

Conservation & Resource Studies 50th Anniversary Celebration

Blue Oak Ranch Reserve | Sunday, April 30, 2023

Introduction

Ignacio Chapela:

So thank you very much for being here. I want to thank, before anything, Kathryn and Kassie, who really went out of the way to make this event happen. Nothing would have happened without them, so thank you so much and Dean's office also stepped up and gave us some money for this. It's also something that CRS is always short of money, and we're using most of the money that we have access to to celebrate the 50th and CRS alternative graduation on May 14th, to which I'm sure you're all invited. I have no power to invite you because this is a student-run thing as you know, but I see Caitlyn May... am I allowed to invite people? Addison, where are you? Am I allowed to invite people? Yes, you are invited by the students to go to the alternative graduation.

My name is Ignacio Chapela and I've been a CRSer from the first moment I set foot in Berkeley in 1996. That's a long time ago. I have watched many of the faces that I'm looking at come through. I always feel like I'm standing on a bridge with a river, a stream of faces, lives, and histories going underneath, and gives me a glimpse of how culture is changing. How especially American and California culture goes under and changes and it's a fantastic experience. So it's wonderful to see a sample of that stream of humanity back together with us today.

1972: contraceptives for unmarried couples become first allowed in 1972. Let me see, Nixon and Brezhnev signed the anti ballistic missile treaty. You know what's going on with that right now... very different times. They also signed the Strategic Arms Limitation Treaty, also known as SALT. It was a time when it really looked as though the post Bretton Woods world was really figuring out all the problems in the world, that's the time when CRS was being born. 1972, 1973 we're unclear about the 50th... it's 72-73. '72 is uh the opening of Bart. Those of you who think that Bart is old, well CRS is about as old as Bart. They still didn't open the tunnel under the bay at that point. It took several years after that.

CRS was not CRS. CRS was CNR. The name was stolen by the college from us and we had to change it to conservation of Natural Resources. In Berkeley something that really emerged from the consciousness that Silent Spring, Rachel Carson's book, really brought up was the consciousness that so-called resources— and today the young people will really blame me for using the word resources even—the resources were there to be used and exploited. The concept emerged that there was something else to be doing with a non-human world and that was conserving, preserving, and nowadays, restoring. And so what a place to celebrate that

tradition... what a better place than this, where those values are being put into practice very very directly.

What did CRS stand for back then? Yes, there was the awakening of some consciousness of environmentalism, but environmentalism was about pesticides you know. DDT, Rachel Carson, and so on. It was great and a lot was achieved back then right? DDT was banned and now we have the Ospreys, and we have the bald eagles and we have all these fantastic birds back in the bay. We have the porpoises coming back, we have the whales and even white sharks coming back into the bay. We have the beavers, we have all these things that have been incredible successes of that time. But the mentality and the problems just kept becoming more and more compounded. We got to a place where the question was deforestation, then we got to a place where the question was biodiversity laws, then it was energy, then it was nutrition and food systems.

Nowadays, we seem to be much more in a place where we recognize that the old solutions that might have even gone through systems analysis theory for some of you might not be enough. And I think the language that is being used by students today in CRS is much more of a relational nature, understanding that we are not just part of a machine that is complex and interconnected, but we are part of a network of relations, of active subjective, subject to subject relationships. A very different kind of attitude. In the process we have seen things like eco anxiety come into play and we nowadays in CRS are very conscious of the generation of young people who were born not only into the cell phone in their cribs, but also the realization that the world was really going through a serious crisis. And a student recently told me, "we have it in our bones."

This incredible realization of what is going on, very very different times. And yet, some of the principles that were laid out in 1972, 1973 seem to continue to be powerfully useful. How do I know? I know because young people continue to come to CRS in droves, and they continue to be the most outstanding students on campus. We very regularly have CRS valedictorians in the College, even on campus. You all always get the most brilliant, most committed, most dedicated students coming to CRS, and they come in droves because they sense that there is something there that is valuable in the situation of crisis that we're living in. What is that? First of all is the flexibility. I think it's very simple to see that CRS is based on the principle that if you find yourself at the bottom of a hole of your own digging and with a shovel in your hand, and you don't like being in a hole, then you should stop digging and maybe look at your shovel and say is this the right tool for my situation? And you might reshape that shovel into something else, or you might just stow it aside and do something else.

This flexibility, capacity to rethink environmental situations, environmental problems, environmental opportunities, whatever the situation might be ...the capacity to recognize it with some flexible intellectual and scholarship capacity is something that's really at the core of CRS. Once you go there, you realize that there is no single discipline that can solve the problem. The engineers will do their engineering, and the biotech people will do their biotech things, and the lawyers will do their lawyerly thing, but young people seem to recognize "I need all of those" and

they seem to recognize that they as individuals cannot really get all of those. So what happens is that CRS has to become what it is, this a network of interdisciplinarity, which is not a bunch of jack of all trades and masters of none, but actually people who are very serious about their discipline whatever that may be.

Many of them are not yet defined in the scholarship literature but they still are serious about that discipline and they're respectful of other disciplines. And they seek out other people to develop networks of action. They're always focused on action, you are always focused on action, everybody in this room I believe fits that definition of CRS person, that flexibility, interdisciplinarity, and willingness to be engaged with the world rather than abstracted from it.

What else do we recognize, what else has become important during those times? I believe that in 1972, 73 there was still the idea that you could have the hero scientist or the hero scholar who would come up with a new way of solving all the environmental problems at once. That really has fallen out of fashion and thank goodness. Good riddance. Because what we recognize today is that there is no solution to environmental problems unless there is an intergenerational responsibility and connectivity. Because all these wicked problems of environmental science and practice are problems that will not be solved in one generation.

So the building up of networks, interdisciplinary networks, and the building up of intergenerational responsibility networks has become a really central focus of practice within CRS. That true or not? Please, CRS current CRS students, raise your hand if you think I'm just BSing and call me out! Because that's another big quality of CRS students they will not stand by BS. They will call it out when they see it, and believe it--I feel it a lot in my classrooms. They are not shy about telling me, hey I'm not buying that. Natalie the other day you just called me out on me using Sage and we had a big discussion about cultural appropriation and I don't know what. That's exactly what we value in these students instead of suppressing them.

So Kathryn, how am I doing for time? Oh great that is not the usual answer let's speed it up.

Yeah let's move on because we have an incredible opportunity at an incredible moment in time in history. Look at that greenery outside, look at the wild flowers. There couldn't be a better week or a better year or a better moment to be meeting with a better group of people. So I really dislike—and the students know that I dislike this facing forward kind of arrangement—I would much rather have us interact. We will have plenty of time for interaction I think. I hope that the young people will find older people to adopt and introduce yourselves to them and work with them through the day. Run the discussions, bring them up to speed and draw wisdom from them as we go through the day.

We will have two very very exciting and interesting panels that will be really the backbone of this, but I believe during the break we also have a great opportunity to mix and have a walk and maybe Zach will give us a bit more of his time to tell us about the biology the history the the general ecology, geology of the place.

So without more ado, Nancy Skinner was going to be with us uh but she had to say no very recently and yet she did write remarks that will be generously read by a really really distinguished person: Dan Kalb.

So I would like to give a brief recognition of Dan, who is among us. I really thank you for coming this far, this time, a whole day outside of Oakland. Must be really really difficult to achieve.

Dan was originally known, I mean what is the most important thing to say about Dan I guess is that he was CRS at that time CNR 1982 that is probably the most distinguishing thing to say about him! And yet the union of concerned scientists had the great privilege of having Dan early on in his career after graduating. He graduated not only from CNR at the time because he was CRS, but he also received a master from University of San Francisco on public Administration and NGO Administration, I believe. I'm not finding my notes anymore. So the Union of Concerned Scientists received that after the Sierra Club and many other engagements with environmental as well as social justice causes. For example California Common Cause, the media Alliance Science, and of course CALPIRG.

Dan went on to follow what is obvious to many CRSers, that in order to solve environmental problems you have to engage socially. For many people they continue their careers in biochemistry or the discipline in biochemistry or GIS satellite technology or whatever it is, but they always come to this realization that you have to embed whatever your discipline is in its social and environmental context. And I think Dan is a really good example of that to a great extent and sacrifice, I believe. And that, to become a member of Oakland City Council—one of the hardest jobs you can ever imagine taking—I think, becoming council member in a city like Oakland, it's incredible. And he has become a very highly recognized leader in all the right causes, most importantly for us environmental causes but also labor, housing and in general anything that has to do with reducing one of the most important environmental crises of our times, which is disparity and Injustice.

In this year Dan has been selected by his colleagues as temporary president of the city council, so it's even more remarkable that he's with us today. He serves as the city's representative to stop waste and is past chair of East Bay Community energy board member of this civic well [inaudible] and I don't know what else. Dan please come up and thank you very much for being with us.

Dan Kalb:

Thank you Ignacio, I appreciate it. Thank you, it's great to be here. It took all of us, I'm sure no matter where you are, it took a long time to get here, but it's worth it. And this is a great place and most importantly it's great to be with fellow CRSers, or as was just mentioned CNR. I was actually the last year it was still called CNR as an undergraduate major in 82. But what I want to do right now is read some prepared remarks from Nancy Skinner, who graduated I think in the 70s from this program and has distinguished herself above and beyond what anybody would have initially thought would be capable of for any of us. I'm going to read her remarks and then

I'll be on the first panel and at that time I'll be able to share my own personal remarks and answer questions of where we're going forward.

So here we go, these are Nancy's words.

"Greetings CNR/CRS family. It pains me to miss this. CNR set me on a life path. Thank goodness I stumbled upon it, saving me from the Russian literature major I was pursuing at the time! Walking down Ellsworth Street one day in the early '70s I passed by what was then called the greenhouse. Some of you might remember it. Students lived there, and ripped out the lawn, planted alfalfa, maybe other things, were raising chickens and rabbits, harvesting honey from bees, and generally trying to live self-sufficiently. Talking to them I learned they were CNR majors getting credit for self-sufficiency projects, for independent study, for internships. They also told me that CNR had courses with field trips to Yosemite. That's and I decided it was a major for me. Little did I know that professors like Arnold Schulz, Don Dahlston, Paul Gersper, Joe Hancock and lecturers like Marty Schiftenbauer, Alan Miller, Ellen Widess would urge us students to take learning to work and get involved in community efforts like recycling, lobbying the city to ban pesticides, and working on campaigns like the one to municipalize G&E. What's a good student to do? Of course I got involved in these community efforts. Next thing I knew I was walking precincts and registering students to vote, and organizing when the Academic Senate tried to limit the number of self-directed courses, independent studies, and internships to get credit for them. A number of people fought back. One of the infamous CNR student-initiated courses was Wild California Plants and Their Uses. Photos of us au naturale, students cavorint over wild flowers, was what prompted apparently the Academic Senate to try to eliminate those independent study and self-directed courses. They are still with us today. I'm guessing a number of you more recent grads (the last 20 years or so) don't realize that what was called Decal, the ASU's center for promoting student initiated groups, is still active today. And hopefully many of you remember the storied CNR student organization. I guess it's called a CRS student organization now. If you don't, ask others to share stories. Our student organization fought for and succeeded in getting women hired as the first two tenure track faculty assigned to that major: Claudia Carr and Carolyn Merchant. Who here took classes from either one of them? And of course our annual replacing Giannini's head with a grapefruit, and the fabulous spring dinners and so much more. CNR as you heard later entitled conservation and resource studies, you were the training ground for my lifelong dedication to thinking globally and acting locally. You were the training ground for understanding it wasn't enough to just learn about environmental problems; we learned to use our knowledge and skills to try to solve those problems. That is what I and many of you have been doing ever since. You and many other graduates from this program are an impressive list. You have permeated public and private institutions, government, academia, foundations, and innovative startups. You are lawyers, scientists, planners, business and elected leaders, and advocates and more. Enjoy today. Celebrate the people in the place that made such a difference in each of our lives. And while you continue your work to tackle these seemingly intractable environmental problems and

threats, retain your optimism. Hope is what powers us to keep going. Here's to another 50 years. Long live CNR!

—Nancy Skinner.

I think the word that comes to mind most, I'll talk more about it when on the panel, is pride. A week does not go by where I still feel pride having gone through this program. And I felt like that throughout my entire career, as Nancy has. As you know Nancy is currently a state senator in the state legislature doing a great job defending our environment, promoting clean energy, and a number of other things. So um I think all of us feel that pride. If you didn't, you probably won't be here today. So thank you.

Ignacio Chapela:

I wish we could hear more from you but I guess we will.

Dan Kalb:

Yes, the panel.

Chapela:

Yes exactly thank you. The CRSSO, the CRS student organization, is alive and well please stand up if you feel yourself part of CRSSO.

[clapping]

That was CRSSO leadership, the people who are in some kind of leadership position, but I think a lot of a lot of other students here are CRSSO the same way as we also do not have (as you well know) a top down single person governance body, like all other majors on campus have. What we have is a panel that is composed of faculty, staff, and students so please if you're in the panel stand up and be seen. Sarah please you're standing up already, here you are, and that's not all. There are more people involved in the panel. We make decisions including the students on very important things like what requirements are necessary and what things can be waived and who deserves this and that. In the 50th Anniversary we have instated also a couple of prizes or recognitions for those students who have been influential and generous towards that network that is CRS. It is difficult again to highlight individuals when when what we're talking about is a network right. Like Dan made it clear, like Nancy makes it really clear, you are effective to the extent that you're not seen. In environmental science a in environmental problem solving a lot of the successes are invisible successes, right? When nothing happens is when we celebrate and yet very few people can see that and that kind of invisible success is usually the result of that network, that wide network of people working together and supporting each other instead highlighting one or another individual as a hero. So it is it is uh nevertheless important to recognize individuals. What can we thank Nancy Skinner for? So many things. We were just

looking at the East Bay, at the Marin Headlands today as we were driving under that beautiful fog cover, and recognizing why this does not look like Southern California? Marin Headlands should be covered in houses and private property and it isn't and it is not because of Sylvia McLaughlin and Nancy Skinner and Dan and all the other people who just simply stay on, pushing and pushing and pushing that network to accomplish those apparently invisible but incredibly beautiful and powerful results in environmental practice.

Panel 1: Alumni in the non-profit and government sector

Let's move on to the first panel. I'm very very happy to see Hillary again. Hillary Lehr. Hillary, you graduated when? '07 -- I had lost track of you Hillary, even though while you were here you really were very clearly there. And I just hear the amazing things that you've been doing since. Very briefly, the new environmental situation is one that also includes the datafication of the environment, which is really big, really problematic, as well as the financialization of the environment, as you know. And Hillary was a really early practitioner and activist within that world, the world of venture capital. And she now is running a venture capital effort with Higher Ground Labs where she continues her already old in some ways efforts to use tech as soon as it's available to promote Progressive and Democratic and egalitarian goals. I'm going to read a little bit from my notes here. Hillary's career began in environmental and human rights organizations, where she got her start digitizing nonprofit campaign work during the rise of CRMs, viral petitions, and early social media platforms at Global Exchange and Rainforest Action Network. So she earned her chops and is now standing on her own feet and we're really honored to have you, Hillary, lead the first panel on NGOs and governmental organizations. Please come over here.

Hillary Lehr:

Thank you. Hi folks. How's everybody doing? Great. Oh come on, how's everybody doing?

[cheers]

There we go. I'm really honored to be here today both on ancestral Ohlone homelands and in the company of so many fantastic faculty staff and change makers. Today I'm excited to facilitate a conversation talking about everything that's been built in in the past 50 years and how each of us can uniquely leverage what we've learned, the networks that we've built, and the relational systems that we're a part of, to create the change that we've academically understood to be so significant.

So I'll fill in a couple of the quick details, so I'm class of '07. I started out my activism work really on campus at Cal running what thankfully was a successful campaign, the UC Goes Solar campaign, convincing the UC regions to adopt green building and clean energy standards back in 2003-2004. Our successful campaign there with the guidance of Greenpeace and other tech nonprofits and nonprofit organizations that were focused on the environment led us to co-found the California Student Sustainability Coalition, which is alive and kicking today. So we're about to celebrate 20 years, which feels great. And based on that early success we helped the

Chancellor define sustainability very early on so we could create those standards, those commitments and a platform of campus-wide engagement to build from for student activism and activism onward.

From there I moved on to Rainforest Action Network and other nonprofit organizations right as we were being transformed by how we would run grassroots organizing campaigns, because Facebook, Twitter, these early kinds of version one social media platforms were changing how we organize together. So I started doing the digital side of things. I jumped into a viral petition startup called causes.com From there I got more into the tech side of things, which isn't as different as you would think but really has some nice pathways to scale, and I developed a lifelong curiosity. How can we build the authentic person-to-person relationships that are part of every successful social movement? Every successful effort to create change is always about shared values and human relationships and us leveraging those relationships in service of a shared goal, but how can we scale those using technology, as technology makes those avenues more efficient, more effective and at a broader scale and scope than we would have had access to previously?

So I moved into the tech side of things at causes.com, Brigade, and then back in 2016 we invented a new way to text message voters to get them out to register to vote and get to their polling place. So if now you get a lot of text messages encouraging you to go vote I'm sorry but that was back in 2016 and it's called peer-to-peer texting. I served on the executive team at that startup for three years and then I joined the venture capital firm that had invested in Hustle, the early startup back in 2016. That venture capital is a really interesting space; I'd be happy to chat more about it if you're interested, but basically it's using a for-profit methodology to inject funds into promising startups and help them very quickly scale solutions. We specifically focus on progressive technology startups, so our mission is to get democrats elected. We've invested, we've deployed \$60 million to 50 startups, so if you use mobilize for event RSVPs or other types of tools for voter contact, voter outreach, predictive analytics or other ways to help run more efficient campaigns and lower the barrier to entry so more diverse groups of people can run for office more efficiently. It's a really exciting area of work.

What we're going to get into in the panel today, really looking at how we built those early connections in CRS and what they've become especially in the context of public work and public service. So who here is in CRS right now, our current students?

Congratulations! I love it and who is graduating in a couple of weeks?

Yes, congratulations. Really really exciting. So I really want to focus our panel today; we'll have two different sets of conversations but the first one's going to be focused on how do you really move the connections the relations, the interconnected ecosystems that we're a part of and map that onto our governmental systems, our civic systems, and public life. So I hope that we can spark some creativity for you, some ideas or some energy that you want to build towards as you begin to navigate your careers, into taking all of the power and that deep knowledge and

intuitive understanding that we all treasure in our CRS experience and really bring that into public and civic life.

So on that note, I'd love to bring up our panelists today. So I'll just quickly read your names. So please join me in welcoming Neil Fishman class of '77, the president at Sonoma County Conservation Action. Please welcome Neil.

Then we have:

- Dan Klab, Class of '82 from Oakland City Council
- Sharon Miller class of '82, CEO at Renaissance Entrepreneurship Center
- Sara Nathan '02, President and CEO at Amigos de Las Americas
- and Patrick, last but not least Patrick Samuel '09, Bay Area Director at California Trout.

So we have about 30 minutes for our discussion today, so I'm going to toss a couple of questions at each person and feel free to jump in on the questions you want to answer and, you know, stay out of the ones you want to skip. I'll leave it up to you to really jump in. But before we move into some of the questions, I'd really love to start if each person could take one to two minutes and share a little bit about yourself, what you learned at CRS, and how it connects to the work that you're doing now. Let's go ahead and start with Sarah okay?

Sarah Nathan:

All right, hi everybody. I am the CEO of a nonprofit called Amigos de Las Americas. Our purpose is really to actually give young people—so teens and young adults—the opportunity to get out into the world starting at ages 13 and onward. So for Middle School students, high school students, and University students as well to go out and live and work in a community. We work specifically in the Americas, so we run programs in the US Central America and South America. Hoping to get back to the Caribbean. In terms of CRS, wow looking back I was doing some reflection and really the opportunity to learn from across disciplines and also be your own creator of your path of course with your faculty guide is really powerful. And during the program for me, as I look back, I was spending time working in the Dominican Republic and Paraguay during summers in college and the ability to kind of parlay those experiences with different disciplines within the college was really really powerful for me. So I look forward to the conversation today.

Dan Kalb:

As you heard my name is Dan Kalb. I've been an Oakland city council member for the past 10 and a half years. CRS, or CNR at the time, like I said earlier I had so much pride in having gone through that. It was so different from most other programs majors at UC Berkeley and almost any other college in the country at the time. In fact at the time there were not a whole lot of Environmental Studies or Environmental Studies type majors around the country. A few here and there. But the connection of the people in CRS... they're not like you heard Nancy's words say, they're not just academics. You're not just studying, you're actually encouraged... I think it's

an integral part of the program to go out and do internships and get involved and take what you learn and put it out in the community and make change. And so very much was an activist advocacy major as I think everybody here already knows. And that just set myself on a path of what I want to do for the rest of my life. I knew I cared about the environment; I didn't know quite exactly what I wanted to do and this major helped me kind of figure that out. So on and off and on and off and on and off for many many years I've been working as an environmental advocate. Now as a city official I'm still an environmental advocate, just on the other side of the fence. And I would continue to do that my entire career, however much longer I shall be here. So um that answers that question, okay there we go.

Sharon Miller:

I'm Sharon Miller. I'm the CEO of Renaissance Entrepreneurship Center and what my organization does is it's an economic development program, and we help lower income people to start and grow their own businesses. So it's a way for people to achieve economic self-sufficiency on their own terms. We are very Bay Area focused and have centers in some of the communities of most significant need in the Bay Area: Bayview, Hunters Point, Richmond, East Palo Alto, East San Jose. And what, how this all connects for me is, going through CNR I feel taught me how to think in a very broad term, and really to think in a way that everything is connected. And I find that it's a really important skill in running an organization that I can see how the points interact and where the environmental weaknesses might be. And so much of the work is really focused on bringing together different parts of the economy and the environmental landscape to make sure that we can create a world where people can thrive. I also was the last standing class of CNR and I think Nancy Skinner was the first person I met so I was off to a very good start.

Patrick Samuel:

Hey, good afternoon. I'm Pat Samuel, our Bay Area director for a nonprofit called California Trout and I am kind of opposite from Dan. When I was looking at colleges I knew I wanted to study fish and specifically work with people because I didn't want to be behind a microscope for my whole life. And so I looked around at colleges around the country and Berkeley was one of the few places where you could pick the courses that you wanted to take, and I thought that that would serve me well in the future, and it turns out it did. So in my daily life, my work life now, I oversee a conservation program that covers the nine Bay Area counties and our organization is really focused on watershed health and ecological processes. And so we use fish, cold water fish—so salmon steelhead and trout—to help indicate healthy Watersheds upon which all of us depend and so it really is, it takes a lot of aspects that we learned about in CRS, things like getting involved in the communities where you work, understanding ecological processes and then understanding that human beings are a part of the solution, we're not going back to 1800s California, that we need to rely on people and creative thinking to help solve some of these challenges. I'm just really thankful and appreciative to be on the panel and to be here with all you today, so thank you.

Neal Fishman:

Hi, Neal Fishman and I'm a Sonoma County Farm Boy who was always in love with the landscape in Sonoma County, and the greenery of this time of year. And I went up to Cal in 1968 with the purpose of riding in the streets and ending the capitalist system and whatever else we were doing in those days, and I lasted about 2 years and dropped out and kind of wandered around for a few years not really knowing what I was going to do. And I came back to Sonoma County and worked on a campaign for County Supervisor, a man named Bill Kortum. And he and his wife Lucy were kind of the mother and father of the environmental movement in Sonoma County. And they were very early in the coastal protection movement, just great mentors for legions of people and after he won that campaign I decided, well I wonder if Berkeley will take me back, and luckily they did. And luckily I found CNR and with the intent of how do you preserve land and so I designed a major that was a little science, a lot of policy, a little city planning. some environmental law, and ended up getting an internship at the newly created agency the State Coastal conservancy. And that internship turned into a 32-year career, including a year as a chief consultant for the Senate on natural resource issues, and a whole lot of wonderful projects and money that got spent preserving land.

And CNR is really the root of the whole thing. I had great mentors Ellen Widess, who has been mentioned, was a key mentor. Dick Walker, who could bring socialism into sewage protection, just interesting people and just to end it you know, so I think I accomplished a lot and I'm up there in Soma County now I've been chair of Sonoma Land Trust. I'm now head of Sonoma County Conservation Action which is a political organization that does, we choose candidates and we were actually influential. But I went to preserve land and now I'm wondering about all of that because I have a 35-year-old son who can't afford to buy a house, and a lot of other young people are looking at some of the decisions we've made over the years and maybe they weren't always the right decisions.

And so I think we have to begin to look at land protection and what we have all these years of course we preserved wetlands and we saved large habitat areas, but a lot of what I wanted to protect land about was sort of the nostalgia of the beauty of my youth and the open roads. I don't think we can afford that anymore in the same way so we have to figure out how we promote development in the right places and stop it in the wrong places.

Hillary Lehr:

Thank you. So Patrick, you started to touch on something that I'd love to bring into our next question, which is about decision making and taking action in the world that we're in-- that we can't go back to another time. We have to take action in the world that we're all a part of, and I want to start to dive into how we put our CRS skills to use in that decision making and in that leadership process. So the CRS program is quite visionary in its approach to environmental problem solving. It emphasizes systems thinking, collaboration across disciplinary boundaries, and this is unique not only for an approach to understanding our environment and the world that we live in but also in that it maps nicely onto the very complex world of policy and decision

making where there are folks who may not share our values or may not see the world in the same way. And so ideally we're in a world where the interdisciplinary approach of CRS is helping to prepare us to take action to create policies in that complex and complicated world. Can you share a little bit about how the CRS educational model impacts the way that you approach policy or leadership today? And not to put you all the way on the spot; if anybody wants to jump in feel free but how do you connect your CRS education to the work that you do now?

Dan Kalb:

I'm elected official now and prior to that I did a lot of advocacy from the outside looking in Union of Concerned Scientists and so on, but I've been an elected official for over 10 years and so different people who are in elected office approach being an elected official and how to vote on things or how to put Solutions forward in different ways. Many people who are in elected office think their job is to "balance" competing interests, and that's very common among elected officials, even among people who you have voted for, who you think are, you know, good liberal progressive folks. That's, they still get into where they're going and they focus for any number of reasons, they want to balance competing interests. And that's not wrong inherently, I'm just saying that's that's a philosophy a lot of people carry into that I and others—like Nancy, more often than not, Nancy Skinner—I look at it as: okay there's a problem that we have presented to us or that we know about want to tackle. What's the best solution to that problem? What's the most effective solution to that problem regardless of how some interests are impacted, regardless of who doesn't like it?

It's easy for an elected official to think "well, more people will like me or less people will dislike me if I balance competing interests and find a compromise and just kind of get that middle ground there and I'll be better off politically and I'll feel better because less people will hate me." If you're an elected official or want to run for office and you're worried about people liking you and hating you, you're not ready to run for office. It's just as simple as that. And listen, when I was 25 years old or 30 years old I was not ready to run for office. I'm a little older now, a little bit and so I just look at it as "go hard," you really look at what's the most effective solution to what you're doing, talk to experts, talk to all stakeholders, talk to people on all sides. Learn what you can, figure out if you have the votes, and do the strongest possible policy to solve or address the problem that you're identifying. And so that's part of the philosophy of CRS and so that's how I, one of the ways I developed that philosophy is remembering my training and my education in the CRS program.

Sharon Miller:

I think it's remarkable that people are in public office. So thank you Dan, I don't have the thick enough skin to run for office but one of the things Ignacio was talking about was about the way that interdisciplinary action is so important in CRS. And in running an organization, one of the challenges is like, we're always raising money. There's not enough resources. It's very easy to look at the ecosystem of nonprofit organizations as ones who are competing over resources all

the time and it's kind of just the flip side of getting to do really great work, but the model I have always led with is working as partners and finding places where there are similar goals and similar ideas and really building partnerships as opposed to feeling like this is a competition or this is a zero sum game. We have to be better than the others but to really look at how can we partner, even look at it as how we are building a movement as opposed to having each organization thrive on its own, but how can we work together to say we can actually make a big difference if we come together. And sometimes it's like two steps forward for the movement and maybe one step back for the organization but it's the way to get things done.

Patrick Samuel:

Well I think I use my CRS training you know pretty much every day. One of the things that our group has focused on is being science-based, and so that harkens back to CRS but it's also about building partnerships and so this is a statewide nonprofit California Trout. We have regional offices, seven of them spread throughout California. And one of the only ways we're effective in restoring habitat is working with private landowners and private interests and that means building partnerships with diverse stakeholders and folks with different perspectives other than your own and building that common ground. I think CRS training in particular has helped me think about coming to things with an open mind first of all, and second trying to find what we call in the lingo "multi-benefit projects."

And so I'll give an example: folks driving up saw there were some cattle and some ranch lands around us here. So in order to try to save water for fish at few times of the year in the summer and fall we've been working with cattle ranchers up in Mt. Shasta and in the Central Valley and on the Central Coast to try to keep water in streams by allowing folks to divert in the winter when there's plentiful water and then not divert from streams in the summer and fall when the fish need it most. But we also help with on farm efficiency so that those businesses, which in a lot of cases are multigenerational, can stay in business. So we need to find ways that are sort of providing benefits for agriculture and the economy while providing habitat for fish.

Neal Fishman:

So at the state Coastal Conservancy, it's an organization that was almost tailor made as a place for CNR graduates or CRS graduates to go because it's a multidisciplinary agency that does waterfront development on one side, it does wetland development on the other side. And you can't have staffers in specialties; they have to be able to deal with people in all sorts of different types of projects. So CRS was the perfect training ground for the Coastal Conservancy. But I also worked a year in the state legislature as a community consultant and if you're doing natural resources in one hand you got the traffic guys coming in, and they want to build a road, on the other side you got people coming in saying "don't do that you'll kill the fish," so you've got to be conversant and be able to deal with a lot of people in all wide range. So if you're thinking of political careers or legislative careers it's a great program for that.

Sara Nathan:

I'll just add real quick. One of the amazing things with my work is that I feel like I bring CRS to teams, tapping into systems, into civil society, into local government, into the private sector... how to identify a community challenge and try to tackle it and the learning that you go through that. It's hard and so our programs aren't a vacation; they're a challenge but they're...a lot of it is tied into what we really learned in CRS. And outside of my day job I see it I'm engaged with an organization that is doing all the forestry management up in the Sierra Nevada and the people that you have to bring together for that, in terms of the national forest, the forestry experts, the resources, funders, donors etc. So you know it's all a network in a community of relationships to tap into.

Hillary Lehr:

Thanks. I love the term multi-benefit solution. That's great. And I think the management of stakeholders is so closely tied to the interdisciplinary side of the work that we do. When we think about folks who are graduating this year or newer talent to the workforce and you put your hiring hat on. As you're building your teams, bringing new people into your work, what do you look for in new talent?

Sara Nathan:

We work with a lot of young talent in our organization, hiring for our professional team and also seasonal team members. One is grit and tenacity to go for it and to work independently. It's always a little bit hard to assess on the front end but usually through conversation and seeing what people have done and how they approached problem solving. To be solution oriented is critical; another one is attitude, just really bringing forward that passion and commitment. It comes through in the interview process.

Dan Kalb:

Good question. Well one thing I look for is someone...if I'm going to hire somebody or somebody else or another elected official looking to hire somebody...you got to be a good writer. If you're not a good writer then go become one. Go take some more classes or do whatever you need to do to become one because most jobs you really need to be a good decent writer. Not like a novelist or Pulitzer Prize but you need to be a good writer. Beyond that, someone who pays attention to detail, all the typical things. Pays attention to detail but obviously in our field broadly defined someone who still has that passion for environmental problem solving, because if you're in the public policy world trying to make some change, if it's worthwhile change there are going to be interests who are going to come up against us. And I need someone who's going to not be either scared away or worried or uncomfortable standing up to folks who are on the other side of something. And so you have to have thick skin and determination, persistence absolutely. A lot of the things will be things that would be on any kind of job, but there are some things that are unique to us as well.

Sharon Miller:

I think Dan and Sarah both said great things so I'm just going to echo what they said and emphasize that just interest in the work, and passion for what we're doing, and also making sure it's a fit. That if someone wants to do something different then this isn't the job for you. That sometimes there are all these reasons why someone needs a job today or it's convenient but that it really has to be if someone's passion is working internationally then it's not a good job to work domestically or whatever it may be. But is this really what you want to do? And do they have that spark, that "I still want to learn more, I find this new and challenging?" And once they're working with me I want to make sure that a new challenge is exciting not like and I want to do more work today. But how to do more, how to come up with new ideas, and also give your opinions fairly. Listen to others but be able to work as part of a team and sometimes that takes a little bit of learning but being able to learn from others and to be able to teach others as well.

Patrick Samuel:

I personally have gone through a hiring process recently. I brought on a couple more folks to my team and I think Dan mentioned this in writing and I would just echo that and add on that being a great communicator with people is really key now. I think in this age of instant gratification and social media, being able to communicate face to face with people the old fashioned way is incredibly helpful. It's one of the ways that you're able to build trust. I think that one of the keys to building partnerships is building that trust and being able to speak and communicate clearly is a really important skill that CRS I think is going to prepare you all well for. And then the second thing I'd say is just willingness to lend a hand where it's needed, and in the nonprofit world that is the name of the game because you end up wearing 10 different hats and so you're already willing to learn because you're in this major but being willing to work on different things and chip in where it's needed is really valuable skill that separates you quickly from your peers who are are not willing or aren't great team players.

Neal Fishman:

So I'll hearken back to the coastal Conservancy rather than Conservation Action because we hardly have any staff and hardly ever hire anyone, but with the Conservancy it's really the idea of optimism and as the professor said you know, the idea that it's action that counts. It's not just the academics. So somebody who's coming in with an idea that things can get done, that the world isn't going to end tomorrow because, and I know about your project you did up there and that's a really cool thing, I I think that resonates that you're willing to get your hands dirty and make things happen.

Hillary Lehr:

That's great. So I heard some great things in here: trust your gut and continue the reflective process of discovering what you're truly passionate about, what types of work gives you energy, what types of work you find draining. And use that to further refine your understanding of your unique gifts that you want to keep building on as you chart your career. So those are really wonderful things. I heard each person say a version of that while we're talking for the recent

grads or soon to be recent grads in the room. For other students in the room, are there any other pieces of advice that you want to share, either on decision making for beginning your career or perhaps continuing education? Anybody in here thinking about pursuing a Masters? Who in here also continued their education after CRS? Awesome, okay so for folks who thought about continuing their education afterwards, any other pieces of advice you want to share?

Neal Fishman:

I don't, because while I was in a master's program I never completed it. It was terrible...public administration. And I'll tell you it's been one of those things that it's always been in my mind. You know that, golly what am I doing here, everybody has a master's degree I don't and they come and go and I'd still be there. And I'd be there because I could do lots of things, I just took care of different aspects of the place and that's how you hang on and do things over the years. I'm not going to tell you not to go get your Master's or PhD. I didn't need it in my career until very late when we took on the ocean protection Council. It was one of the last things we did which eventually was transferred to the natural resources agency, but for about 5 years I ran the California Ocean Protection Council. I didn't know much about the ocean, but I got a lot of really great people who came in who knew a lot about the ocean and that's when I kind of felt like "well probably time for me to leave."

Sarah Nathan:

Just a few things. First, go for those internships. Try different ones, see what's a fit for you, find a mentor. I mean, my first job came out of my self-designed major. One of the courses I was taught by a professor who ended up being my first boss actually coming out of CRS at UC Berkeley actually. So find a mentor and there's just so much on campus and so many wonderful people and experts coming all the time, and I know amidst the finals and the the coursework and the homework and the everything that's so hard to make the time, but it is amazing how many experts and leaders come and are involved in the Berkeley community. And so as much as you can find out when they're coming and tap into that. I saw it even more clearly when I stayed on campus to work and just highly highly recommend that, but definitely if you can find those mentors and stay in touch with some of your faculty because if you do go to a master's program you're going to need them for letters of recommendation. And they will write it for you but it's always better if that's a warmer relationship than if you've let it cool down for a number of years depending on how long you wait to go to school.

Dan Kalb:

I agree with everything I've heard so far of course. It kind of depends if you're finishing up the CRS undergraduate and you kind of know what you want to do, then find you know, then get into that whether it's an internship or entry level position or whatever you can. Get into that try to determine, which you usually should be able to by talking to people, informational interviews, we've all heard of that before, do that. Do you really need a master's degree or some kind of advanced degree to further your ability to get into the kind of thing you want to do? Sometimes

it'll be yes, sometimes no. If it's yes you know, do an internship, apply for Master's programs, and go through the master's program if you can afford to do it or whatnot. But sometimes you don't, or sometimes you don't need to do that right away. Really the best experience in terms of being able to do a job is doing the job, and so get into the world of work. As we already know CRS already encourages internships and real world experience so use that best you can. If at all possible, take internships that pay. Really, you know, people should not be working for free. That's really not not appropriate. Sometimes you have no choice but try to find a paid internship because that's just the way it should be. It's not fair otherwise.

Hillary Lehr:

And if you're hiring interns, pay them.

Sharon Miller:

My organization pays interns. This is really great advice so yes and there are all sorts of ways to take classes too that if you find you might be interested in something you can also explore by taking class before you want to commit to a whole degree in that area. Consider yourself a lifelong student or lifelong learner so that either you can go right onto higher education now, or you may want to do it in 2 or 4 years when you feel a little more clear about where you want to go, and there are all sorts of ways to do it. I would also add, stay in close touch with your fellow students, that these are your peer networks that will be invaluable to you over time.

Patrick Samuel:

As someone who did get a master's degree, I would say take some time off to really think about if that's what you want to do and if it's necessary. I think that was echoed earlier. I had thought that I needed a legal degree to do what I do now and that was not true and I'm glad that I took time off to make me realize that. That would have been a terrible choice and very expensive choice probably, and I'm glad I did not go that route. Instead chose a master's route and was able to take time working in my field, but getting a foot in the door in a way that was maybe unconventional so I'd say get your foot in the door any way you can and just learn by doing. And get as close you possibly can to that field.

I think I work a pretty niche type of career and so there aren't that many people that do what I do across the state, so getting a specific internship for that was difficult but getting an internship that is adjacent and then working your way over can be an effective approach too because you're continuing to learn and build these relationships. And then just on that note of keeping your faculty and mentor in mind, definitely do that, and I wanted to just share selfishly that one of my mentors I get to work with in a professional setting now through Environmental Science Policy and Management Professor Stephanie Carlson. She was one of my mentors and now my organization gets to work closely with her and Ted Grantham and other students in ESPM. It's just fantastic and Stephanie wrote one of my recommendations for my Master's Degree, thanks.

Hillary Lehr:

Great, wonderful. We have time for one more question and so if you have anything different that you want to share you should feel free but I think what we're really coming back to over and over is inspiration. If each one of us uniquely has something to offer and uniquely has a superpower to the impact that we want to have and our life experience and professional experience and academic experiences, kind of whittling away to reveal that to ourselves it's really important to continue to pursue your inspiration. And as we're driving up today looking at this beautiful inspiring location, this beautiful place, this room full of inspiring people, continue to hold your inspiration close and let it evolve over time.

I want to wrap up by asking this amazing panel what's inspiring you in your work? What did you find that you are accomplishing that you hadn't dreamed of yet as a student? What inspires you?

Sara Nathan:

I would say today, and I touched on this I think in the beginning but it is really recognizing that the hands-on experience that we get and CRS can be applied in so many different contexts. And so for me it's providing those opportunities for young people to have an experience outside of this country, operate a different language, have an immersion and see that transformation, and especially in a moment where there's so much division, so much fear of the other. What inspires me is seeing that experience where teens come home and they just recognize people are people and we are humanity. And we have problems to solve at home and abroad, and so that's what inspires me in my work to continue doing that.

Dan Kalb: I think a couple examples. One, in Oakland There was a proposal to build a coal export terminal. Everybody should be hissing right now. And for many reasons, not the least of which is climate change, but other reasons as well, I thought that was a bad idea. So we pushed, we worked with the local Sierra Club chapter and a coalition called No coal in Oakland and other folks including experts, one of whom I hired, to push back and go through a multi-step process to try to say no to it. And through lots of work that we won't go into detail now, we were able to stop it, although we're fighting it in the courts right now it still doesn't exist. And that coal that was going to go there is still in the ground in Utah but we had this huge Coalition, very diverse Coalition in terms of age, race, background, so on so forth that that stood up and pushed back against traditional interests that used to have a lot of influence, in this case Oakland and this was happening other cities as well.

And so that was great to see that if someone cares about something very very passionately you could fill a room and then some and really kind of use the public pressure. I used to think decades ago how, who remembers how a bill becomes law, who remembers that little cartoon that's all a bunch of BS right? So a bill becomes law through all sorts of other things that are not in that cartoon. The cartoon is fine but there's a lot more to that obviously. Really, I used to think

you know decades ago that, before I was an advocate and before I was lobbying, that "oh you just have a good idea you go find someone, introduce the bill you testify. If you're right how can anybody oppose you? You just say no to the bad people who disagree and it all of a sudden becomes law." Well that's ridiculous of course, and so really it's preparing, it's the politics often more than policy. I now use that if I'm working on an affordable housing issue or protecting renters or environmental climate justice issue, we try to use that kind of public pressure if I believe that just the facts and the policy itself won't get the votes to pass something. And I'm sure Nancy Skinner and everybody else in Sacramento clearly understands that and also uses those tactics.

One more thing; who here has heard of an organization called Youth Versus Apocalypse? Okay. It's an amazing organization that I feel inspired by. I've met with them. I've been to their rallies, talked with them, and spoke with them. Obviously for youth highschool, college age, young adults, and they are mostly in the Bay Area. They are a tremendous organization that I feel, I'm already in my 60s, I feel that I'm working on climate change, climate justice and other related issues as many of us here are, and uh it's great to see the younger generation who are active and passionate about these very same issues. I feel good, okay if I die tomorrow there are going to be great people of a younger age who are going to take up the mantle as they already are, and push hard for climate action. So that inspires me and it makes me feel good that I know people are still going to fight the fight no matter how old or young we are.

Sharon Miller:

I did hear the question. I'm not going to answer it exactly, just but I think what when I look back—I've been working for a really long time now—that CRS really helped me to build a foundation that gave me the ability to say I was confident in working in the sort of larger field of social change and doing different aspects of it over time. And I feel really proud that I was able to have a whole career, that I'm proud of the work I did; I don't feel that I made compromises that I didn't want to make, I got to work with people who I admire and respect and enjoy being with. And I really got to be an agent of change and I think when I graduated I was hoping that was possible and I'm inspired by all of you because I think it really turned out to be possible.

Patrick Samuel:

I think what inspires me well first of all I think to be in this major and to be in the College of Natural Resources, you have to be optimistic. I think you need to believe the solutions are possible to some of these massive challenges we are all facing. And so the thing that inspires me is really hope. I mean yes there are massive challenges, but there are also incredible opportunities. You have amazing tools, the best tools that we've ever had to be able to tackle these really difficult problems, and I think you need to be hopeful and you need to bring the passion that sort of set you on this path in the first place, and be your genuine self.

Neal Fishman:

So for me it's easy to be inspired just driving up the coast, because I see all the projects that got done over the years. And you know they still use the figure we've lost 90% of our wetlands around San Francisco Bay; well yeah. but we've gotten back thousands of those wetlands, 15,000 in the South Bay. 56,000 over Cullen and Ranch another thousand a year or so ago in Sonoma Bay lands. You can see streams being restored all over the state. So there's a lot to be inspired from as well. When you're up in Sonoma County the number of environmentalists and the number of organizations, the people who are passionate about it is very inspiring.

Hillary Lehr:

There's a lot to be done. That's a beautiful place to pause. Can the faculty at Rausser or anybody who's taught a course for CRS quickly raise their hand? Thank you for inspiring us. Thank you, and the staff that works so hard to put this event together and make CRS happen every year, can you all raise your hands? Thank you for inspiring us. For all of our new grads for all of our students, you inspire us so thank you for all that you're doing on campus. And please give a big thank you to our amazing panelist today. Thank you.

[clapping]

So I thought we were out of time for questions but the good news is we have time for a few. So quick anybody have a quick question you want to ask?

Audience member:

I thought your comment about reflecting on decisions in the past and maybe there were some mistakes was interesting because that's life in science and, I'm just curious how you're finding, is that difficult to come up against? Because it's hard to admit that you've made a mistake for any of us I think, so I'm just curious what any of your experiences are in that realm.

Neal Fishman:

I mean for me it's a little difficult because I have to argue with my son all the time over it but you know, it's not. I think we all shift over time so you know I found myself at a city council meeting just a couple of weeks ago speaking in favor of a development project. What development project? Well it was going to be 99 units next to a regional park but also there's a subdivision there, so now it's going to be 28 homes that just naturally flow off the subdivision and 54 acres goes into the park with the frog pond. Well it's a much better decision than just being a strict preservationist in all causes. But I was not on the left of that issue. There were people who went to the left of us who said "no that the 10 or 11 acres, there's microorganisms in the soil and there's all sorts of things that have to be saved" and so you do have to make difficult decisions but I think that's where courage comes in sometimes. You can't just go with the flow, what everybody wants you to say and do when it's really not the right answer.

Hillary Lehr:

Does anybody want to add anything else?

Dan Kalb:

You never ask a politician if they want to talk. [laughing from the audience.] I mean, if new information comes out months or years later after you made a decision then you make you consider making adjustments, but you can't keep on second guessing yourselves and going back in time because you have more work to do ahead of you. So stick with what decision you made. If you get new information, consider all the factors at whatever point in time you are now in, the present, and then see what adjustments you want to make. But just dwelling on the past if you're not going to change it is, you know, we don't have time for that.

Hillary Lehr:

Yes, it's funny in the investment world a lot of times we'll create an investment thesis of what's going to be needed by voter registration organizations or what's the impact of relational organizing on voter turnout in Latina communities, and so we'll work in partnership with advocacy organizations, experts, and other stakeholders to create a collective investment thesis. And then we deploy capital to startups that are building those types of solutions. And inevitably most of those startups will fail, you know failure is a key part of it. I think that's one of the things I actually love about the tech world is they're very pro- failure in some ways. I think with the environment a lot of times we are worried about failure because there's such real consequences there but when we're looking in the active change-making and strategic capacity allocation to try to try things, it's important to acknowledge when we have failed and that it's okay. What have we learned? And to keep moving forward, so I think it's a good question. We all probably have a relationship with failure that could improve. Next question anybody?

Audience question: I am just kind of curious as all of you CRS alumni now in leadership positions of different types, how the, what the impact of Covid was and your Reflections on that.

Neal Fishman:

It's harder to raise money.

Hillary Lehr:

Yeah, true story.

Dan Kalb:

It reminded us all of the importance of science and how there are many people in this country, probably other countries but certainly this country, who for whatever odd reasons are not on board with science sadly, but we all I think everybody here is. So you know, that of course had to do with the whole vaccination controversy. It shouldn't have been a controversy, but it was. We all went through that when it comes to climate change years and decades ago and maybe even still going to some extent, and so that whole issue of what's right what's the science say, kind of came back to the forefront when it came to vaccinations and reminded me about the whole climate science question that we had dealt with and hopefully have gotten past.

Sara Nathan:

Oh wow, could be a very long answer. In our case we had to shut it all down for the first time in 57 years, so that was very challenging. So the power of community, our community came together. I mean rallying people, stakeholders, donors, supporters, alumni ...I mean you could think of a lot of different parallels in other universes. But that network. We've been talking a lot about networks and a lot about community and I think that the mobilizing that got our organization through. I think one thing I'm reflecting on right now is that the world isn't the same as it was three and a half years ago four years ago, and we're still navigating that. It is different, people are different, and there's still subtle changes. But really I think recognizing that and honoring also the fact that we all went through a very traumatic period. We got through it for many of us but it was really hard and so I think honoring that.

Sharon Miller:

It was hard, it was really hard to just shift everything. My program had everything in person and building community was such an important part of our work and helping people to build confidence, and it's really hard to do a lot of things on zoom. I know for all the students who went through it wow, how incredibly tough it was. What was amazing was how resilient people were or are and that people could make these changes very quickly. But in my work in particular, it really heightened some huge economic inequity. There were people we worked with who didn't have computers, who didn't have access to the internet, who were not able to take advantage of all the programs that were being put out to help people to get through the pandemic, because they couldn't access that. So it really highlighted so many issues and I think those issues are coming to light and they're being addressed in some different ways. But for some people the pandemic was much easier than for others and trying to find solutions to help everyone to survive and create new realities moving forward was pretty challenging.

Patrick Samuelson:

In my line of work the work didn't stop, which was sort of remarkable, I think there were a couple different outcomes. Number one, that I think was actually a positive outcome, was people realized that a lot of meetings could just be over Zoom. You'd have to drive all over the place. I think that hopefully will be a lasting change from covid. We can be a lot more responsible about how much we drive and fly places when it could easily just be a zoom meeting. So I like that. I think another really important change that I see in my line of work is just the value of being outdoors. It's just so powerfully felt from my colleagues and the people that I interacted with. It's just, that was a place of refuge to be safe and to sort of unwind and get your mind off how bad the world seemed at times. And that is incredibly powerful. I think that people going out in nature and finding inspiration and sort of resetting is just to me is very personally valuable. But it seemed to be valuable for a lot of others as well, and I think it made folks especially in the Bay Area realize just how amazing these resources, these parks and open spaces nearby are to quality of life. And just what an amazing thing that is for refreshing the mind and spirit, and so I hope that that sticks with us because it seems like there's a lot of people that really enjoyed that.

Neal Fishman:

One more brief word on fundraising. When you're an activist group you want to get the people together and that's how you get them excited and they pull out their wallets and give. In our case the organizations in 501c 4 it's not tax deductible, so you have to have passionate people who care and that helps when you get them, the groups together.

Hillary Lehr:

Yeah. I would just add one last thing that it also is an important learning on how to step up in a crisis and show leadership. I was working very closely with the Biden campaign and overnight we had to take all of our campaign activity online and take it virtually. And we had to completely transform the way presidential campaigns had ever been run with more of an emphasis on technology. So we immediately started to deploy additional resources to make sure that the technology was stable, that it was secure. And we had to really rally everybody behind these changes and very quickly change best practices, change strategy, and bring everybody with us so that it worked and that people felt properly empowered in the work, and that different communities were being contacted safely and adequately. I think there was kind of this moment in March of 2020 where everybody held back and waited to see what happened, but sometimes if you have a due date like a presidential campaign or a deadline for when we need to stabilize the climate, right, as another example of a crisis action, is required. And sometimes you look around and you realize "oh I have to do this. I have to write this memo. I have to take this action and bring people with me." And so I think there probably were a lot of learnings from the crisis of Covid that apply a lot to the environment and climate in particular that I think were little pieces of silver lining in terms of how to face a crisis and turn it into something that we build power from. Do we have time for one more question?

Ignacio Chapenla: I think we should not.

Hillary Lehr: Okay one more round of applause for our panelists.

[applause]

Ignacio Chapela:

Thanks. I do have a couple of comments. First of all to thank Hillary for an incredible job. I really don't like...I could say I strongly dislike breaking up this because it's so powerful and so good. The only thing I would change is that I would bring the wine in and just keep going. It would be so great. Unfortunately I hear that we have a date with a taco truck at the other side of the next panel and that's why we're kind of keeping to the clock. The taco truck will keep us on time but I did want to make two remarks.

One of them is that standing back there and looking back on you I was just imagining, I mean the colors are the same and UC Berkeley is the same thing, and I was just thinking what makes this different from one in Engineering or the Haas School of Business? And I honestly was so struck when I looked at you from that perspective, you just so strongly exemplify what CRS

stands for. You're so different first of all. All of you are so incredibly different. No cookie cutter, like you would get in all these other places in Berkeley, with all due respect, right?

The other wonderful thing that I notice and that I think you exemplify really well is that quality that is so strange and difficult to define. It's a generous humility and openness to the other with incredible grit and persistence and even stubbornness about what you want to do. And that mixture of, I could see that. You know in a business school how people in a panel one after the other they always want to just do one up on the other one or "I'm going to say something even more important." And here you guys are just resonating with each other and building up this beautiful beautiful lapice of ideas and inspiration and action. It's just really beautiful and I just thank you for exemplifying what CRS really stands for. Thank you so much.

[applause]

Panel 2: Alumni in the private sector

Ignacio Chapela:

We do want to listen to the next panel which is about the intersection between CRS and private and private interest.

Sorry, I was on a very long parade on how important it is that we have this kind of place, that we have this kind of experience, and that we make the point of meeting each other in the places that matter. That we do not forget that this is what it is about, what everything is about. Keeping this, restoring it, not only conserving it but restoring it and actually making it a place that we not only can survive in. People are worrying about the survival of humans, I don't know, culture or something. It's not about survival; it's about desire, a place that we can desire and so here I am launching on that. I shouldn't.

I don't know David Warner because he graduated in 1976. It's really an honor to have David with us chairing the next panel so I'm going to read from my notes on his biography. All I know about David is that he is also a paragon of CRS qualities, especially creativity, especially just completely dedicated and never giving up creativity. Figuring out new ways of doing things in a way that will make the world not only better but even desirable. So reading from the notes. David Warner is the founder and owner of Red Horse Constructors —what a great word —Constructors. It's not Builders it's not, uh it's Constructors. Maybe we should change the CRS for constructors of resources or something like that.

For the past four decades he has been working on new urban formations around sustainable and resilient infrastructure and construction systems, with a focus on green building. And I invite you to watch his website because there's an enormous amount of creativity in structures. materials, all kinds of things. David has turned Red Horse into one of the nation's premier custom home builders, receiving a number of awards from the AIA, projects published in

Scientific American and Architectural Digest. David is also the co-founder of the NGO Human Needs Project, a collaboration of academic and Industry leaders who are in partnership with local communities to address the lack of basic services common in underserved or urban populations. They have a flagship project in Kenya called the Kibera Town Center, where they provide basic services, physical things like water, toilets, showers. laundry, but also social services. Empowerment services like business skills, training, micro credit, Wi-Fi, health resources, green market place, demonstrating that clean local energy can empower vibrant and sustainable community centers.

David is a proud CRS alumnus and very engaged with the Department of Environmental Science, Policy, and Management and the college from the class of 1976. He continues to be a leadership volunteer for the college and served on the Dean's Advisory Board from 2015 to 2021. David, it's a great pride to have you as a CRSer and uh we're looking forward to the panel that you're going to introduce next.

David Warner:

Thanks, Ignacio. It is a pleasure to be here and I think you know we had the NGOS up here and they were raising their monies, and we're kind of on the other side of the fence, we're kind of making money to make change in our corporate lives and our world. There were three tripping points for me coming out of CNR in the first graduating class—well I don't know whether it was the first or second graduating class, but there were 30 of us, that was it. It was before ADAS were in place and so there was a stage ,but my grandmother was in a wheelchair at that time, and so it was uncanny. We actually lifted my grandmother on the stage next to the podium of the dean at the time, and she sat there and so she saw graduation from the perspective that no one usually sees. So that's one of the endearing things about the adaptability of CNR. I mean it's just, things get done.

And then in my building career after graduating, I went right into construction, and my wife and I formed Red Horse Constructors. And you never know what you're going to get involved with, and building is in this world the barn right here, and things that we live in, and transportation systems, our food systems that support the structures and so on and so forth, our energy grids...you know you never look at construction and all of its connections. 18% of the impact of carbon dioxide in our atmosphere is the building system.

So when I started our company, we were always focused on doing green. So whether it was working with the first Rainforest Action Network groups back in the day when there was information on FSC certification of wood proper harvesting. In my world, concrete to me was the basis of all sins but all great things too: concrete in the world is the number two most consumed product in the world and number one is water. And so if you take water, which is a component of concrete and another component is cement, and cement is a 1:1 per ton generation of carbon dioxide for everything that is batched from a batch plant, you're looking at a very serious issue. It is an issue that is still plaguing us today, although recipes, I'll tell you in a second about a recipe. But different recipes are compressing back on cement because they use gas kills basically to create the, to get the cement out of the silica out of the limestone.

But when we were doing our construction, our first award was called Bay Area environmental Heroes and it was done with KQED. It was called green beans. And so on the first group or second group that they were doing this, one that group of inductees was Jerry Brown and David Brower and then I was. And I said okay, we're doing something pretty good at least we're getting in a spot where we're getting some recognition on our little tiny things that we're doing on our job sites. And then and then rolling it forward, you know I got on the Branson and Al Gore green [inaudible] initiatives to actually redefine concrete and the batching of concrete in the Caribbean theater. And our concrete batch is still used today and it compresses cement by over 55%. CalTrans, by law, (and Paul can talk to that later) actually is sitting at about 30% compression.

You know when you start looking at where you can go in the world to make the biggest hit, with the biggest green impact, I was always looking for those directives. And then moving on, as Ignacio said, we started a project in Kibera in the slums. The largest slum in all of Africa— it's 500,000 people in less than 500 acres and they have no services at all. So we've marched in there with technologies that I play with here and built a center there on both social structure but also on technologies of building and energy systems. Just today, meaning the last month or so, we're now working with the UN food program and delivering 2,000 meals a day from our leafy green hydroponic system that is coming from our sanitation system, that was designed with me and two other engineers and vetted at UC Davis. So the UC system is such a big play in my life and I'm really happy to be here and talk about building forever but will let that go.

So today we got our panel and will the panelist come up now? Okay so come up.

- So it's Rachel Barge, founder of Leap Grow.
- Jenna Cavelle at Disney Television Studios
- Elizabeth Fastiggi at Amazon Web Services
- Karina Gulati, Deloitte
- Paul Jacobs, who is now a private consultant but he was '82, but he was basically on the founding fathers of CARB, which is the California Air Resource Board ,which is the best version of our environmental laws and creating better steps forward is coming out of CARB.

I'll let them talk about their companies, what they do, how CRS/CNR actually created a path forward from the menu of opportunities that you could play with.

So Jenna, why don't you take the first lead?

Jenna Cavelle:

Goodness. I'm still thinking about the answer to that question, here we go. I'm Jenna. I'm a VP of production and operations for the 20th division of Walt Disney Television Studios. Ao in my role I basically make movies, which sounds kind of crazy given I came from CRS, and I'll talk a little bit later about how that came to be but, in my role I essentially touch the every step of the

life cycle of a piece of content. So from its inception all the way to the point when it hits the marketplace. So you can imagine how significant it is for me to have the skills to work cross functionally in a multidisciplinary, interdisciplinary way. I could never do the job that I do today without having the formal training that CRS gave me. That's for sure and I'll talk a little bit more about that later, but that's who I am. Nice to meet you.

Rachel Barge:

Hi I'm Rachel, and very excited to be here and have really enjoyed reconnecting with so many great CRS people here. And I think as you mentioned, my company is called Leap Grow. It's basically a digital digital marketing agency that I own. So I'm an entrepreneur and I employ about 20 people in my company working from home. I have a 2-year-old and so that's worked well for me as a mom.

And the same, very similar story: the interdisciplinary nature and really the entrepreneurial nature of CRS was very powerful for me. I don't think anybody, I've never heard people say oh it's an entrepreneurship major, but in my mind it really is because the whole premise is what do you want to do? What's your vision, what's your passion? No one's going to tell you no. I was talking with Gordon Frankie; he was very heavily involved when I was at CRS and even just today he's saying "I'm telling students to just pursue precisely their vision, their passion. I'm removing roadblocks and I'm encouraging them to to make their own path."

And fundamentally that's what an entrepreneur does right? You sort of envision something, pursue it, learn along the way, make a lot of mistakes, fail, and keep picking up skills as you go. It was really nice to meet Lucy today who is benefiting from some of the funding from the Green Initiative Gund which was something I created as a side project outside of my major at Berkeley, which is to create a \$2 million revolving loan fund on the campus for sustainability initiatives. And you know I think at the time I thought that's totally separate from school and it's totally separate from my future career and I have no idea what I'm going to do for a job, but I really enjoy doing this thing over here.

And when I look back at my career now, I think I was making videos, I was sending emails, I was building websites, I was doing marketing, I was reaching consumers, I was persuading people and getting the student body to vote for something, and that's basically what marketing is. And so now I run a marketing agency so there is a through line but I never knew that that's where I was headed. And CRS gives you that freedom to not know where you're going to end up but to explore along the way and learn what you do and don't like. I still deeply loved nature. I thought I would love doing field work, or did it for a summer, I was like I hate this. I don't want to spend 14 hours a day scooping tadpoles and bugs out of you know places. I want to hike and camp there and enjoy it as a hobby and a passion but not my job you know. So CRS gave me that opportunity to explore, try, fail, learn, and kind of chart my own path.

David Warner:

Karina is a life science consultant at Deloitte and I think she does the frogs for corporations.

Karina Gulati:

Well hi everyone, my name is Karina. I'm so honored to be a part of this distinguished panel today. I'm a life sciences consultant at Deloitte. I've been working for the last two years in the customer and Marketing Group focusing on helping transform pharmaceutical companies with their marketing and sales operations to help really make companies more sustainable and more adaptive to the climate that the world is evolving to today. I am a very proud CRS major. I come from a very long lineage of Golden Bears. My sister being a CRS major of 2017. and my mom being CNR class of 1990. So a very proud Golden Bear. I graduated from CRS when I was 19 years old and I specialized in sustainable business management, human factors, engineering, and environmental biology.

And the thing that I really love about CRS is that this interdisciplinary major helped me grow into the person that I am today. It helped me develop a growth mindset be able to test my hypotheses in the world in which I'm working with today to help make businesses more socially responsible, and really just be able to make an impact on the world that it is today, which I find CRS to be one of the most valuable majors on campus today.

And after I finished Berkeley when I was 19 I jumped straight into business school while working full-time and I just graduated from Johns Hopkins with my masters in marketing and I am very excited to be walking next month for my final graduation from the traditional pathway. But I still continue to be a lifelong learner and keep my growth mindset growing so I can keep giving back to the community. But apart from that I find CRS to be such a valuable community and because of that I've joined some of Deloitte's sustainability initiatives, helping them put on panels for things like corporate social responsibility as well as being one of the leaders on the Berkeley recruiting team.

So now I continue to give back to the Cal community by interviewing students, speaking on panels, and actually very proudly giving out offers to nine of our students this last semester. And really getting to know our students more and keep the Cal community coming into the corporate world, but yeah thank you so much everyone.

Paul Jacobs:

When I first enrolled in Berkeley I went "what am I going to major in?" and I think I started in engineering because I was always a car enthusiast and had a construction background around, and our family was three generations of custom home builders. And I go "well I want to do something a little bit different." So I found this major and I really specialized. I got involved with the energy and Resources Group very intensely and ended up doing my senior project on smog check. That was a new law that passed in 1982 called Senate Bill 33.

So I did my senior project thesis on that and moved into my first job while going to law school in the evening at University of Pacific McGeorge working on developing enforcement protocols for the California smog check program. After doing that for a number of years I morphed over to a

private engineering consulting firm called Radi Incorporation. A big International consulting firm that's morphed into a different firm now but doing that same air quality type work. Then I went to the California Air Resources Board, which was ultimately my goal. How many of you have heard of CARB? Pretty world known organization and that was an amazing career. That's 30 years of my career.

So what I did there is I developed and built the enforcement program. How many of you heard of the big Volkswagen dieselgate case? That was my team doing that and we did many others on top of that. Volkswagen in terms of our ambient air didn't have a huge impact in California but one of the big cases we did prior to that was 34 tons a day which is huge in the California air shed and that was against all the diesel engine manufacturers, caterpillar, Detroit Diesel, Navistar, Mac, Renault, Volvo, the whole thing. And we had to litigate all of these cases and ultimately settle and actually Volvo took us all the way to the US Supreme Court with the US EPA. Then many other litigations, so I think my team and I were responsible for—not that money matters but it motivates companies to comply—and what the ultimate goal of enforcement is you want to get corporate America or the corporate world to rat each other out. And we were good at that. I'm very proud of that. And you want them testing each other's product. They're highly competitive. You don't think Ford doesn't know what Toyota is doing or Chevron doesn't know what Arco's doing? So we had them ratting out each other you know, commonly and I could tell you war stories all day but that was a typical day at work. Building these cases, enforcing these cases, and occasionally we would have an exciting case.

We busted a big Hollywood celebrity: Jesse James, the former husband of Sandra Bullock. He was building illegal motorcycles, and didn't want to use compliant engines. Well we got him compliant. We got something called an injunction and put him out of business and sent him to Texas. But that's what you have to do, you got to play hardcore with these folks because they got to play by the rules. But we didn't find any violations. They came from a big competitor out of Milwaukee, Wisconsin called Harley-Davidson, and Honda and many others were complaining to us.

So that's just a brief summary of you know my CARB experience, then I got recruited over at the end of my career at the California Energy Commission to build and Implement their enforcement program, primarily directed at power plants and also energy efficiency. So all your cell phone chargers, all your Spas, HVAC systems, all this stuff.

Then I retired in 2020 into consulting, so now my very small boutique consulting practice focuses on helping some boutique law firms that do class action litigation against car companies, helping them on the emission side. Their focus has always been car safety, now it's this submission warranty stuff. So you roll into your dealership and they're going to say oh yeah it's \$850 to fix a fuel injector. That should be covered under an extended emissions warranty because these car companies are able to certify two more stringent standards and they get credits— they're fungible, they trade them among each other. So I'm helping these law firms take out these companies for not honoring people's warranties because you shouldn't be getting ripped off like that.

I also do work with a lot of the cap and trade. I do a lot of work with startup companies, especially ones out of Germany. It's called the German Accelerator Program. So helping companies develop technologies to repurpose EV electric vehicle batteries into power packs like you know Tesla power banks and the like.

So in terms of what did this major help me figure out, how to take an integrated approach to enforcement. So we go out and do enforcement, yeah air quality is getting trashed because of violators, but what about water quality? We would go do big investigations of fleets for example and find them power washing the engines and all kinds of other stuff into the storm drains and that's not good, not good for water quality. We had someone from California Trout talk about fisheries and my brother's a retired fisheries biologist, you don't want that happening, so I took charge of implementing a program to do cross media, environmental media enforcement actions. So working with the Attorney General's office and our CAL EPA the various departments, making sure we go do an enforcement action, it's going to look at all media, air, water you know soil impacts, and the like.

Then we also developed the program called Supplemental Environmental Projects to divert up to 25%, now under statute it's 50%, of the money to help low income disadvantaged communities with certain projects like getting them electric school buses, getting them workforce training development, putting in more efficient HVAC systems in their schools and the like. So that's one of the ways that CRS, and in my case so was natural resources CNR, helped me think more in a holistic approach. And we do have jobs; I still actively recruit for CARB and the California Energy Commission so, and I recruit for the Society of Automotive Engineers as well if you interested in that but let me know if you're interested in jobs because my generation, we're all old and retiring. Let me know, and I spend a lot of time with the Cal Career Center doing recruitment and helping with mentoring and the like. And my advice to all of you is get out and start mentoring now and start with the little kids. Go to kindergarten ,go to first grade. Talk to these young folks and make them aware of environmental protection. It's critically important because we have to protect the environment for folks like the beautiful little girl here [points to baby in the room] here so she has a sustainable world to grow up in. Thank you.

Davier Warner:

I wanted to add two more things that CARB does and because CARB is so broad. Jerry Brown used CARB as a planning tool. So when Santa Monica wanted to extend their urban corridor into an unknown valley that just has not been touched, a green valley, he used carb as a planning tool to stop them on air issues at that moment. So carb all of a sudden leapt from air leveraging into our built environment on a planning tool. So it's important to know that CARB is not rules and regulations, it's also a planning implementation program. And the second thing is that we're sitting in a barn with t111 siding, these plywood panels with the footballs and ceiling is pattern t111, so back in the day and I don't know how old this, is but thermosetting resins are the things that hold plywood together and they formaldehyde off gas. Well CARB actually created the guidelines for indoor air quality in all of our public venues, most importantly schools. So you

cannot have Formaldehyde anymore as a thermal setting resin for some of our building substrates. So yeah, thank you.

And we have last, Elizabeth.

Elizabeth Fastiggi:

I'm Elizabeth Fastiggi. I currently manage the agriculture practice for Amazon web services which is the major technology cloud computing arm of Amazon. You may be familiar with that company. I can tell you certainly that when I was a student no way would I ever imagined that this is what I would be doing today and it's actually been a sort of windy path, which I'll get to in a minute. But I just wanted to share a couple of reflections on sort of the day and just sort of thinking about all of this from a student's perspective. Which is number one: I walked into this building and I immediately sort of felt nostalgic and grateful for this education, because I spent time in buildings like this in my entomology classes with Don Dahlston where I was getting steeped in the science, and I also decided I did not want to count bugs. And I would argue with him about that. But those were real science classes. I mean, we graduated, you all are graduating with a really serious degree that is respected around the world and that has always meant a great deal to me.

The other just two other thoughts that have sort of occurred to me is what is this degree? And I know that there are probably many versions of it and I don't probably don't know all the names because I know they've all changed. I was a CRS major but to me this degree and this student population looks out in the world and determines what needs doing and then figures out how to do it. So whatever that is, whatever graduate school that takes you to, whatever career path that takes you down, this is about being able to see all those connections in the world. That's what that systems thinking is all about and just seeing the world in a way that it needs to be seen.

And then finally I'll just mention that I'm part of this group within Amazon web services that is taking a kind of a close look at what we call responsible AI and doing some deep dives on topics, and having discussion around it. And one of the questions we had to answer a couple of weeks ago in conversation was "why does diversity and inclusion matter?" And really the question stopped me in my tracks because I realized I've never thought about it before because it was so inherent in the way we were educated and the way we developed our degrees, and then the way we all went out in the world. Like it's just always been such a part of the way I was educated, what I sought in the professional world, but I really had to think about why it matters because I just was taking that for granted. That was really the point of that.

So anyway I just wanted to share a few of those thoughts but so I graduated from UC Berkeley. I went to work for the Environmental Defense Fund. So I actually started my career in the nonprofit world, was really fortunate to work with an incredible team there that saw the need for business to work collaboratively with the environmental community. And was part of that team, which was interdisciplinary by design, and then I went back to business school. I have an MBA

and a masters in environmental science. Then I went into private equity. I was a private equity investor for several years in the energy and agriculture sectors.

And then I just got really interested in what was happening in the startup world and in technology and always realizing that there was the lynch pin there about how we kind of connected all these dots and the technology was a really important part of that. So I moved over to the operating side. I've run or co-run a few early stage companies, and then I was really interested in what Big Tech was doing in sustainability and agriculture and some of these industries that just really matter for how we're managing our natural resources, and I found that at AWS. It's a pretty windy path but I think it just goes to show how this degree really sets you up to be curious, seek new ways of doing things and continue to fill your portfolio of skill sets and capabilities as you move through. So thank you.

David Warner:

I'm going to do some quick questions back and then we're going to open it up for the crowd for questions. Jenna what is Disney doing and looking for young talent. When you try to find new people to come aboard, what would you look for?

Jenna Cavelle:

So in my division we provide resources in the form of access to financing and distribution for emerging filmmakers, new voices. We have a very strong diversity mandate in my group so we're generally looking for filmmakers who have a unique perspective. They have a unique life history, they have a unique story to tell, you know maybe the larger part of this studio wasn't willing to take a risk on this type of filmmaker and we're looking for someone who is highly collaborative obviously because film as a medium is extremely collaborative. I don't know of any other art form that is probably as collaborative and I think most importantly we're looking for filmmakers that have something to say with their piece of art. So there's some sort of social message that is imbued in their story. We consider ourselves a group that is using film specifically as a tool for social change and so it's a very important piece of what we look for when we're looking for filmmakers.

David Warner:

Okay, thank you. Rachel, how is your company bringing sustainability into [inaudible].

Rachel Barge:

So I would say that, as you know, what my company helps young startups do is reach consumer audiences and scale their product. And the reason why I think I moved into that space is that I actually got to work on the cleantech venture capital side for a few years. So I was working in a seed fund that was doing small investments in early stage startups, and I watched that they were working really hard to build these products that were in many cases had the potential to be really world changing, really great foundational innovations, great pursuit of the market, and then they would hit this wall where they're like we can't find a way to get people to adopt this.

We're not reaching the right person, we're not reaching the right buyer who can pay us for this product, or we're not positioning it the right way. They're all scientists so I'd be like "why is your product exciting or why should someone buy it? And they would say technical specs, blah blah blah buzz word blah and, it's like let's figure out why someone should care and what problems they have how this solves that and help you sort of reposition the product to really y make it a no-brainer for someone to say "yep I'm going to do a pilot. I'm going to start adopting this." And clean tech is often a B2B type of sales environment. I also work with direct to consumer companies.

So when I think about how I incorporate sustainability into that I'm really trying to focus on companies that do have an environmental or at least a social mission behind what they're doing. And something I wanted to say about that as well is that you know the rising generation who's coming up next is Gen Z, and a lot of the companies I work with, they want to figure out how to reach Gen Z. How do I work with them, bring them into my company, or how do I market my products to them? And what we have to always advise people on is that for Gen Z having an environmental mission, having a social mission, having an environmental framework and philosophy in your company, not only is it not optional it's just table stakes.

You're not really going to earn any special credit from Gen Z for having that. You have to actually go above and beyond and really rally your entire reason for being of your company has to be founded in that for them to really respect you and resonate with you. And for some people they think "oh I can just build a brand or build a company at the very end I'll just slap something on it and say it's a mission or say we donate 1% to something" and it's like that doesn't really fly with Gen Z. They've seen that, you know the little stamps, little stickers you know that you can put on something that's not convincing enough. It really needs to be a full impact pursuit and so

I think in that way maybe a way that I bring sustainability into my work is really sort of guiding companies that maybe it's not on their radar that they should be thinking about this as a brand. But we can say you're going to fail in the market unless you have an environmental or social mission behind what you do, and if you're not thinking about building that into the DNA of your company and the operations of your company, you're going to fall short in the most important consumer segment that's rising in the marketplace so.

David Warner:

Does that include creating a CSR social program right from the beginning?

Rachel Barge:

Yeah it can be. I think making sure your operations are as low impact as possible, but a lot of times it has to sort of come into the foundations of like are you Manufacturing in the United States are you manufacturing abroad? What is the sort of fundamental inputs, are things organic certified or how are you sourcing? I actually worked for a year for the Business Council on climate change which is a CSR Group in San Francisco and that was all about three people

stuck in the office of a big corporation and once a year we push a PDF report and print it out and we say here's what we measured. Or here's what we did way back then.

It's still an emerging field and for people it shouldn't be a siloed thing. It shouldn't just be that we did this light measurement of everything else and then over here we said something; it should be really baked into every single department, every discipline, and that's I think where the whole field has gone. So I love that CSR has broken out of that shell. It's not just like a side office anymore and it's something where supply chain and finance and HR or talent, all these departments are now engaging in those topics versus it being in this little corner and it's like one person's job to produce the report once a year, which is what it felt like when I was first starting out. So I think there's been a big Improvement in that.

David Warner:

Thank you. Paul now as a consultant, what's giving you the reason to get up every morning? What gets you excited?

Paul Jacobs:

Well I can tell you consulting is much more lucrative than government work, there's good days and bad days. You'll have good clients and bad clients but no really it's all about sustainability and continuing that mission. I truly believe that it's our marching orders, each and every one of us to leave this world better than what we've inherited. And my parents' generation and my generation have not done a good job. All of you are very young, here is a beautiful daughter, we need to really step it up and we can't sustain the amount of carbon we're burning every day. One good example is when our famous Hollywood governor was in place— Arnold Schwarzenegger—I was very lucky to get selected and sent over to Beijing to help them prepare for the 2008 Olympics to deal with air quality issues. And I was amazed by what I learned there, how advanced they are in terms of solar energy, wind energy, and the like. You know here we are, 5% of the world's population or 4%, burning 25% of the world's energy every day in the United States and they're 25% and they're burning the same amount. So we are way out of balance.

I do a lot of work with folks over in Europe, like I said, this German accelerator project. I have clients in the UK. So they're the big consumers like we are as well, and we really need to think through our energy consumption. We need to really step up the choices. The gentleman from California trout said it well earlier today that zoom's been a good thing you know. We don't necessarily need to drive to all these meetings or fly to all these meetings. We don't sit there and think , we fire up our car... I don't want to bore you with boring engineering stuff but it's 19 pounds of carbon we're cranking out every gallon of gasoline we're burning. 23 pounds with a gallon of diesel fuel. So you multiply that out times 55 million gallons a day that we burn alone just in California. It's staggering. And we really need to think through the way we're doing things.

You mentioned buildings. I learned a lot about this at the energy commission. We really need to think more about energy efficiency. Yah we're in the process of banning natural gas combustion.

We're going to heat pump water heaters and heat pump HVAC systems, better fenestration windows and the like, the building materials and the like. Then all our energy efficiency is put into the appliances—I've learned that if you all get a chance, lighting is huge. Take a tour of the UC Davis lighting laboratory, its California Lighting Technology Center. Professor Michael Siminovitch, one of my favorite guys to work with, he's also developed these in Mexico at the University of Guadalajara and also in southeast Asia.

And we need to do more here, because just switching from incandescent to compact fluorescent made a big difference but going all the way to LED is huge. And that's a 95%-98% savings in energy. So we all think about traditional combustion, firing up our lawn and garden equipment, or you know cars or whatever the case may be, but there's a lot more to it. That energy is coming from somewhere.

Water consumption is another thing. I learned a lot about this water energy nexus during my energy commission days. Really never gave it a lot of thought. Takes a ton of energy to pump water, especially in those big high-rise buildings, water just doesn't naturally get up to the 58th floor. Then you flush it down and it has to all get processed. I have a lot of good friends that are in the water management and sewage treatment arena and that takes just tons of energy. So we really need to think holistically, think about our consumption, educate others, and believe you me: engineering can fix a lot of things but we need to have social change. There was a lot of discussion earlier today about the politics of all this and the whole legislative process. It's been a lot of years...actually I think most of my gray hair came from dealing with the California legislature more so than dealing with all the litigation. It's a workout but it's a necessary environment. That's how you make change and you can't give up. And you got to work very cooperatively with each other as well.

David Warner:

Thank you Paul. Karina, when you were a student what was the thing you probably never envisioned you doing? I'm going to define, actually redefine that, a student at Berkeley not you, but what was the thing that you never would have guessed you would be doing today?

Karina Gulati:

Well truthfully I didn't see myself in this career. I always saw myself working in marine ecology research and one of my passions especially when I got into college, I said "Oh my God, I can continue doing research." And if it wasn't for covid I would have gone to the Tahiti Gump Station and continued doing marine ecology research. However, I fell into consulting by chance. And for all you CRS students in the crowd, Handshake does work. It is very effective and that's actually how I found my first job. I started off my career journey at Capgemini Invent working as a life sciences consultant, and that's actually where my passion for consulting started, where I got to work with large pharmaceutical companies like Pfizer, Mederma. In these last 10 months at Deloitte I got to lead the Europe, Japan, US, and Canada onboarding for their sales representatives at Mederma to get health care accessibility, to get vaccines to people all over

the world. And I think that's one of the most rewarding things that I could be doing, and I think for me what I didn't know is that consulting, what it really does is you get to work to transform businesses.

And I don't think that conservation is something that's specific to just Berkeley students or just the major. It's something that the world is transforming into our new initiatives as Gen Y kids are growing up, we're all working towards making the world a better and more sustainable planet. And that's exactly what we're doing at Deloitte, whether it's part of being part of the sustainability and green initiative community at Deloitte or helping large pharmaceutical companies, which as many of you probably know is very bureaucratic in its thinking and very old school, we're helping transform those business processes and business models into something that's more sustainable to help us make a better world. So as much as I think this Rausser Community might not like the corporate world, I think we are continuing to make an impact and be able to make this a better place by not only collaborating with large corporations but also doing pro bono consulting with nonprofit companies, for example. So yes CRS has been really great in helping transform the world, thank you.

David Warner:

And Elizabeth, what gives you hope in regards to the challenges facing our global community from the environmental perspective, through the lens of your job?

Elizabeth Fastiggi:

I can provide a specific example actually, within the agriculture industry. So a really quick 30 second tutorial: when I say agriculture I'm looking from a customer client perspective, I'm looking after the whole agri food value chain, so all the big crop companies. I know some of those names are bad words in this environment but you know they're big companies that make all those seeds and all those crop protection and fertilizer products. There are very large equipment companies that are responsible for the data that we're actually able to collect on farming, which is a huge benefit and opportunity that we have now. And then there's all these midstream companies that process all that grain and protein and fruits and vegetables, and there's hundreds of companies that sit across that landscape. Very large enterprises, old guard companies, and a lot of early stage startups that are challenging the status quo and really pushing a lot of the innovation, which is awesome.

However, what you have is a lot of siloed information and activity across that whole value chain. And again, from a systems thinking perspective it's not a value chain. It is a system. It is an Agri food system, right? And there's all these interdependencies and all these different complexities between all of these different players because of the nature of the product. And what we had been seeing was a lot of innovation, especially data enabled, and the use of IoT and machine learning and all these incredible capabilities that are really providing a lot of insights into what's happening in a particular part of the value chain. But nobody was talking, and nobody was sharing that information in a way that it needs to be shared so that you can actually look comprehensively across the whole value chain and go "Okay, where are those inefficiencies? Where do we need better connection points between all those different players to actually make

things more efficient and to ultimately deliver what the consumer really cares about, whether it's Gen Z or otherwise.

Right now we have no capability at scale to actually deliver a carbon neutral food product or any of these things that we might aspire to. So there's lots of cool projects happening but to really do this at scale, at the level at which our food system operates, is pretty much impossible today. But the bright spot, and what gives me hope, is the connection points that I'm starting to see and where we sit as a technology provider. I'm having those players come to us and say "Okay, we get it. We need to be sharing information and collaborating across the value chain. Can you guys help us do that and connect those dots from a technology and data standpoint?" And that's ultimately how we're really going to get to some scalable solutions within the food system. So that is actually very hopeful.

David Warner:

Elizabeth, I've got a follow-up question. I don't know but since Amazon acquired Whole Foods and then through Whole Foods you had the DNA of John Mackey, who wrote basically the manuscript on conscious capitalism, which was "honor the value chain from the growers, the seeds, all the way up to the final retailer experience to the final consumer experience." How does that fit or have you seen it fit in the Amazon as since the acquisition? And what has it been, four years now five years something like that? It's been longer than that. How does that transfer or did it transfer well?

Elizabeth:

Okay so from a technology standpoint, Whole Foods is a customer or client just the way anybody is in that ecosystem from the Amazon web services perspective, right? There isn't anything unique about what we're doing with them versus other customers or clients. So they are a very major influential retailer with a lot of purchasing power in that whole system and Amazon has other food businesses where there are synergies obviously, between them and and between Whole Foods. But I think Whole Foods is a really good example of a retailer who was having a pretty intimate conversation with their consumer and that kind of set the stage for a lot of what we're seeing in the food system where you can say "All right they they were large right? They grew organically and also through acquisition." And so it sets a model and a tone for knowing what is possible when you are deeply connected to your consumer and you're also deeply connected to your supplier's upstream, and you're playing that role connecting the dots in between.

David Warner:

Thank you. I'm going to open up to the crowd, so hopefully there's a lot of questions out there for all these wonderful panelists. Just raise your hand and go for it from the students who are looking for ideas of what maybe they can mold their current educational platform into and

maybe some of the professors who want some other advice on their programs that you see. Any questions?

Audience member:

Hi, I was wondering if any of you have ever regretted going into the corporate sphere and why.

Elizabeth Fastiggi:

Okay well the answer is no, but it's not what we call one way doors versus two-way doors, I mean, there's a lot of fluidity between them. So I think that if it turns out to not be the right decision there's plenty of other options.

Paul Jacobs:

And just to follow up as the regulator, the enforcer...I went all through Catholic school. I'm used to that enforcement, the priest would just whack the heck out of us, and especially when you have an older brother... but this is a good example. Amazon in my opinion is an exceptional company. We had one little issue with them when I was at CARB, had an enforcement action, and after that I went over to the energy commission, we found some little issues... your legal department is phenomenal. Love those people. "We don't want any more problems Mr, Jacobs. No more press releases, nothing." They just went beyond what one could imagine to comply. We'd just give them the [inaudible]. Is that what it's called? Wou a little control number for every little product you buy and they would block the sales of all these products coming into the state of California, be it incandescent bulbs or consumer products, automotive parts, aftermarket parts, cycle beaters and all that stuff, you know, illegal software. So there are great companies out there. You're not going to hear me say that about a lot of the car companies and definitely not about when they had to regulate tobacco for second hand smoke. Definitely not going to say that about the oil industry. But for Amazon I hold them to, they're just wonderful. So there is a lot of good Synergy with government regulators and the private sector going on.

Kristina Gulati:

And at least speaking from a consulting point of view, I think a lot of the companies, whether it's Fortune 500, midsize startups, or even new IPO companies, they look at us as subject matter experts. And because of that we're able to make a really impactful change upon the business models that companies eventually will Implement. And we do help with end to-end solution implementation from that perspective, but I think one of the things that I really liked jumping into the consulting world as opposed to going into just a normal tech company or normal biotech company is that you have the opportunity to work with director level executives because if you were able to enter into just a normal text company or startup you would just be doing your day-to-day job, whether that's coding whether that's writing Sops and you wouldn't be having an impactful change on the entire business. But I think one of the things that I've really liked about consulting is that you work with director level executives to make impactful changes upon the

businesses that you work with, whether that's helping make their business model more sustainable, getting more healthcare accessibilities to places that don't have accessibility or aren't able to buy vaccines for example, especially during the covid pandemic. We're able to help with that and I think being a part of that in the corporate world has been really impactful for me.

Rachel Barge:

I think maybe what is partially behind your question, you said, do any of us regret working in the corporate sector or the for-profit sector, maybe you're asking well if I were to work in that sector would I regret it? Or is it something I should go towards or avoid? I think that the best thing you can do is just sample as many possible work organizational types as you can in both college and early post career. Try to work for a nonprofit, try to work for a local government, try to work for a startup, which is very different from working for a big corporation, maybe try to do a stint or an internship at a corporation. And you can learn so much about yourself by getting into those environments. I learned corporate environments are like kryptonite to me, they're so structured and they're bureaucratic.

I remember I was working for the American Automobile Association launching a hybrid electric car share to the Bay Area market, and I was like we were nested on under the corporate structure of AAA but we were the separate Innovation lab and I was chastised for speaking to the CEO of AAA in an informal casual manner in a joint innovation session, because you know he's three levels above you or like probably like 10 levels above me. It's like you should never speak to someone who's not, you're embarrassing your director and the director above them to speak directly to that person. I was like well I'm very sorry I've only worked for startups. I worked right with my CEOs and if I thought their idea was bad I would say that I don't agree. That's not a good idea and I never had any knowledge that I would be impolite or I wouldn't be conforming to the corporate culture if I were to speak out of turn or speak to someone above me. And so I probably learned for myself I don't fit in so well in a more you know top down, you have to be very polite in corporate culture.

But I'm really glad I had that experience because now I know that about myself and I can work more as an outsider than a consultant. So I think the best thing is to figure out for yourself what type of organizational work style is most exciting to you and where you want to try to agitate and make change. And some people love making change from within. Some people love making change from the outside and there's lots of different ways to do it.

Jenna Cavelle:

I do not regret it at all. For me my purpose in life is to mobilize and activate people around social change right? Like that's why I'm here, and when I left CRS I received a postbac prize from Judith Stronach and I went to the Paiute Indian reservation to complete my research there. And it was community service-based research and I worked very closely with the Tribe and very closely with the community NGOS there for a very long time and we made a lot of progress, me and my team but ultimately I was not being effective at getting The tribe mobilized around

recovering their water rights. And it wasn't until I made a movie about their story and put their face and their story in front of them and in front of the world that I started to see the kind of change that I was seeking. After leaving this program, from there, I decided that I wouldn't go into policy, which is what I thought I would do and instead I went to USC and I got my masters in film. And I thought I would continue telling stories about marginalized people and their plights, and it was there that I realized that the responsible thing to do was to give access and resources to those people to tell their stories. And there was no better way to do that than to understand the intersection of commerce and art and no better company to do that than Disney. So I pivoted and Disney's a great company. It reaches a lot of people that a lot of their product has something to say and is moving the needle.

I'm finishing my final quarter. I graduate on June 16th with my Executive MBA from UCLA and I start in their law program at UCLA in the fall. So I don't really know where this is going or what the question was but I guess what I'll leave you with is that I do remember this sort of tension here as a student between the public and the private sector. And I left here feeling like "oh it's about being in the public sector." And my husband and I, he's an engineer. He's sitting in the back and he works for Dupont. And we often joke like if Nancy Pelosi knew what we're doing, she would just cringe, right? But I think that ultimately, what CRS gave me was the confidence to be curious and to know when to change the tool that I need to change to get done what it is I'm trying to do. There is no right way. It isn't about being in the public sector or being in the private sector. It's about figuring out what it is that you want to do, what is it that you're trying to change, what is the legacy that you want to leave, what Tribe do you want to work with, and how do you get there? And that might be in the public sector. It might be in the private sector. It might be making a movie. It could be anything. It could be going to business school. It could be going to law school, we'll see how it works out, but I think you just have to stay curious.

David Warner:

That was great and I I actually want to double back on that because I personally feel the same, that you have all these different sectors that you go through... you got the CNR experience you, got the public school—greatest public school in the world—and you've got your corporate, you got your NGOs, and then you have all these tools that you can apply to create global change. And it's where you personally feel where you can make the biggest hit and then knowing that compass setting is probably the most important thing. Get that compass of setting right and then use the tool to get you there the best. And the dignity of what CNR brings and morality and the environmental sensibilities that it drills into you are sort of the foundation for making the best choice. I mean that's the best part of the CNR experience. Any more questions?

Audience member: Just to piggyback on your comment. I'm finishing my MPH Cal this semester. So I actually had a question about inspiration, and how do you know you're actually making change, real change in the world? I think a lot of us want that for our families, for ourselves, to leave a legacy and know that at least we did something good in the world. But how do you reach out to other people? That's my question. How do you get that network so that you can make change?

Paul Jacobs:

I think first off, what's measurable for me is air quality. So when we created it, it was governor Reagan at the time then ultimately President Reagan. The air resources board, in 1967 we violated the federal smog standard in that Greater Los Angeles area over 300 times per year with roughly 4 million people living down there. Today we're down to about 75 days per year, with roughly 18 million people there and we're looked upon in California as the world leaders in doing this. Same with our climate change program. So that's very measurable. We're looked on as the world leaders with energy efficiency, what I mentioned you know, building energy efficient appliance load and the like. So it's measurable. And as I go out and always remind people, we can go out and treat water and make it generally healthy. We have very good water quality standards. I'm not a fan of a bottle of water, believe you me, we've got a big plastic issue, but you can go even buy water. You can't do that with air. You just can't go out and you know 12 liters a day we all consume of air. It's a lot. So that's something very fundamental to everyone so we have to make sure we protect that right.

And none of us can survive without it, and how do you make that change? You've got to start young and educate folks. So I was lucky. My wife is now a retired science teacher, but I had her right there to go talk to her students all the time. It's just not earth day, it's every day. So get in and talk to young folks and make them aware of environmental issues and what the consequences are and that's ultimately how you're going to make change. And start building a network with your colleagues and you will see change.

Rachel Barge:

I think another thing I'm realizing about the CRS and the value of this approach is that there's a foundation in ecosystems and science in the interconnected web of actors that are participating in any one given place. And when I'm looking at the ground squirrels popping up and looking at each other I'm saying "okay they're taking care of themselves. They're doing their jobs and they're fundamentally trying to survive in this environment as an individual actor but also as part of a group." And when you learn about animals and insects and birds and plants and all the factors that come together, each of them has their own unique motivation, their own unique needs, their own unique sort of framework for how they're trying to be successful in their environment to just survive, right?

And I loved the storytelling of that with ecosystems when I was in CRS. And when you apply that to people, companies, corporations, governments actors, I kind of see it the same way. I think these are all people that have their own motivations, their own needs, they're trying to survive. They're trying to thrive, they're trying to make a good pathway for their children. They're trying to be a respected actor in their organization that they work for. Everybody's got a motivation and everybody has a need that you could tap into to influence them and nudge them and push them.

But maybe the thing you tap into isn't, "you should do this thing because I'm telling you to do it" or "we should all have the same values and we should all care about the same thing or we

should all resonate to the same messaging." Something you learn a lot as a marketer is that you have to kind of meet people where they are, and figure out what motivates them. What do they need? How can you help them? How can you make it a win-win, versus like a top down "I'm pushing you." And I think I was able to apply some of that ecosystem thinking to just mapping power actors in a situation like "how do I get this corporation to comply? How do I get these people to change? And so I'm thinking about it a bit more holistically and with mutual respect. Like their needs are real, they're valid. Their different worldview than yours is valid but how can we find middle ground or common motivation to pursue? And I think that's... I see lots of commonality in how everyone's approaching their work even though our disciplines are very different. We're trying to be activists and make change in these different organization types that we're in and it's unique. It's great to see everyone in this room doing that in different ways in their fields.

Elizabeth Fastiggi:

Can I just clarify your question? Were you also asking how you build your own personal and professional network, like what sort of tricks of the trade? I just want to clarify and make sure we're also answering that if that's helpful.

Audience member:

Yeah I'm just wondering in general how do you get started with creating your network.

Elizabeth Fastiggi:

Yeah so first of all it's a really good question because it's probably your number one most important tool as you navigate your career and the world, and especially if you take a nonlinear path because there are going to be some pivots along the way and it's often your network that that helps you make those pivots, that helps you find the next thing, that is part of that that pivot and that journey.

And I would say, I think it looks really different across the arc of your career because when you're in school and you're just early out of school thinking about grad school, you know, all those kinds of early phases, people want to help. People are generous. When a motivated student contacts me, looks like they've done their research, they have an informed sort of take on what they'd like to talk about, I always take those meetings. I always make time for them, and anybody on this panel would. You know other folks that are further in their career will and then you're going to pay it forward. Then you're going to help folks, or you're going to take those phone calls, and over time it's just this fabric that you've created, this incredible network that's a really beautiful thing.

So I think it's just it's being right, it's seeking out folks that you're interested in their perspective and then just approaching them in a really genuine way and then doing what you can to nurture that network. I mean sometimes it's just something like "oh I was thinking of you or I saw this article" or you know you forward it to somebody with no agenda, it's just how you it's just it's just building something over time. And then continuing to invest in it by also paying it forward to

others. And it truly is the most valuable part of being a professional because it is the network that helps all of us accomplish what we want to accomplish.

Audience member:

Especially post-covid think the through line between consulting and big corporations and startups and entrepreneurship is technology, data, and I'm wondering how you use that to support the values of CRS.

Elizabeth Fastiggi:

Yeah that's a lot. That is a big question. So the reason that I was making that connection between the education that we all are the benefit of receiving from this institution is this whole space of Artificial Intelligence is moving so fast. It is moving at a velocity that no one has ever seen before. And when and when anything moves that fast there are externalities and unintended consequences that you couldn't have even thought of because it's just...even if you're trying your hardest there's just things that you might not have thought about. There's many orders of magnitude of impact and effect so I think that systems thinking, that ability to see patterns, think about externalities and how it's all connected, I think that's an incredibly valuable capability to bring to that space.

And then this whole concept of what we all take for granted about the value of interdisciplinary learning, different perspectives coming to a challenging problem. If you're in this college and you're choosing one of these majors it's because you've decided there's something in the world that needs your attention, and so just by virtue of having that perspective and appreciating that perspective and also appreciating "well we don't know what we don't know" but being curious and seeking it, those are those are just all attributes that I think are going to be incredibly valuable as we all navigate that space together because it's going to take everybody really thinking about the impact.

David Warner:

Thank you. I think that should wrap it up, and I want to thank the panelists greatly. I want to thank CRS for creating the base work that created these great panels, thank you.

Ignacio Chapela:

And I want to thank David. Thank you so much.

It is my happy role again to break up what should be a continued and never ending discussion. We should bring the wine in and continue. When we get our glasses and our wine outside I would like to offer a toast to the nonlinear path that all of you so beautifully exemplify, which is really what the path we try to foster, the idea that you cannot have this linear path in CRS students. One of the hardest things to deal with students is that they're so obsessed and worried about other students on campus telling them "you have to your career, we all have this clear

career" and they all know what position they're going to have in each company and all that. I always say, you know, a career to me is what's left behind by this snail moving. You can look back at it and you see where it went.