

the
Wonderful
company



Caltech

Dear Wonderful Team:

I've been lucky enough to live on this planet for more than eight decades, and to have had uncommon success along the way. But these days, I find I'm doing a lot less reflecting on the past 80 years, and a lot more worrying about the next 80. I'm worried because science tells a sobering story of what's to come as the climate crisis worsens—a biblical confluence of flood, famine, dislocation, and disease. I'm worried because scientists believe that by the end of the century, the climate may transform our planet so dramatically that much of it will become uninhabitable. And I'm worried because the longer we wait to act, the harder and costlier the effort to save humanity will become.

That's why this week, as part of our personal effort to change the climate calculus, Lynda and I announced we will be giving a \$750 million gift to Caltech, which the university will use to build the most significant climate research institute anywhere in the world. We made this decision because we believe the world is not doing enough. We need the best and brightest minds, fully funded and armed with the best equipment and instrumentation, to pursue the scientific and technological breakthroughs that will slow the climate crisis. And because the world has acted too slowly, we also need breakthrough innovations that can help us adapt to the consequences—from droughts and wildfires to food and water shortages—that will become part of our new normal.

We've already experienced the effects of climate change in our own agriculture operations. Most people don't realize just how sensitive crops can be to even moderate changes to climate. Our pistachio trees, for example, need a certain number of cold days and nights

each winter in order to produce their full yield. Modestly warm winters can stun their yields by as much as 70 percent, a situation we've experienced in two of the past twenty years. It's no wonder then that a U.N. panel released a report in August arguing that, absent intervention, rising temperatures, extreme weather, and land degradation will lead to a global food crisis.

The work Caltech will undertake is urgent. And I can think of no better institution to place at the center of this critical moment. In addition to being long regarded as one of the most exceptional universities in the world—with 39 Nobel prizes to its name—Caltech runs the Jet Propulsion Laboratory in partnership with NASA, which gives its researchers access to data and resources no other university can offer. They are working now on a networked small satellite system, for example, that will let them do things like measuring the weight of the Earth's water and tracking its flow into and out of localized aquifers.

Caltech is already a leader in sustainability research. Researchers there have discovered ways to produce hydrogen-based fuels using sunlight. They have found ways to push the efficiency limits of solar photovoltaics and wind systems and developed new materials and designs to increase power output at lower costs. Frances Arnold, a Caltech biochemistry professor, even figured out a technique to direct evolution in the lab, a discovery that earned her the Nobel Prize. With this new gift, we are confident that Caltech's investigators will be able to hit the ground running to create transformational change.

Caltech plans to use part of the gift to construct a new 75,000-square-foot-building that will serve as the hub for energy and sustainability research on campus, as well as the home of state-of-the-art undergraduate teaching laboratories. There, Caltech's scientists and engineers will come together, across disciplines, as they seek new and bold climate solutions in areas ranging from solar science to biofuels to decomposable plastics. To ensure uninterrupted funding, Caltech will establish a permanent endowment, which will support researchers across Caltech's academic divisions, as well as at the Jet Propulsion Laboratory.

Caltech is also determined to build a premium sustainability workforce. To that end, they will be converting all of their first-year chemistry classes into sustainability classes. This will give the students a chance to see how their work directly relates to the challenges their generation will have to confront.

When I consider the future ahead of us, I am clear-eyed about the danger that's to come. But when I go to Caltech's campus, when I meet with its leadership and its scientists and engineers, I can't help but feel optimistic. The human species has yet to come upon an existential crisis it could not overcome. With the help of the world's best and brightest, I am hopeful that their breakthroughs will save us.

Stewart