

Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109
(415) 749-5073

APPROVED MINUTES

Advisory Council Regular Meeting
Wednesday, March 11, 2015

Note: Audio and video recordings of the meeting are available on the website of the Bay Area Air Quality Management District at <http://www.baaqmd.gov/The-Air-District/Board-of-Directors/Advisory-Council/Agendas-and-Minutes.aspx>.

1. CALL TO ORDER

Chairperson Liza Lutzker called the meeting to order at 9:04 a.m.

Opening Comments: None.

Roll Call:

Present: Chairperson Liza Lutzker, M.P.H.; Vice-Chairperson Jessica Range, LEED A.P.; Secretary Jonathan Cherry, A.I.A.; and Members Sam Altshuler, P.E., Robert Bornstein, Ph.D., Harold Brazil, Stan Hayes, Frank Imhof, Kraig Kurucz, Rick Marshall, P.E., P.L.S., Bruce Mast, SaraT L. Mayer, M.P.P., and Timothy O'Connor, Esq.

Absent: Members Ana M. Alvarez, D.P.P.D., and Laura E. Tam.

Also Present: None.

2. PUBLIC COMMENT ON NON-AGENDA MATTERS: No requests received.

3. APPROVAL OF THE MINUTES OF FEBRUARY 11, 2015

Advisory Council (Council) Comments: None.

Public Comments: No requests received.

Council Action:

Chairperson Lutzker made a motion, seconded by Member Cherry, to approve the minutes of the Council meeting of February 11, 2015; and the motion carried by the following vote of the Council:

AYES: Altshuler, Bornstein, Brazil, Cherry, Imhof, Kurucz, Lutzker, Mast, Mayer and Range.

NOES: None.
ABSTAIN: Hayes.
ABSENT: Alvarez, Marshall, O'Connor and Tam.

PRESENTATION

4. Urban Heat Island Effects on Energy Use, Climate, Air Pollution, Greenhouse Gases (GHGs) and Health

The Council discussed the composition of the report writing work group and the draft report.

NOTED PRESENT: Member Marshall was noted present at 9:07 a.m.

The Council and staff discussed potential presentations to the Board of Directors (Board) and its committees.

DISCUSSION

5. Discussion of Council Presentation to the Board

Council Comments:

The Council and staff deliberated upon proposed revisions to the draft presentation to the Board on Council activities in 2014 and discussed the availability of staff to assist with the preparation of the presentation.

PRESENTATION (CONTINUED)

4. Urban Heat Island Effects on Energy Use, Climate, Air Pollution, GHGs and Health (continued)

Saffet Tanrikulu, Research and Modeling Manager of the Planning and Climate Protection Division, introduced:

Ronnen Levinson, Ph.D.
Staff Scientist
Urban Heat Island Group
Lawrence Berkeley National Laboratory (LBNL)
Berkeley, CA

Dr. Levinson gave a presentation entitled *Urban Heat Island Effects on Energy Use, Climate, Air Pollution, and GHGs* (a copy of which is available on the website of the Bay Area Air Quality Management District at <http://www.baaqmd.gov/The-Air-District/Board-of-Directors/Advisory-Council/Agendas-and-Minutes.aspx>).

The Council and Dr. Levinson discussed, at slide 12, *Average roof albedo*, whether and how roof pitch impacts albedo.

Dr. Levinson continued the presentation.

At slide 13, *Let's go to the Oscars with AlbedoMap.LBL.gov*, Dr. Levinson played back a video, *Albedo Map Dolby Theater*, examining the features available at the same website.

Dr. Levinson continued the presentation.

The Council and Dr. Levinson discussed, at slide 14, *Mesoscale climate models predict air temperature reductions of up to 1° C*, the substitution of an alternate slide identifying the map on the right as “year-2000” not “present-day” emissions; details about the data that generated the models and the implications of the models; H. Taha’s continued presence on Dr. Levinson’s team; and details of related modeling work.

Dr. Levinson continued the presentation.

NOTED PRESENT: Member O’Connor was noted present at 9:57 a.m.

The Council and Dr. Levinson discussed, at slide 17, *2013 Title 24 prescribes cool roofs for all nonres buildings, some res buildings*, what is meant by “aging.”

Dr. Levinson continued the presentation.

The Council and Dr. Levinson discussed, at slide 18, *PG&E [Pacific Gas & Electric] formerly offered rebates for exceeding T24 cool roof requirements*, the ratio of steep-slope roofs to the total number; the definition of “multifamily residential;” and the cost of cool roofing at installation or natural life-cycle replacement.

Dr. Levinson continued the presentation.

The Council and Dr. Levinson discussed, at slide 20, *Fluorescent cool dark pigments reflect NIR [Near-Infrared] light and re-emit absorbed visible light as NIR*, “PPG” as a reference to a manufacturer of coatings.

Dr. Levinson continued the presentation.

The Council and Dr. Levinson discussed, at slide 21, *Ruby-pigmented coatings offer high Effective Solar Reflectance (ESR) in non-white colors*, the nature of the interest in non-white colors; the albedo implications of white and non-white colors as they age and become dirty; and the climate change impacts of near and thermal infrared coatings.

Dr. Levinson continued the presentation.

The Council and Dr. Levinson discussed, at slide 22, *Cool colored synthetic limestone granules can capture CO₂ [carbon dioxide], raise asphalt shingle albedo*, what is displayed in the photographs.

Dr. Levinson continued the presentation.

The Council and Dr. Levinson discussed, at slide 30, *LBNL laboratory aging method quickly predicts 3-year-aged roof albedo, thermal emittance*, the applicability of the aging method in the solar energy field and what the U.S. Cool Roof Rating Council approval means relative to Title 24 standards.

Dr. Levinson continued the presentation.

The Council and Dr. Levinson discussed, at slide 32, *A cool tile roof in Fresno, CA saved both cooling and heating energy in a single-family home*, the cost savings as being lower than expected by some Council members and why that might be; additional details relative to annual power-plant emission savings; thermal mass roof variations in different climates; and air conditioning.

Dr. Levinson continued the presentation.

The Council and Dr. Levinson discussed, at slide 33, *California's schools are growing cooler with reflective roofs and schoolyards*, whether schoolyard coatings are similar to that used on roofs and the ramifications of installations of new turf materials.

Dr. Levinson concluded the presentation.

Council Comments:

The Council, staff and Dr. Levinson discussed the numbers provided on slide 32, *A cool tile roof in Fresno, CA saved both cooling and heating energy in a single-family home*, relative to annual power-plant emission savings; whether these data are the result of a simulation; which locales and technologies are most appropriate for the Bay Area to focus its efforts on relative to urban heat islands and why; photovoltaic (PV) surfaces as not truly cool roofs; advisability of PV residential rebates to encourage installation; average conversion rates for PV and chances of improvement in the near future; the state of research on PV-cool roof combinations; compatibility of radiant barriers and cool roofs; reflectivity and cooling limitations on a global scale; whether an economic analysis of the net benefits of solar and cool roofs exists and the conclusion; and what roof solution Dr. Levinson and Member Altshuler would install tomorrow for a residence in Pleasanton, California.

Public Comments: No requests received.

Council Action: None; receive and file.

DISCUSSION (CONTINUED)

5. Discussion of Council Presentation to the Board (continued)

Council Comments:

The Council and staff further deliberated upon proposed revisions to the draft presentation to the Board on Council activities in 2014 and invited staff input as soon as possible.

Public Comments: No requests received.

Council Action: None; receive and file.

OTHER BUSINESS

6. **Chairperson's Report:** None.
7. **Council Member Comments / Other Business:** None.
8. **Time and Place of Next Meeting**

Wednesday, April 8, 2015, Bay Area Air Quality Management District Headquarters, 939 Ellis Street, San Francisco, CA 94109 at 9:00 a.m.

9. **Adjournment:** The meeting adjourned at 12:44 p.m.

151 Sean Gallagher

Sean Gallagher
Clerk of the Boards