

NET ZERO NEWS

Transitioning to 100% clean, renewable energy

By Hope Salzer

On April 5th, the Piedmont League of Women Voters and Piedmont Connect presented the sixth and final event in their joint 2022-23 Climate Speaker Series. This month's lecture and discussion was given by award-winning scientist, author and Stanford professor Dr. Mark Jacobson. He spoke on the technologies and actions needed to provide 100% of the world's energy with clean, stable, renewable energy.

"We need to stop the burning; we need to stop the problem, not mask it. That's the key."

— Dr. Mark Jacobson
Guest lecturer,
Climate Speaker Series

Dr. Jacobson described his perspective on the problem: Air pollution from burning fossil and biofuels causes 7 million deaths every year at an annual cost of \$30 trillion. In addition, the costs of global warming impacts – from wildfires, extreme heat and storms, ocean acidification, vector borne diseases, agricultural shifts and rising sea levels – are expected to rise each year, incurring another \$30 trillion by 2050. As fossil fuels become less plentiful, more expensive and difficult to extract and process, price increases coupled with the concentrated control of the resource will lead to increasing levels of social and economic instability and geopolitical conflicts.

He presented data that showed using fossil fuels for energy needs is costly, destabilizing, and ecologically ruinous. According to the global scientific con-

sensus developed by the United Nations' Intergovernmental Panel on Climate Change (UN IPCC), a reduction of our emissions by 80% by 2030 and 100% by 2050 is needed to prevent a global average temperature rise of more than 1.5 degree Centigrade. Electric appliances – both heating/cooling appliances as well as electric vehicles (EVs) – are much more energy efficient than their fossil-or-biofuel-burning equivalents.

For example, electric heat pumps use 25% of the energy of natural gas furnaces or water heaters. Similarly, EVs are 4 times more efficient than internal-combustion engines. This is important given that 11.3% of all global energy use is expended to mine, refine, and transport fossil fuels and uranium.

Jacobson also described the various available existing technologies to power heavy industry, provide long-haul transportation, and store power. Fuel cells can be used for air travel, shipping, long-haul trucking and military transports when battery EVs (BEVs) become less viable. There are several colors used to classify how hydrogen is developed into a fuel.

Jacobson demystified this hydrogen color spectrum, explaining that only green hydrogen is a positive and efficient solution to the climate crisis and that so-called "blue," "pink," "turquoise," "gray," "brown" or "black" hydrogen are not. Only green hydrogen, or hydrogen produced from clean, fossil-free, renewable energy sources, is a fuel compatible with retaining stable global climate conditions.

Asked about nuclear power as a clean energy option, Jacobson explained that the capital costs are 15x higher and the lead-time 15 years longer to bring nuclear plants into operation in contrast to the capital costs and lead times



Dr. Mark Jacobson was guest speaker at the April 5 Climate Speaker Series event in Piedmont.

to bring an equal amount of new solar and wind power generation into operation. This results in nuclear power being eight times more expensive over time than the equivalent wind or solar and, he cautioned, "this doesn't account for the issues of weapons proliferation, nuclear waste, underground uranium mining, and meltdown risk which nuclear power entails."

As for solar geoengineering as a possible solution – any technique used to reduce the amount of solar radiative energy reaching the earth's atmosphere – Dr. Jacobson served a blunt warning: "The problem is burning things. We need to stop the burning; we need to stop the problem, not mask it. That's the key."

Re-runs available

Videos of all 6 events in the Piedmont League's and Piedmont Connect's Climate Speaker Series are available on the LWVP YouTube Channel at bit.ly/41F-Dero.

Hope Salzer is a board member of Piedmont Connect, a collaborative community organization supporting resident initiatives and city efforts to build a sustainable future. For more information, visit piedmontconnect.org.

Free compost offered on Earth Day, April 22

The City of Piedmont's Sustainability Division invites community members to celebrate Earth Day by offering free compost at the City's Corporation Yard on Moraga Avenue at Red Rock Road this Saturday, April 22. Residents may pick up one cubic yard of free compost per household between 9 a.m. and 12 p.m. while supplies last.

Residents will need to bring a shovel, gloves, and container for their compost. Volunteers and Public Works staff will be on hand to help with bagging and loading. Optional pre-registration is available at piedmont.ca.gov/CompostGiveaway.

The compost originally came from yard trimmings and food waste that Piedmonters and

other communities serviced by Republic Services put in their green waste bins. Republic Services takes this waste to a large-scale facility where it is transformed into compost. This process helps to keep organic materials from emitting greenhouse gasses in the landfill and creates opportunities to use these nutrient-rich resources to regenerate our soils.

In addition to the Earth Day event, free self-haul compost is available to residents every Friday outside the Corporation Yard. For more information see piedmont.ca.gov/CompostProgram. For questions contact Sustainability Program Manager Alyssa Dykman at adykman@piedmont.ca.gov.



Free compost will be available at the Piedmont Corporation Yard on Moraga Avenue on Earth Day, April 22.

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Parking added to Sheridan strip during pool construction

By Selen Ozturk

Highland Avenue was restriped last week to provide 17 new parallel and diagonal parking spaces in front of the Sheridan strip to alleviate

a short of street parking in town during construction of the new Community Pool.

AC Transit bus stops on both sides of Highland Avenue in the 700 block have been temporarily removed

to accommodate the parking spaces. The spaces are roughly split between city employee and public, two-hour parking.

For more information, contact dgonzales@piedmont.ca.gov.

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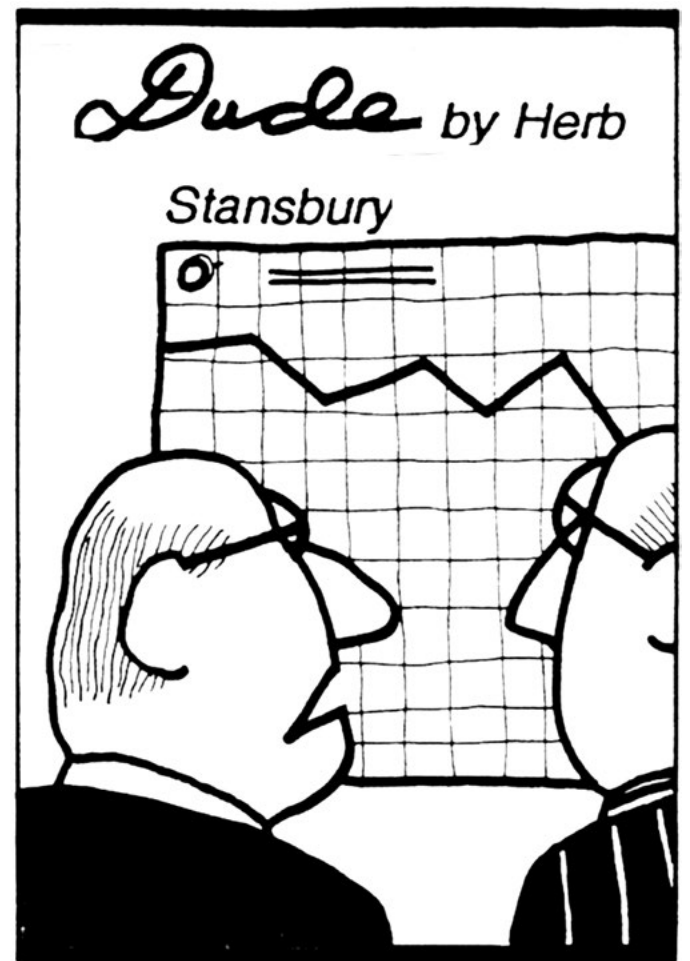
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