The background of the slide is a dense, textured field of discarded mobile phones, likely iPhones, scattered across the entire surface. The phones are in various orientations and shades of grey and black, creating a complex, repetitive pattern.

# 2013 Updates to the California Green Building Standards Code (CALGreen)

Wes Sullens  
StopWaste of Alameda County

BayREN Regional Forum  
February 24, 2015



- Effective since January 1, 2011 for new construction
- Provides a set of **Mandatory Provisions** that are required for all new construction:
  - Quality construction practices
  - Green practices not addressed in the building code before
  - Duplicative or additive to regulatory requirements
- CALGreen includes two voluntary “Tiers” that may be adopted via local amendment

# CALGreen Major Changes for 2013

1. CALGreen Mandatory Measures apply to ALL residential “covered” occupancies
2. Mandatory Measures apply to residential and nonresidential additions and alterations:
  - Residential: all additions/alterations that add floor area or volume
  - Nonresidential: additions >1000 sf and/or permit valuation >\$200,000
  - Mixed-occupancy buildings shall comply with appropriate requirements of each occupancy type

# CALGreen Minor Changes for v2013

- Construction *and* demolition waste now covered by recycling requirement
- Updated formaldehyde limits for interior wood products
- 80% resilient flooring requirement
- New measure for Supermarket refrigerant leak reduction
- Many changes to the Tiers
- Other minor updates throughout the Code

# CALGreen 2013 Tier Updates

- New measures:
  - Stormwater design & management
  - walkability
  - bike parking
  - nonroof heat island reduction
  - Energy Star and water efficient appliances
- Minor changes to cool roofs, reflectivity
- 30%/35%+ water conservation for fixtures
- Increased amounts of low-VOC resilient flooring:
  - Tier 1: 90% (was 80% in 2010)
  - Tier 2: 100% (was 90% in 2010)
- Electric Vehicle Charging
  - Tier 1: 3% of total parking spaces shall be capable of future EV charging stations (raceways provided)
  - Tier 2: 5% of total parking spaces

# Residential CALGreen Tiers – Energy

- New construction:
  - Tier 1: 15% improvement over base code
  - Tier 2: 30% improvement over base code

AND

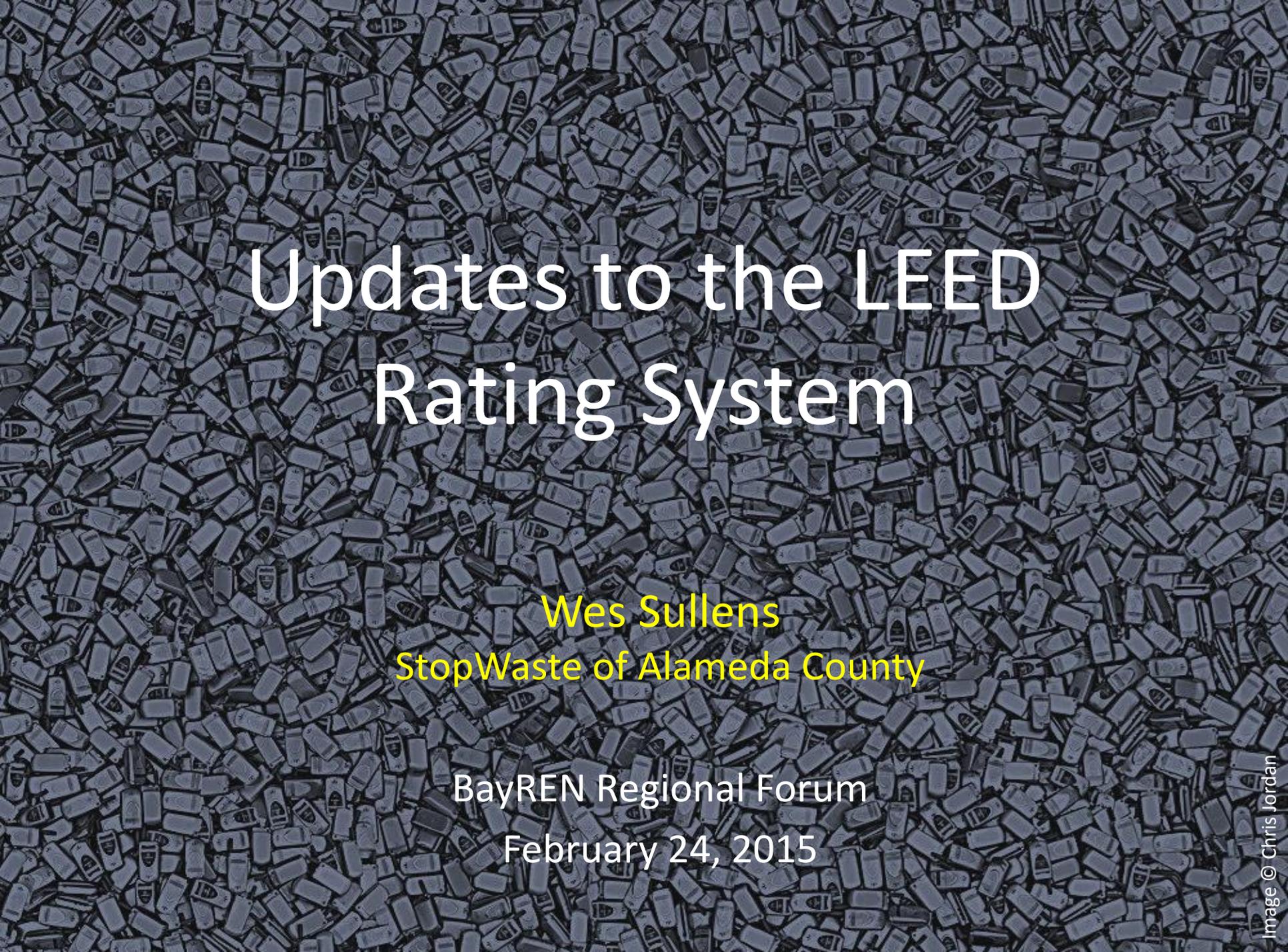
  - HERS rating of whole house
  - Quality of Insulation Installation (QII) inspection
  - High efficacy lighting
- Existing Buildings  
(add/alts that affect major systems):
  - Tier 1: 5-10% improvement over base code
  - Tier 2: 10-15% improvement over base code

# Nonresidential CALGreen Tiers – Energy

- All construction:
  - Tier 1: 5-10% improvement over base code, depending upon scope (lighting and/or mechanical)
  - Tier 2: 10-15% improvement over base code  
AND
    - 10% reduction in outdoor lighting energy
    - Solar water heating required for restaurants

# CALGreen Resources

- The full code can be found at:  
[www.bsc.ca.gov/CALGreen](http://www.bsc.ca.gov/CALGreen)
- Trainings offered throughout the state:  
[www.green-technology.org/calgreen/](http://www.green-technology.org/calgreen/)  
[www.calbo.org/education/cti/](http://www.calbo.org/education/cti/)
- Resource guides for interpreting & verifying provisions in CALGreen:  
[www.bsc.ca.gov/CALGreen](http://www.bsc.ca.gov/CALGreen) (Non-residential)  
[www.hcd.ca.gov](http://www.hcd.ca.gov) (Residential)  
[www.stopwaste.org/calgreen](http://www.stopwaste.org/calgreen) (unofficial guides)



# Updates to the LEED Rating System

Wes Sullens  
StopWaste of Alameda County

BayREN Regional Forum  
February 24, 2015



Leadership in Energy & Environmental Design

# 213,900

PROJECTS ARE CURRENTLY  
PARTICIPATING IN LEED<sup>®</sup>,  
COMPRISING MORE THAN

**11.1** BILLION SQ.  
FT.

OF CONSTRUCTION SPACE



1.7 MILLION

square feet certifies to LEED<sup>®</sup>  
**EACH DAY**

A stylized world map in a muted brown color is centered in the background. The map is overlaid on a repeating pattern of light green leaves. The text is centered over the map.

**150**  
total countries  
and territories with  
**LEED<sup>®</sup> PROJECTS**

# LOCAL GOVERNMENT PROJECTS

**1,800** LEED®  
CERTIFIED PROJECTS  
REPRESENTING **150**  
MILLION SQ. FT.

**2,600** REGISTERED  
PROJECTS  
REPRESENTING **337**  
MILLION SQ. FT.



CITY OF LOS ANGELES - FIRE STATION 36  
SAN PEDRO, CA  
LEED CERTIFIED



NAVY'S ENERGY & SUSTAINABLE  
DEMONSTRATION FACILITY  
PORT HUENEME, CA  
LEED GOLD - NEW CONSTRUCTION

# GOVERNMENT LEED® POLICIES AND INITIATIVES

**16** FEDERAL AGENCIES  
OR DEPARTMENTS

**30+** STATES

**400+** LOCALITIES



LEED  
v4



LEED v4:

**ONE GLOBAL LEED**

Effective since November 2014

**FOCUS ON PERFORMANCE**

LEED  
v4

# 21

BUILDING TYPES

NEW CONSTRUCTION CORE AND  
BD+C SCHOOLS BD+C RETAIL  
HEALTHCARE DATA  
HOSPITALS BD+WAREHOUSES AND  
DISTRIBUTION CENTERS HOMES ES MID-  
RISE COMMERCIAL INTERIORS RETAIL  
ID+C HOSPITALS EXISTING BUILDINGS EBOM  
DATA CE EBOM WAREHOUSES AND  
DISTRIB EBOM HOSPITALITY  
EBOM SCHOOLS EBOM RETAIL INTERIORS ND  
PLAN ND NEIGHBORHOOD DEVELOPMENT

# LEEDv4 Updates to Energy Credits

- LEED for Homes
  - Energy Star v3 and/or HERS index rating >70  
*\*adjustments made for home size*
- LEED for Building Design & Construction (BD+C)  
*(nonresidential buildings & major renovations)*
  - Energy budget based on ASHRAE 90.1 v2010  
*Title 24, part 6 equivalency to be developed in 2015*
- LEED for Building Operations + Maintenance  
*(aka LEED for Existing Buildings)*
  - Energy Star Portfolio Manager new minimum score: 75

# Resources for CALGreen & LEED projects

[www.stopwaste.org/calgreen](http://www.stopwaste.org/calgreen)

## Comparing Residential Green Building Rating Systems and the CALGreen Code in 2014

This document contains a high-level comparison of the new GreenPoint Rated New Home Single Family and Multifamily Version 6, the new 2013 California Green Building code (CALGreen), and LEED for Homes Version 4.

The measures and credits compared here are not necessarily equivalent; please refer to the referenced documents for more detail on individual measures and credits. Where "No CALGreen Reference" and "No LEED credit Reference" is noted there is not direct measure or credit that aligns within that system compared to GreenPoint Rated.

This document has been reviewed by StopWaste, San Francisco Department of the Environment, Build It Green, the US Green Building Council, and USGBC California. Although every effort has been made to ensure accuracy, be advised that information may change, and that some comparisons are based on professional judgment by the reviewers. Use at your own risk.



|  | GreenPoint Rated v6  | CALGreen 2013 Tier 1  | CALGreen 2013 Tier 2  | LEED for Homes v4  |
|--|--|---|---|--|
| <b>Geographic Focus</b>                  | California   | California  | California  | United States  |
| <b>Stringency</b>                        | Voluntary unless locally adopted   | Voluntary unless locally adopted                            | Voluntary unless locally adopted                            | Voluntary unless locally adopted   |
| <b>Scope</b>                             | Single Family (SF) Multifamily (MF)  | All Residential Dwellings                                   | All Residential Dwellings                                   | Single Family Mid-rise High-Rise (falls under LEED Building Design & Construction)           |
| <b>Building Age</b>                      | Existing & New Construction  | New Construction & Retrofits                                | New Construction & Retrofits                                | New Construction   |
| <b>Assurance/verification</b>            | Third Party Rater  | Building Official   | Building Official   | Third party Provider and Green Rater   |
| <b>Verification Timing</b>               | Plan Check, Construction Verification & Performance Testing  | Plan Check, Construction Verification & Performance Testing | Plan Check, Construction Verification & Performance Testing | Preliminary Rating during Conceptual Design; Construction Verification & Performance Testing |
| <b># of Energy Points Possible</b>       | SF: 5, MF: 6 Capped at 300   | 0   | 0   | 39 up to 163   |
| <b>Recognition Levels (point scales)</b> | Platinum (140 points or more)<br>Gold (110 - 139 points)<br>Silver (80 - 109 points)<br>Certified (50 - 79 points) | Tier 1  | Tier 2  | Platinum (90+)<br>Gold (75 - 89)<br>Silver (60 - 74)<br>Certified (45 - 59)                  |
| <b>Recognition</b>                       | Certification- GreenPoint Rated  |   |   | Certification- LEED Certified  |
| <b>Required Credits by System</b>        |  |   |   |  |
|  | Minimum measures in each category<br>Minimum total points  | Minimum measures in each category                           | Minimum measures in each category                           | Minimum points in each category<br>Minimum total points                                      |
| <b>General Prerequisites</b>             | CALGreen Mandatory Measures<br>Green Appraisal Addendum<br>GreenPoint Rated Checklist in Blueprints                | CALGreen Mandatory Measures                                 | CALGreen Mandatory Measures                                 | Minimum Project Requirements<br>Preliminary Rating (conduct a LEED-charrette meeting)        |

| Code/ Rating System | Reference Number | Measure / Credit Name                                     | Comparison Results  | Difficulty of achieving LEED points under:<br>Mandatory CALGreen Measures<br>CALGreen Tier 1 Measures<br>CALGreen Tier 2 Measures |
|---------------------|------------------|---|---|---|
| 10-2013             | AS.103.2         | Brownfield or greyfield site redevelopment or infill area | CALGreen requires projects to be located on either a Brownfield, greyfield redevelopment or infill area development site.   |   |
| LEEDv4              | LTC3             | High Priority Site: Location                              | LEED LTC3 has 3 options. Under Option 1, projects can achieve 1 pt by locating the project on an infill location in a historic district. Option 2 is for a priority designation such as the EPA's National Priorities List which is not applicable to CALGreen. Choosing Option 3, projects can achieve 2pts by locating the project on a brownfield site and conducting remediation.   |   |
|                     |                  | High Priority Site: Remediation (option 3)                |   |   |
| 10-2013             | AS.104.1         | Reduce development footprint and optimize open space      | CALGreen has different requirements depending on the zoning conditions for the project location. If local zoning requirements exist, projects must exceed the zoning's open space requirement for vegetated open space on the site by 25 percent. If no local zoning requirements exist, projects must provide vegetated open space area adjacent to the building equal to the building footprint area. If zoning exists but there is no open space requirement, projects must provide vegetated open space equal to 20 percent of the total project site area. LEED SSc3 Requires outdoor space for +/- 30% total site area (including building footprint). Minimum of 25% of that outdoor space must be vegetated or overhead vegetated canopy. |   |
| LEEDv4              | SSc3             | Open Space  |   |   |
| 10-2013             | AS.105.1         | Deconstruction and Reuse of Existing Structures           | For the reuse of the existing structure under CALGreen, projects must maintain 75% of structural floor, roof decking and ceiling. For the existing interior nonstructural elements, projects must reuse 50% of the walls, doors, floor coverings and ceiling systems. Projects must salvage other items in good condition and document the weight or quantity. LEED MR1 offers 4 Options, but Option 3: Building and Material Reuse is comparable. Projects can achieve 2-4 points (23%).   |   |

## The CALGreen Companion Guide for LEED® Projects

Recommendations for Documenting & Verifying CALGreen Non-Residential Mandatory Measures on LEED Projects



Version 2.0  
July 2012

| Mandatory Measure #                      | Addition/ Abatement | New Rating | CALGreen Measure Title  | Documentation/ Evaluation | Summary of Recommendations  | Page No. |
|--|---------------------|------------|---|---------------------------|---|----------|
| <b>PLANNING AND DESIGN</b>               |                     |            |   |                           |   |          |
| <b>Site Development</b>                  |                     |            |   |                           |   |          |
| §712.6.1                                 | §106.1              |            | Storm Water Soil Loss Prevention Plan                             | LEED + CG                 | With the CALGreen and LEED standards for storm water pollution prevention we typically exceeded by most stringent local requirements. Where the local standard does not apply to sites less than one acre in size, LEED is more stringent than CALGreen and LEED documentation can be used to show compliance with CALGreen.                    | 4        |
| §712.6.2                                 | §106.4              |            | 4.1. Short-Term bicycle parking<br>4.2. Long-Term bicycle parking | LEED + CG                 | LEED is more stringent than CALGreen would in most instances, the distance from bike parking to building entrance. If LEED projects include the CALGreen requirement for distance (200 feet), then LEED documentation more than satisfies the CALGreen requirement.   | 5        |
| §712.6.3                                 | §106.8.2            |            | Designated parking  | LEED + CG                 | CALGreen requires new preferred parking (PP) then the LEED credit (PP). In order to meet CALGreen, LEED projects seeking this credit would achieve 9% of preferred parking stalls and level stalls as required by CALGreen.   | 8        |
| N/A                                      | §106.8              |            | Light pollution reduction   | LEED + CG                 | CALGreen and LEED light pollution reduction requirements have similar elements, but are defined differently. LEED requirements are at least as stringent as CALGreen. Therefore, projects achieving this credit in LEED will exceed the CALGreen requirements.  | 11       |
| §710.10                                  | §106.10             |            | Grading and paving  | N/A                       | No overlap with LEED occurs, verify outside of LEED submittals.   |          |
| <b>ENERGY EFFICIENCY</b>                 |                     |            |   |                           |   |          |
| <b>Performance Requirements</b>          |                     |            |   |                           |   |          |
| N/A                                      | §201.1              |            | Meet Title 24, Part 6, California Energy Code                     | LEED + CG                 | CALGreen does not require energy efficiency above code minimum. LEED requires at least a 20% improvement, but also a different baseline. Almost all California projects that comply with the state energy code will meet the LEED threshold, however the documentation and verification requirements for LEED are more stringent than CALGreen. | 16       |
| <b>WATER EFFICIENCY AND CONSERVATION</b> |                     |            |   |                           |   |          |
| <b>Indoor Water Use</b>                  |                     |            |   |                           |   |          |
| §712.3.1                                 | §303.1              |            | Water Meters & Submeters  | N/A                       | No overlap with LEED occurs, verify outside of LEED submittals.   |          |
| §712.3.2                                 | §303.2              |            | 2.0. 20% Water Savings  | LEED + CG                 | Both CALGreen and LEED require a 20% reduction in indoor water use. Each system has a slightly different requirement of applicable fixtures and calculation of fixture use. With minor adjustments to the LEED calculator, LEED documentation meets or exceeds CALGreen requirements.   | 17       |
| §712.3.3                                 |                     |            | 2.1. Multiple showerheads serving one shower                      | LEED + CG                 | Though newly found on commercial projects seeking LEED, should any showers include multiple showerheads, those fixtures must meet the CALGreen requirement.   | 21       |
| N/A                                      | §303.4              |            | Wastewater reduction  | LEED + CG                 | The LEED threshold reduction (20%) is much more stringent than CALGreen (25%). Therefore if a project obtains this credit in LEED it meets the CALGreen requirement.  | 22       |
| §713.3.5                                 | §303.6              |            | Plumbing fixtures and fittings                                    | N/A                       | No overlap with LEED occurs, verify outside of LEED submittals.   |          |

# LEED for California?

- USGBC is currently reviewing overlap between CALGreen code and the LEED BD+C rating system:
  - Several LEED measures will likely be streamlined for California projects seeking LEED labels
    - Nonresidential projects
    - New construction or major renovation (BD+C)
  - *Announcement expected in April 2015*

Positive  
Environmental  
Impact

Zero  
Impact

Negative  
Environmental  
Impact

