skylights are more efficient solar heaters than windows.
Substantiating Documents:	No
Committee Action from Meeting:	Held
Modification of Public Comment:	
Committee Reason:	*The changes recommended by this Public Comment to this section of the Draft Standard (March 6, 2015) do not pertain to the changes made during the development of the Draft Standard. In accordance with the development procedures this comment is designated as* ***Held****.*

H007 LogID 6165	706.2 Renewable energy service plan *Final Formal Action:* **TBD**
Submitter:	Todd Jones, Center for Resource Solutions
Public Comment:	(1) Builder selects a renewable energy service plan provided by the local electrical utility for interim (temporary) electric service, or purchases renewable energy certificates (RECs) to cover electricity used. The builder's local administrate office has renewable energy service or has otherwise been paired with RECs. Green-ecertification (or equivalent) is required [or recommended] for renewable electricity purchases.
Reason:	(1) Depending on the location of the building site, the local electric utility may not offer a renewable energy service product/option/plan, or may not offer one for interim (temporary) electric service. Therefore, we suggest allowing the builder to procure renewable energy certificates (RECs), which are available everywhere, to meet this requirement. We also recommend that Green-e certification be required, or at least recommended, to ensure that use of renewable electricity has been properly verified. Utility green power programs/products, competitive electricity products, and stand-alone REC products can all be Green-e certified.
Substantiating Documents:	No
Committee Action from Meeting:	Held

Modification of Public Comment:	
Committee Reason:	*The changes recommended by this Public Comment to this section of the Draft Standard (March 6, 2015) do not pertain to the changes made during the development of the Draft Standard. In accordance with the development procedures this comment is designated as **Held**.*

H008 LogID 6168	**1002.2 Operations manual** ***Final Formal Action:*** **TBD**
Submitter:	Todd Jones, Center for Resource Solutions
Public Comment:	(4) Information on opportunities to purchase Green-ecertified (or equivalent) renewable energy from local utilities or national green power providers and information on utility and tax incentives for the installation on on-site renewable energy systems.
Reason:	(4) We recommend that information be provided specifically about Green-e certified utility and national green power products, to ensure that they are high quality and independently verified. The Green-e website is a good resource for finding local and national green power options.
Substantiating Documents:	No
Committee Action from Meeting:	Held
Modification of Public Comment:	
Committee Reason:	*The changes recommended by this Public Comment to this section of the Draft Standard (March 6, 2015) do not pertain to the changes made during the development of the Draft Standard. In accordance with the development procedures this comment is designated as **Held**.*

H009 LogID 6173	**11.1001.1 Homeowner's manual is provided** ***Final Formal Action:*** **TBD**
Submitter:	Todd Jones, Center for Resource Solutions
Public Comment:	Information on available local Green-ecertified (or equivalent) utility green power programs or renewable electricity products, as well as information on how to find other certified renewable energy products using the Green-e website ~~utility programs that purchase a portion of energy from renewable energy providers~~.
Reason:	(6) Many utilities will purchase a portion of energy of renewable energy providers. We recommend clarification of this requirement such that information is related to utility programs/products that deliver renewable electricity to customers. We also recommend strengthening this requirement by requiring that this be information about renewable energy products/options available to the building, either from the local utility (e.g. differentiated renewable electricity/green power products/options) or competitive electricity suppliers (if in a deregulated region), or REC products that are available nationally. The Green-e website can be used to find green power options in your area. We also recommend that information be provided specifically about Green-e certified utility green power programs/products, competitive electricity products, and stand-alone REC products.
Substantiating Documents:	No
Committee Action from Meeting:	Held
Modification of Public Comment:	
Committee Reason:	*The changes recommended by this Public Comment to this section of the Draft Standard (March 6, 2015) do not pertain to the changes made during the development of the Draft Standard. In accordance with the development procedures this comment is designated as **Held**.*

H010 LogID 6174	**11.1002.2 Operations manual** ***Final Formal Action:*** **TBD**
Submitter:	Todd Jones, Center for Resource Solutions
Public Comment:	Information on opportunities to purchase Green-ecertified (or equivalent) renewable energy from local utilities or national green power providers and information on utility and tax incentives for the installation on on-site renewable energy systems.

Reason:	(4) We recommend that information be provided specifically about Green-e certified utility and national green power products, to ensure that they are high quality and independently verified. The Green-e website is a good resource for finding local and national green power options.
Substantiating Documents:	No
Committee Action from Meeting:	Held
Modification of Public Comment:	
Committee Reason:	*The changes recommended by this Public Comment to this section of the Draft Standard (March 6, 2015) do not pertain to the changes made during the development of the Draft Standard. In accordance with the development procedures this comment is designated as **Held**.*

H011 LogID 6169	**11.606.3 Manufacturing energy** ***Final Formal Action:*** **TBD**
Submitter:	Todd Jones, Center for Resource Solutions
Public Comment:	Materials manufactured using renewable energy for a minimum of 33 percent of the primary manufacturing process energy. Non-electric energy used in manufacturing materials must be derived from (1) renewable sources~~,~~ or (2) combustible waste sources~~, or (3) renewable energy credits (RECs)~~. Electricity used in manufacturing materials must be paired with renewable energy certificates (RECs), which must be retired. The building may purchase RECs on behalf of the building material supplier where the supplier has not purchased/used renewable electricity, with RECs, for manufacturing of building materials. Green-e certification (or equivalent) is required [or recommended] for renewable electricity purchases and materials manufactured using renewable electricity.
Reason:	This requirement refers to renewable energy use in manufacturing of building materials, and therefore may refer to use of both electricity and non-electric energy in manufacturing. Currently, the options 1-3 are not differentiated as applying to either electricity or non-electric energy use. However, since RECs are required to claim use of renewable electricity in all cases, including from on-site renewable generation equipment, we suggest differentiating between electricity used in manufacturing, in which case RECs are required, and non-electric energy used in manufacturing. It is also not clear that in option 3, RECs are being purchased by the building to be applied to the building materials, i.e. its supply chain, and not to the building's own electricity usage, and that RECs/RE may also be purchased or used by the supplier of the building materials. Finally, we recommend that Green-e certification be required, or at least recommended, to ensure that use of renewable electricity has been properly verified.
Substantiating Documents:	No
Committee Action from Meeting:	Held
Modification of Public Comment:	
Committee Reason:	*The changes recommended by this Public Comment to this section of the Draft Standard (March 6, 2015) do not pertain to the changes made during the development of the Draft Standard. In accordance with the development procedures this comment is designated as **Held**.*

703.2.4 A radiant barrier with an emittance of 0.05 or less is used in the attic. The product is tested in accordance with ASTM C1371 and installed in accordance with the manufacturer's instructions.

Table 703.2.4

Radiant Barriers

Climate Zone	POINTS
1	**2**
2-3	**3**
4-5	**1**
6-8	**0**

In climate zones 1-3, a maximum of one point shall be awarded for multi-unit buildings four or more stories in height.

703.2.5 Building envelope leakage. The maximum building envelope leakage rate is in accordance with Table 703.2.5 and whole building ventilation is provided in accordance with Section 902.2.1.

Table 703.2.5

Building Envelope Leakage

Max Envelope Leakage Rate (ACH50)	Climate Zone							
	1	2	3	4	5	6	7	8
	POINTS							
4	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**
3	**2**	**4**	**0**	**0**	**0**	**0**	**0**	**0**
2	**3**	**5**	**3**	**4**	**4**	**6**	**8**	**7**
1	**4**	**7**	**5**	**7**	**7**	**10**	**15**	**11**

Where points are awarded in this section, Section 705.5.2.1 points shall not be awarded.

Note to staff -- Add opposite note to 705.5.2.1

703.2.6.2 The NFRC-certified (or equivalent) U-factor and SHGC of windows, exterior doors, skylights, and tubular daylighting devices (TDDs) are in accordance with Table 703.2.6.2(a), (b), or (c). Decorative fenestration elements with a combined total maximum area of 15 square feet (1.39 m^2) or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice.

Per Table 703.2.6.2(a) or

Table 703.2.6.2(b) or

In Table 703.2.6.2 (a) – points in Climate Zone 1 change from zero to one.	**Table 703.2.6.2(c)** **Points shall be awarded for Multi-unit buildings four or more stories in height at 3 times the value from the corresponding table.**

703.3.1 Combination space heating and water heating system (combo system) is installed using either a coil from the water heater connected to an air handler to provide heat for the building or dwelling unit, or a space heating boiler using an indirect-fired water heater. Devices have a minimum combined annual efficiency of 0.80 and a minimum water heating recovery efficiency of 0.87.	**4**

703.3.2 Furnace and/or boiler efficiency is in accordance with one of the following:

(1) Gas and propane heaters:

Add a separate table for multifamily buildings 4 or more stories.

Table 703.3.2(1B)
Gas and Propane Heaters for Multi-unit buildings 4 or more stories

AFUE	Climate Zone							
	1	2	3	4	5	6	7	8
	Points							
≥90% AFUE	0	4	4	8	8	10	11	13
≥92% AFUE	0	4	4	9	10	11	12	14
≥94% AFUE	0	5	5	10	11	12	14	16
≥96% AFUE	0	5	5	12	12	13	15	17
≥98% AFUE	0	6	6	13	13	14	16	18

(3) Gas boiler:

Table 703.3.2(3)

Gas Boiler

AFUE	**Climate Zone**							
	1	2	3	4	5	6	7	8
	POINTS							
≥85% AFUE	**0**	**1**	**1**	**~~3~~2**	**3**	**4**	**4**	**~~5~~4**
≥90% AFUE	**~~1~~0**	**~~2~~1**	**~~3~~2**	**~~5~~4**	**6**	**7**	**~~9~~8**	**~~10~~6**
≥94% AFUE	**~~1~~0**	**2**	**~~4~~3**	**~~7~~5**	**8**	**~~10~~9**	**~~12~~10**	**~~14~~8**
≥96% AFUE	**~~1~~0**	**2**	**4**	**~~8~~6**	**9**	**~~12~~11**	**~~14~~12**	**~~16~~10**

703.3.3 Heat pump heating efficiency is in accordance with Table 703.3.3(1) or Table 703.3.3(2). Refrigerant charge is verified for compliance with manufacturer's instructions utilizing a method in Section 4.3 of ACCA 5 QI-2010.

Per Table 703.3.3(1) or Table 703.3.3(2) or Table 703.3.3(3)

Table 703.3.3(1)

Electric Heat Pump Heating

Efficiency	Climate Zone					
	1	2	3	4	5	6-8[a]
	POINTS					
>=8.5 HSPF (11.5 EER)	0	1	1	2	2	2
>=9.0 HSPF (12.5 EER)	0	2	4	5	6	10
>=9.5 HSPF	0	3	7	7	11	18
>=10.0 HSPF	1	5	10	10	15	26

a. Equipment designed to operate in cold climates is recommended to minimize use of resistance heat when installing a heat pump in Zones 6-8.

Table 703.3.3(2)

Electric Heat Pump Heating for Multi-unit buildings four or more stories in height

Efficiency	Climate Zone					
	1	2	3	4	5	6-8
	POINTS					
>=8.5 HSPF (11.5 EER)	0	3	4	8	11	13

a. Equipment designed to operate in cold climates is recommended to minimize use of resistance heat when installing a heat pump in Zones 6-8.

Table 703.3.3(~~2~~3)

Gas Engine-Driven Heat Pump Heating

Efficiency	Climate Zone					
	1	2	3	4	5	6-8
	POINTS					
>=1.3 COP at 47°F	2	7	11	14	16	18

703.3.4 Cooling efficiency is in accordance with Table 703.3.4(1) or Table 703.3.4(2). Refrigerant charge is verified for compliance with manufacturer's instructions utilizing a method in Section 4.3 of ACCA 5 QI-2010.

Per Table 703.3.4(1) or Table 703.3.4(2)

Table 703.3.4(1)

Electric Air Conditioner and Heat Pump Cooling

Efficiency	Climate Zone							
	1	2	3	4	5	6	7	8
	POINTS							
~~≥14 SEER (11.5 EER)~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~
≥15 SEER (12.5 EER)	~~3~~9	6	3	1	1	1	1	0
≥17 SEER (12.5 EER)	11	9	7	3	3	2	2	0
≥19 SEER (12.5 EER)	19	12	10	6	4	4	4	0
≥21 SEER	26	15	14	8	6	6	5	0

703.4.1 All space heating is provided by a system(s) that does not include air ducts.

Per Table 703.4.1

Table 703.4.1

Ductless heating system

Climate Zone					
1	2	3	4	5	6-8
POINTS					
0	2	4	6	8	8

(No points shall be awarded for Multi-unit buildings four or more stories in height.)

703.4.2 All space cooling is provided by a system(s) that does not include air ducts.

Per Table 703.4.2

Table 703.4.2

Ductless cooling system

Climate Zone					
1	2	3	4	5	6-8
POINTS					
8	8	4	2	1	0

(No points shall be awarded for Multi-unit buildings four or more stories in height.)

703.4.3 Ductwork is in accordance with all of the following:

Per Table 703.4.3

(1) Building cavities are not used as return ductwork.

(2) Heating and cooling ducts and mechanical equipment are installed within the conditioned building space.

(3) Ductwork is not installed in exterior walls.

Table 703.4.3

Ducts

Climate Zone					
1	2	3	4	5	6-8
POINTS					
8	**10**	**8**	**8**	**8**	**4**

(No points shall be awarded for Multi-unit buildings four or more stories in height.)

703.4.4 Duct Leakage. The entire central HVAC duct system, including air handlers and register boots, is tested by a third party for total leakage at a pressure differential of 0.1 inches w.g. (25 Pa) and maximum air leakage is equal to or less than 6 percent of the system design flow rate or 4 cubic feet per minute per 100 square feet of conditioned floor area.

Per Table 703.4.4

Table 703.4.4

Duct Leakage

Ductwork location	Climate Zone					
	1	2	3	4	5	6-8
	POINTS					
ductwork *entirely outside* the building's thermal envelope	**4**	**5**	**4**	**3**	**2**	**1**
ductwork *entirely inside* the building's thermal envelope	**1**	**1**	**1**	**1**	**1**	**1**
ductwork *inside and outside* the building's thermal envelope	**3**	**4**	**3**	**2**	**1**	**1**

(Where duct leakage points are awarded in this section, Section 705.5.2.3 points shall not be awarded.)

Note to Staff: Add opposite note to 705.5.2.3

703.5.1 Water heater Energy Factor (EF) is in accordance with the following:

(Where multiple systems are used, points awarded based on the system with the lowest efficiency.)

Gas water heating

Table 703.5.1(1)(a)

Gas Water Heating

Energy Factor	Climate Zone							
	1	2	3	4	5	6	7	8
	POINTS							
0.67 to <0.80	**3**	**3**	**2**	**2**	**2**	**2**	**2**	**1**
≥0.80	**4**	**4**	**3**	**~~2~~3**	**~~2~~3**	**~~2~~3**	**~~2~~3**	**~~1~~2**

Points shall be awarded for Multi-unit buildings at 2 times the value of that stated in Table 703.5.1(1)(a).

703.6.1 Hard-wired lighting. Hard-wired lighting is in accordance with one of the following:	
(3) In multi-unit buildings, common area lighting power density (LPD) is less than 0.51 Watts per square foot.	**~~TBD~~ 7**