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Are we fossil fools? A wake-up call for Earth Day

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In honor of this year's Earth Day, two determined engineers by the names of Craig Smith (former UCLA faculty member and COO of international engineering and construction management firm Daniel, Mann, Johnson and Mendenhall (DMJM) and William Fletcher (former senior vice president of Rockwell International Corporation) presented their key findings on climate change at the Santa Barbara Museum of Natural History on Monday, April 22. The presentation was supplemented by the announcement of their newly published book, "[The](#)

[Global Climate Crisis: What To Do About It](#),” which comprises all of the most recent scientific data on climate change — translated into a more digestible format for anyone to understand.

In their presentation, Smith and Fletcher touched on the main takeaways from their book by posing the current problems: global warming is irreversible and global cooperation among government institutions is hard to achieve in the face of misinformation. To address these issues, Fletcher presented a series of climate models related to global average temperature increase and sea level rise and compared natural versus anthropogenic climate change. Smith followed this by listing many alarming consequences of global warming, focusing on the rise of heat waves, forest fires, droughts and ecosystem collapse. These points highlight the severity of climate change, urging the audience to take action.

“What’s going to be the most severe and will happen the soonest is going to affect the poorer nations,” the coauthors said, as they recited the main takeaways from their book. “Legislation is not enough. It’s also a human rights issue.”

The authors outlined a plan to prevent further consequences of climate change with an eight-step call to action: improve efficiency and conservation, produce all electricity with renewables, use electricity for most power and heat, transition to electric vehicles, use hydrogen and synthetic fuels where needed, stop deforestation and plant billions of trees, change agriculture and implement a smooth transition from fossil fuels to reliable renewables.

Unlike other books addressing climate change, the coauthors’ goal was to cover a comprehensive overview of the problem by “understanding the *big* issue,” Fletcher said. “Not the narrow issue but the whole thing end-to-end.” Smith and Fletcher aimed to communicate the science

without oversimplifying it to address exactly what needs to be done to reach net zero emissions — defined in their presentation as “when no additional human-caused greenhouse gases are added to the atmosphere.”

When Fletcher first began exploring his interests in solving the climate crisis, his combined passions in mechanical engineering and public policy invoked him to consider the latency of government action as the main concern for addressing climate change. As a former engineer, Fletcher’s experience in automation and nuclear power made it evident to him that technological solutions already existed, but an effective implementation plan kept progress stagnant.

“I started to think of global warming as an organizational issue, not a technical issue,” Fletcher said. “We are proceeding without a plan.”

He compared institutional progress with his own analogy: “It’s like saying, ‘Let’s build 500,000 charging vehicles without building a power grid!’”

Around the same time that Fletcher was contemplating these issues, Smith, a former electrical engineer, had written several books about energy efficiency and management. Although the two authors began on separate paths, they eventually met at a local event and bonded over their common interest in nuclear energy.

Through Smith’s enthusiasm for writing, he proposed that he and Fletcher translate the hard scientific evidence into accessible knowledge for the general public. The result of Smith’s proposal was the first edition of their book in April 2020, “Reaching Net Zero: What It Takes to Solve the Global Climate Crisis.” During this time, they witnessed an initial drop in global greenhouse gas emissions at the height of the

COVID-19 pandemic, followed by the return of polluted skies as case rates subsided.

After three years of continued global warming, Fletcher and Smith both agreed to write the second edition of their book to address the lack of climate solution implementation in the face of rapid change. “By the time [the first edition] came out, it was already outdated!” Fletcher said. “People don’t realize things are changing, and they’re changing rapidly, and that’s the scary thought!”

Steven Gaines — the dean of UC Santa Barbara’s Bren School of Environmental Science & Management (who co-sponsored the panel along with the [Community Environmental Council](#)) — attended the presentation and commended the importance of Smith and Fletcher’s work.

“One of the challenges of climate change is that science is complicated. That leaves it open to people that want to befuddle the issues and make it seem like it’s not real or that it’s caused by something else,” Gaines said. “Making the science accessible is incredibly valuable. I thought they did a really good job with this, and I imagine the book is going to do that too.”

Smith and Fletcher hope that their book will motivate policymakers to assess climate change from a technical standpoint and spur government action. They will continue to monitor, compile and [report](#) the latest scientific information on their website biannually. The recording of their Earth Day presentation will also be posted in the coming weeks.

Smith and Fletcher emphasized that “failure is an option” and choosing to ignore the problem is only feasible for the privileged. “There’s absolutely no guarantee that the world will ever reach net zero,” Fletcher said. “[However,] Craig and I are optimists. We think that we

can do something about this problem ... We're just not moving fast enough."

"The small steps, no matter how commendable they are, aren't going to make enough of a difference," Fletcher said. In order to encourage large-scale change, they advise people to educate themselves, spread the word, lobby state and federal representatives and take wise action in reducing individual greenhouse gas emissions.