

**Comment 1 for Carbon Neutrality: Scenarios for Deep Decarbonization (cn-scenarios-ws) - 1st Workshop.**

First Name: Brian  
Last Name: Schuster  
Email Address: bschuster@esassoc.com  
Affiliation: ESA

Subject: CO2 from cement  
Comment:

Mr. Lewis mentioned that we would have to reinvent the cement-making process (including the chemistry) to reduce CO2 emissions from its manufacture. However, there are current processes for reducing these CO2 emissions, such as using fly ash and/or slag to replace supplementary cementitious materials. Also, concrete absorbs CO2 during its lifetime; some estimates put this at 40-50 percent of the CO2 created during manufacture. I am curious to hear Mr. Lewis' thoughts on this.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2019-08-15 14:06:01

No Duplicates.

**Comment 2 for Carbon Neutrality: Scenarios for Deep Decarbonization (cn-scenarios-ws) - 1st Workshop.**

First Name: Liam  
Last Name: Twight  
Email Address: lptwight@gmail.com  
Affiliation: University of Oregon

Subject: Wood for building materials  
Comment:

Can wood products play a larger role in construction where cement and steel currently dominate?

This could both help remove the apparent thorn in the side that is the CO2 emission from cement production while sequestering carbon in the wood materials, effectively storing forests in buildings. Replanting of the trees then sequesters additional carbon.

What does the panel think about this?

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2019-08-15 14:31:42

No Duplicates.

## **Comment 3 for Carbon Neutrality: Scenarios for Deep Decarbonization (cn-scenarios-ws) - 1st Workshop.**

First Name: George  
Last Name: Naugles  
Email Address: NauglesRCE@gmail.com  
Affiliation: Balance2thrive(R)

Subject: Agricultural emissions  
Comment:

Dear CalEPA, Maureen Hand, and Jordan Ramalingam,

Thank you for your effort to moderate this important discussion. Our Ventura County agriculture involves very little meat production, but lots of citrus, avocado, row crop, and berry production. My comments are as follows:

1) I think meat production and the embodied energy in feed sources used have very different greenhouse gas generation profiles. Can you please consider differentiating more clearly between meat or protein production versus other agriculture that may be less GHG-emissive.

I would like to see California require all labeled foods produced in our state to include a carbon or Greenhouse-gas footprint score plus a formula based on distance between zip codes. The score would need to include direct emissions related to farm equipment plus indirect emissions related to plowing, fertilizer production emissions, fertilizer off-gassing of GHGs where applicable, and pumping energy inputs. To address farmers' extra work, I wonder if providing a tax exemption for farmers who first begin to provide this information could be a motivated pathway to achieve a critical mass of farmers' participation.

Also relevant was the question of wildfire-related GreenHouse Gas emissions. I believe wildfire events change weather, ocean fertilization, and future rainfall. Can the state please fund research to better understand how we may be able to break drought-associated high pressure ridges, seed storm cloud formation over the ocean with smoke particulates, and provide more rainfall on regions that tend to import their water with infrastructure that has significant operational and embedded Greenhouse Gas footprint. For example if Southern California farmers and cities receive rain from wildfire-smoke-seeded storms that may have efficiencies on par with pumps, concrete, dams, and aqueducts used to build and maintain Oroville dam on Feather River and move water to Pyramid Lake and southward. Of course there is also the additional impact of Salmon fisheries, which may arguably be a more efficient way to produce healthy lipid-, protein-, and mineral-rich foods.

Embodied energy and positive/negative synergies are significant and were recognized as important to achieving the 100% carbon neutral conditions.

Can CalEPA also do more to assess what companies like Harrison are

doing when they pick up our green waste, and either bury it in landfill or deliver it to companies like Agromin, where it is chipped up, composted, and sold as soil amendment. How effective is a combustion fuel transported greenwaste collection system that landfills or recycles landscape and agricultural wastes ...largely using fossil fuels to run machinery for transport and processing?

Additionally, can you please require water districts to assess and disclose a carbon footprint per unit of water delivered that reflects their actual reliance on imported water and pumped water? Encouraging them to also make an effort to help consumers figure out what urban tree watering is cost effective to reduce urban heat island effects and also carbon sequestration in biomass? ...or hire me to help you answer those questions?

Sincerely,

George Naugles, RCE, M.Ed., BRE, MBA, GISP  
G@Balance2thrive.com

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2019-08-15 15:21:10

No Duplicates.

**Comment 4 for Carbon Neutrality: Scenarios for Deep Decarbonization (cn-scenarios-ws) - 1st Workshop.**

First Name: Laura

Last Name: Rosenberger Haider

Email Address: lauragreen.rosenberger@gmail.com

Affiliation:

Subject: Carbon neutrality

Comment:

My favorite methods of de-carbonization are battery storage and pump water storage such as San Vicente project & geothermal heating. These from the local area and not transported long distances over fire hazard zones. Battery storage is potentially more resilient. I predict future financial problems and lack of funds to maintain the natural gas infrastructure so it doesn't leak, specially after increased earthquakes.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2019-08-15 16:38:47

No Duplicates.

**Comment 5 for Carbon Neutrality: Scenarios for Deep Decarbonization (cn-scenarios-ws) - 1st Workshop.**

First Name: Lee  
Last Name: Beck  
Email Address: lee.beck@globalccsinstitute.com  
Affiliation: Global CCS Institute

Subject: Global CCS Institute Comments  
Comment:

Please see attached for the Global CCS Institute's comments.

Attachment: [www.arb.ca.gov/lists/com-attach/6-cn-scenarios-ws-Wj1SOAZoUGEEYwJu.pdf](http://www.arb.ca.gov/lists/com-attach/6-cn-scenarios-ws-Wj1SOAZoUGEEYwJu.pdf)

Original File Name: Global CCS Institute\_ARB\_Comments\_August\_2019.pdf

Date and Time Comment Was Submitted: 2019-08-28 07:17:51

No Duplicates.

**Comment 6 for Carbon Neutrality: Scenarios for Deep Decarbonization (cn-scenarios-ws) - 1st Workshop.**

First Name: Clayton  
Last Name: Munnings  
Email Address: munnings@ieta.org  
Affiliation:

Subject: IETA Comments on Deep Decarbonization  
Comment:

Please find attached comments from the International Emissions Trading Association on deep decarbonization in California.

Sincerely,

Clayton Munnings  
West Coast Representative  
International Emissions Trading Association

Attachment: [www.arb.ca.gov/lists/com-attach/7-cn-scenarios-ws-WzJRmlwpV2VXDIUx.pdf](http://www.arb.ca.gov/lists/com-attach/7-cn-scenarios-ws-WzJRmlwpV2VXDIUx.pdf)

Original File Name: IETA Deep Decarbonization.pdf

Date and Time Comment Was Submitted: 2019-08-29 15:49:01

No Duplicates.

**Comment 7 for Carbon Neutrality: Scenarios for Deep Decarbonization (cn-scenarios-ws) - 1st Workshop.**

First Name: Emanuel

Last Name: Wagner

Email Address: [ewagner@californiahydrogen.org](mailto:ewagner@californiahydrogen.org)

Affiliation: California Hydrogen Business Council

Subject: CHBC Comments on ARB's Carbon Neutrality Workshop

Comment:

See attached document

Attachment: [www.arb.ca.gov/lists/com-attach/9-cn-scenarios-ws-WzhVOwdkUGBRegJh.pdf](http://www.arb.ca.gov/lists/com-attach/9-cn-scenarios-ws-WzhVOwdkUGBRegJh.pdf)

Original File Name: CHBC-Comments-CARB\_Decarb Workshop\_Final.pdf

Date and Time Comment Was Submitted: 2019-08-29 16:30:46

No Duplicates.

**There are no comments posted to Carbon Neutrality: Scenarios for Deep Decarbonization (cn-scenarios-ws) that were presented during the Workshop at this time.**