

**Public Comments Received between
April 17, 2015 to April 30, 2015**

From: Irv Beiman
Sent: Monday, April 27, 2015 5:11 PM
To: Irv Beiman; CEQA contact; Molly M. Pearson
Cc: Rebecca Claassen APCD; Janet Blevins CEQA; Seth Steiner; llbishop2@verizon.net
Subject: Revised: Submission for the APCD's Board of Director's Consideration: Statement #1 from Dr. Irv Beiman

Importance: High

Submission for the SB County Air Pollution Control District's Board of Directors's Consideration: Statement #1 from Dr. Irv Beiman |

SUMMARY:

There is strong evidence of advanced acceleration in:

- Arctic warming and sea ice decline in a vicious cycle
- Substantial ice loss in Greenland with potential massive loss due to unstable glaciers
- Disruption of jet stream behaviour, with abrupt climate change leading to crop failures, rising food prices and conflict in the Northern Hemisphere
- Rapid emissions of methane from the Arctic seabed, permafrost and tundra.

The tipping point for the Arctic sea ice has already passed.

To the Board:

I am a resident of Santa Ynez. I trained as a behavioral scientist [Irv Beiman, Ph.D. Univ of Illinois at Urbana-Champaign] and have published in the area of *resilient sustainability* for climate change [collected articles and white papers are available at www.globalisr.com]. I wish to make the Board aware of these **STRATEGICALLY**

RELEVANT FACTS:

- The current climate instability that we are experiencing is importantly related to the Arctic meltdown which continues.
- Melting permafrost in Siberia, Canada and the Arctic is combining with the release of methane hydrates previously frozen in Arctic waters. These waters are warming, so shallow ocean waters are releasing plumes of methane as large as 1km in diameter.
- The IPCC reports that a molecule of methane has 20x the global warming potential [GWP] of a molecule of CO₂, BUT that is over a reference period of 100 years.
- Over an immediately relevant 20 year period, a molecule of methane has 70x – 120x the global warming potential of a molecule of CO₂, thereby creating a positive feedback loop that accelerates climate change.
- The IPCC report does not effectively address this issue.
- **My plea to you is that we need to do everything we can to limit GHGs: including limit GHGs from stationary sources! Short term economic and job considerations should not deter the Board from making strategically wise decisions. See detail below.**

A concerned group of scientists has established a working group to study this and to share information. The information below is a press release from their website.

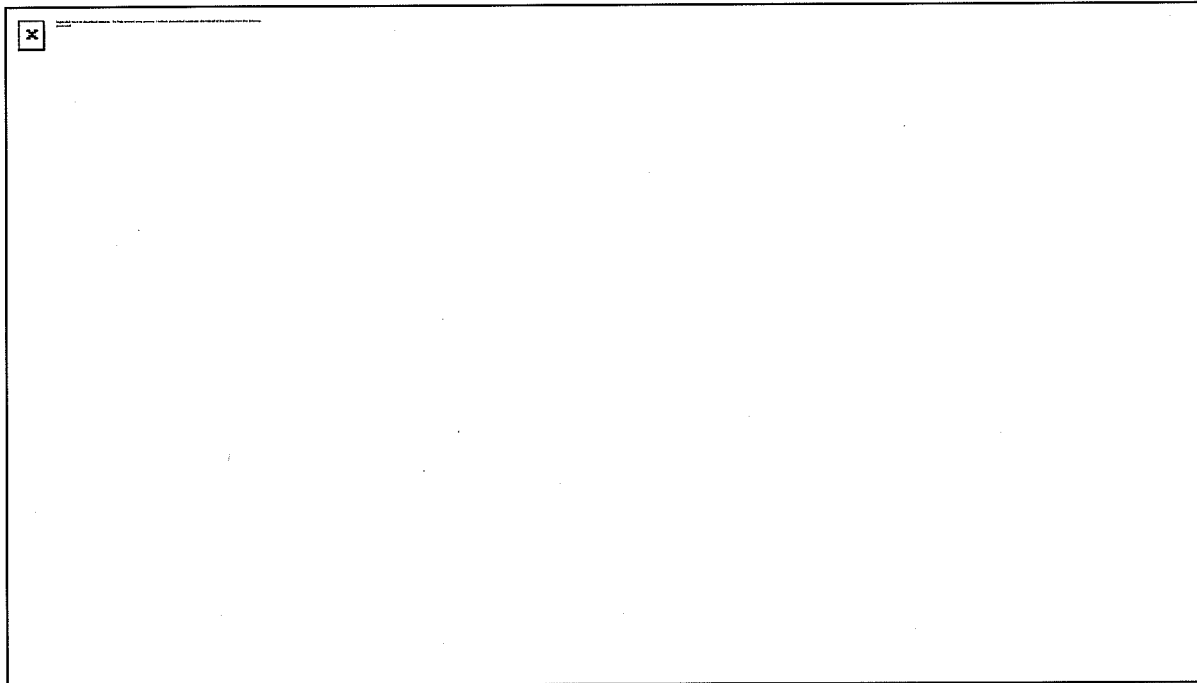
I will forward a second statement about how I might help, *pro bono*.



- WHY EMERGENCY?
- ARCTIC WARMING
- SEA ICE
- METHANE
- IMPACT
- TAKING ACTION

Arctic Sea Ice - Methane Release - Planetary Emergency

AMEG Chairman, John Nissen In Press Conference In Lima at COP20



AMEG Chairman, John Nissen, gives a sincere overview of the Arctic risk that humanity faces at the COP20 in Lima. Thanks go to Stuart Scott of www.upfsi.org and AMEG member scientist, Paul Beckwith.

THURSDAY DEC. 4 2014 - Press Conference Room 2, COP-20, Lima

PRESS CONFERENCE ANNOUNCEMENT
Arctic Methane Emergency Group

FOR IMMEDIATE RELEASE:
TIME: Thursday, December 4, 2014, 12:00-12:30 PM

SUBJECT: Arctic meltdown: a catastrophic threat to our survival
AMEG calls for rapid refreezing of the Arctic to halt runaway melting

WHO: John Nissen, Chair AMEG, supported by Professor Peter Wadhams, Cambridge University, co-founder of AMEG and world-renowned expert on Arctic sea ice, with Paul Beckwith, AMEG blogger.

SUMMARY:

There is strong evidence of advanced acceleration in:

- Arctic warming and sea ice decline in a vicious cycle
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- Disruption of jet stream behaviour, with abrupt climate change leading to crop failures, rising food prices and conflict in the Northern Hemisphere
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The tipping point for the Arctic sea ice has already passed.

Our conclusions are:

- The meltdown is accelerating and could become unstoppable as early as Sept 2015
- Immediate action must be taken to refreeze the Arctic to halt runaway melting
- Greenhouse gas emissions reduction, however drastic, cannot solve this problem
- Calculations show that powerful interventions are needed to cool the Arctic
- Any delay escalates the risk of failure
- Arctic meltdown is a catastrophic threat for civilisation.

AMEG therefore calls for the immediate setting up of a task force, specifically mandated to ensure that the Arctic is cooled as quickly and safely as possible.

Contact: John Nissen, Chairman, AMEG.

Urgent Message to Governments from the Arctic Methane Emergency Group, AMEG

AMEG's Declaration

Governments must get a grip on a situation which IPCC, the Intergovernmental Panel on Climate Change, has ignored. A strategy of mitigation and adaptation is doomed to fail. It will be impossible to adapt to the worst consequences of global warming, as IPCC suggests.

The Arctic must be cooled, ASAP, to prevent the sea ice disappearing with disastrous global consequences. Rapid warming in the Arctic, as sea ice retreats, has already disrupted the jet stream. The resulting escalation in weather extremes is causing a food crisis which must be addressed before the existing conflicts in Asia and Africa spread more widely.

Dangerous global warming and ocean acidification must be prevented by reducing the level of CO2 in the atmosphere, especially by improved agricultural practice, thereby addressing the food crisis at the same time.

This is an unprecedented opportunity for international collaboration for common purpose.

1. The Arctic is rapidly heading for meltdown. As snow and sea ice retreat, exposing land and sea with lower albedo (i.e. less reflectiveness), more solar energy is absorbed, thus leading to further melting and retreat in a vicious cycle. This cycle has been self-sustaining for many years – we are well past the tipping point. There is no sign of any natural process to break the cycle.

2. As the extent of snow and sea ice has been plummeting, even while global warming has stalled, Arctic albedo loss has rapidly overtaken CO2 as the main driver of climate change in the Northern Hemisphere, as witness the escalation of weather extremes. The Arctic has warmed well above global average, resulting in a reduction of the temperature gradient between tropics and pole, this in turn reducing the strength of the polar jet stream, with increased meandering and a tendency to get stuck in blocking patterns. This explains the recent escalation of weather extremes in the form of long periods of weather of one kind such as the months of high rain the UK has experienced this past winter 2013-14, and the protracted extreme cold in the US over the same period, crop failures and an upward trend in the world food price index.

3. While land and subsea permafrost thaws ever faster, methane could become the dominant climate forcing agent. Emissions threaten to break through the gigaton-per-year level within twenty years. AMEG has been continuing its research into the situation. A recent paper, co-authored by Peter Wadhams, a founder member of AMEG, has used the Stern Review economic model to show that the economic cost of a 50 megaton release of methane from the Arctic Ocean seabed will cost \$60 trillion. Research in the East Siberian Arctic Shelf has suggested that such a vast release of methane was possible, and continued exponential increase of methane could, within 20 years, reach a level where methane dominated over CO2 in global warming. Some researchers warn of a 50 gigaton burst being possible “at any time”.

4. Therefore, urgent and strenuous efforts are needed ASAP to cool the Arctic, halt snow and sea ice decline, and suppress methane.

5. Techniques exist for cooling on the necessary scale. Both the brightening of low-level clouds and the production of a reflective haze in the stratosphere are techniques based on natural phenomena which have been studied extensively. Various methane suppression techniques have been proposed. However, all these techniques require technology development and testing before deployment.

6. Ocean acidification threatens to devastate the marine food chain. Atmospheric CO2 must be reduced to a safe level within twenty years or less.

7. Therefore, CO2 must be removed from the atmosphere faster than it is put in. The rate of removal should be increased until it is around double the rate of emissions and the CO2 level has fallen sufficiently to avoid dangerous ocean acidification. Funds could be raised by having a levy on carbon taken out of the ground, specifically to fund the return of carbon to the ground.

8. CO2 can be removed from the atmosphere utilising the photosynthesis of plants and certain algae to produce biomass. The carbon of this biomass must then be kept from returning to the atmosphere, e.g. by pyrolytic conversion to biochar. This process of capture and sequestration has to be massively scaled in order for the CO2 removal rate to exceed CO2 emission rate.

9. The profound economic, social, security and political impacts of the abrupt climate change, being witnessed as an escalation of climate extremes and crop failures, must be addressed. The underlying price of food as indicated by the food price index is already above the crisis level, leading to the food riots we have observed in several countries where income is insufficient to buy daily needs.

These are unprecedented opportunities for international collaboration in the interests of every country, every section of the community, rich and poor alike. Thenecessary actions of cooling the Arctic, suppressing methane and CO2 removal present enormous engineering and logistical challenges. The objectives should be achievable without any revolution or radical change in the way we live. In fact the solutions to the challenges are not only affordable but can be of great economic benefit in the long run.

There is no excuse for procrastination. We must see action now

Current situation and gross omissions from IPCC

The IPCC WG1, WG2 and WG3 assessment reports (AR5) make no mention of the downward trend in sea ice volume, and rely on models which fail to properly capture the processes of warming and melting. Furthermore they fail to mention the strong evidence that Arctic warming is already a driver of climate change in the Northern Hemisphere, compounding the effects of global warming.

Arctic warming and sea ice retreat is already having a serious impact on climate change across the Northern Hemisphere, which is affecting food production, food prices and food security. The latest WG2 report claims that the Arctic sea ice will be subject to 'very high risks with an additional warming of 2 degrees C'. In fact, the September sea ice volume is already down 75% with a trend to zero by September 2016, suggests that the Arctic is heading for complete meltdown, which would be a planetary catastrophe. The loss of Arctic ecosystems and the climate implications of ice disappearance are in fact acute risks NOW as both ice and ice-dependent species are set to disappear within a matter of years.

These are catastrophic omissions. AR5 is supposed to provide the best analysis of the state of the planet and its future climate, on which governments can base policy for protection of citizens. These omissions are leading governments into a false sense of security about the future of our planet.

The only clear policy deduction from AR5 concerns the reduction of CO2 emissions by keeping within a carbon budget. Reductions alone have no chance of preventing catastrophes arising from Arctic meltdown. Intervention to cool the Arctic is an absolute requirement to prevent such catastrophes. There is no realistic alternative.

The concept of a carbon budget, espoused in AR5, hides the short-term consequences of various powerful feedback processes which get zero or scant attention in AR5. In particular, snow and sea ice albedo feedback seems to be totally ignored in the budget. And the mounting concentration of methane in the atmosphere is ignored. The real truth is that the carbon budget has already been spent. WG3's limit of 450 ppm for CO2 equivalent has already been passed, even without taking into account albedo loss.

Governments must also address ocean acidification, whose threat has also been ignored in AR5. There is no alternative but to start a major campaign for CO2 removal (CDR). The latest WG3 assessment report suggests CDR as a possibility for offsetting emissions, but only in so far as for keeping within their carbon budgets of 450ppm CO2e and above, which would have catastrophic consequences for humanity, even without all the other overlooked positive feedbacks described above. CDR must be adopted, being the only possibility in order to stop the existing contribution to global warming of CO2 and ocean acidification.

Meanwhile there is the threat of Arctic methane emissions to burst above the gigaton level, totally ignored in AR5. And the AR5 projections of sea level rise are hopelessly optimistic if the sea ice disappears as rapidly as the trend indicates.

From: Irv Beiman
Sent: Monday, April 27, 2015 5:13 PM
To: Irv Beiman; Molly M. Pearson; CEQA contact
Cc: Janet Blevins CEQA; Rebecca Claassen APCD; Seth Steiner
Subject: Revised: Proposed New Agenda Item for the APCD Board's Consideration: Building Alignment for Sustainability in Santa Barbara County
Attachments: L4-CityStrategyMapForWellBeing2011.pdf
Importance: High

Dr. Irv Beiman is offering to help the APCD Board of Directors, *pro bono*, build Alignment for Sustainability in Santa Barbara County.

Professional Background:

- experienced clinical/organizational psychologist & management consultant [Ph.D. Univ of Illinois at Urbana-Champaign, 1973]
- 40 years experience in two countries, China and the US.
- brought **strategy execution methodology** to China with my partner. It is in widespread use there in some of the world's largest and most complex organizations and conglomerates. A related methodology is used extensively in the US, mostly in for-profit enterprises, but also in governments, NGOs and non-profits.
- anticipating the greater and faster than predicted consequences of climate change, published the first strategy map for resilient sustainability. A version is presented below for Urban cities in China.
- OFFER to HELP build **ALIGNMENT FOR SUSTAINABILITY** across competing interests for Santa Barbara County, AND/OR help Board of Supervisors develop their own Strategy Map for Sustainability in SB County.
 - A strategy map is a one page graphic illustration of strategic objectives, organized in layers that include strategic outcomes at the top and enabling objectives for those outcomes at lower levels.

The template below was designed after extensive research on climate change over a 6 year period from Q4 2006 – 2013 with review of more than 6,000 published articles, plus direct experience of Chinese culture and business practices over a 15 year period. The catalyst for this research and design activity was the discovery of melting permafrost and ensuing release of methane in Siberia and the Arctic. Urgency was exacerbated by the discovery of 1km diameter plumes of methane being released from shallow Arctic ocean waters. Over a 20 year period, methane has 70x – 120x the global warming potential of carbon dioxide. Methane has the potential to become the dominant "forcing" GHG for climate change.

Just as in complex organizations throughout China, there are competing interests for resources in SB County. Jobs, tax revenues and the local economy compete for resource utilization, while many concerned citizens and NGOs are worried about the long term effects of GHGs and their harmful effect on climate change. There is a methodology for generating alignment across competing interests. That methodology stimulates discussion and information sharing toward the goal of balancing competing interests.

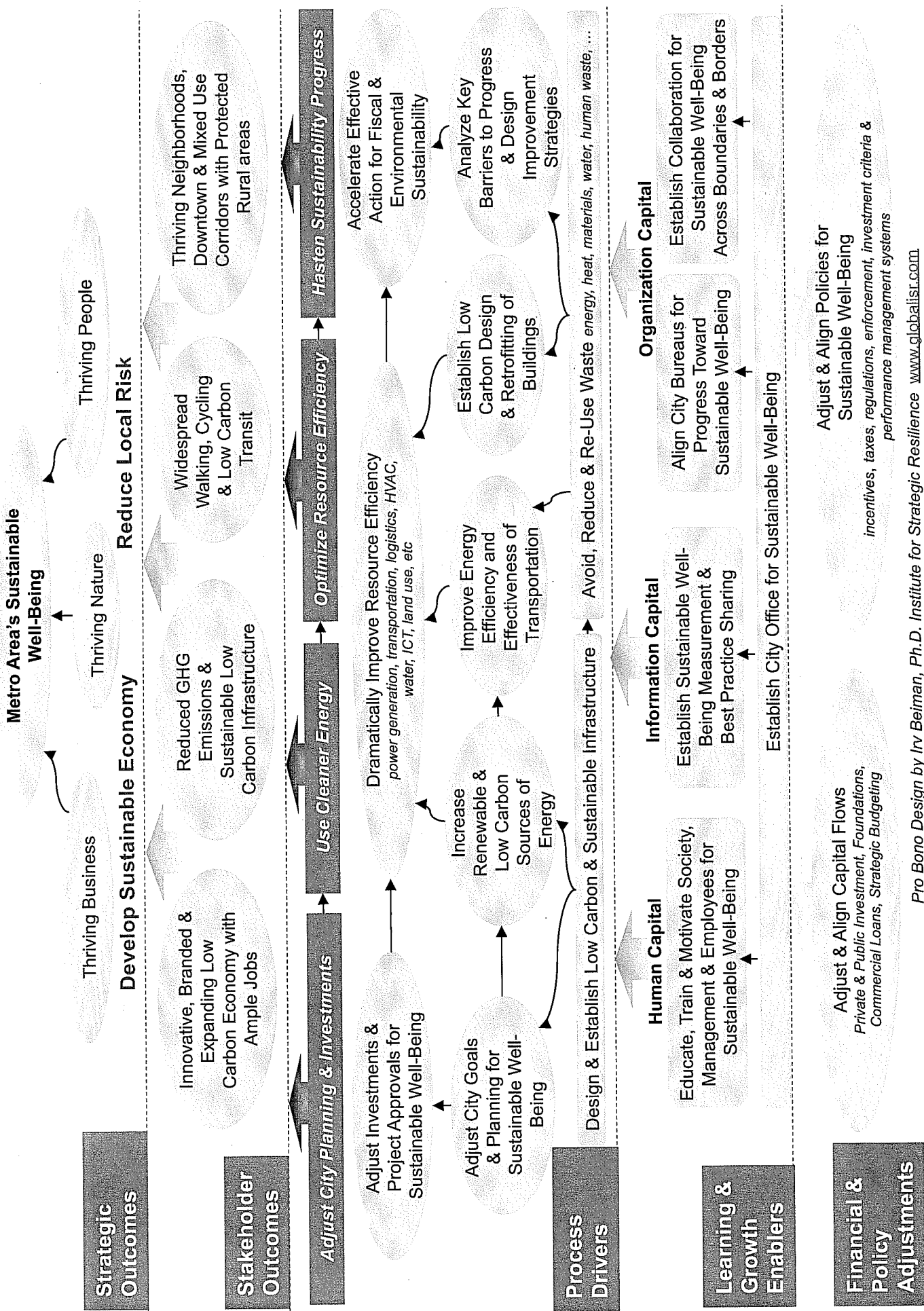
My goal is to bring this methodology to SB County for a Better Future than the one we collectively face. I offer my help and support in accomplishing this goal. Plz see the attached strategy map example for URBAN Cities in China.

Best Regards,

Irv Beiman Ph.D.

L4 City Strategy Map for Sustainable Well-Being beta draft v.1

110927



From: jeanholmes
Sent: Monday, April 20, 2015 12:31 PM
To: CEQA contact
Subject: Fw: Significance Threshold for Greenhouse Gases
Attachments: CEQA threshold - APCD - 4 16 15.doc

----- Original Message -----

From:
To: CEQA@sbapcd.org
Sent: Saturday, April 18, 2015 3:32 PM
Subject: Significance Threshold for Greenhouse Gases

Please distribute the attached statement to the members of the district's board of directors.

Thanks you, Jean Holmes

SANTA BARBARA LEAGUE OF WOMEN VOTERS

April 16, 2015

To: Board of Directors, Air Pollution Control District
Re: CEQA significance threshold for greenhouse gases

The Santa Barbara League of Women Voters urges the Air Pollution Control District to set the CEQA threshold for greenhouse gases (GHGs) at 1000 MT/Yr

Members of the League have attended workshops and read staff reports to arrive at this recommendation, which will also be made to the Board of Supervisors for the county's CEQA threshold. We recognize that for many businesses this will add complication to their operations in Santa Barbara County but climate change is a serious threat and may ultimately present far worse complications to the lives of everyone. The suggestion of a programmatic EIR to help emitters in the range of 1000 to 10,000 MT/Yr appears to have merit and should be investigated. If the county prepares such a PEIR, it might easily be adapted to the specific needs of the district.

Susan Shank, cp-President

Contact: Jean Holmes, Energy Director