

Institutional Investor Conference 2020: Why Global Fossil Fuels Exclusion Indexes?

Henry Fernandez: The global financial crisis and its fallout and the pandemic and the deep economic recession that we're enduring have led to risk becoming a central tenet into how institutional investors construct and manage portfolios. Over the last decade, asset owners have become more sophisticated in the way they assess and measure risk. And still, many institutional investors have not been able to close the gap in their understanding, measurement, management, and reporting of risk, and therefore, many of their portfolios are still inside the efficient frontier because they do what somebody would normally do, which is stay away from risk, and therefore inside the efficient frontier.

At the same time nowadays, the investment industry is undergoing a tremendous transformation led by numerous factors including the COVID-19 epidemic, the climate change situation, stakeholder capitalism and nationalism in many countries, geopolitical and political tensions in the world. There are now many types of risks that investors need to consider, and no one set of risk consideration is the same when analyzing assets and constructing portfolios. I am joined by Jagdeep Bachher, Chief Investment Officer for the University of California. The University of California has about 138 billion dollars of assets under management, retirement assets of about 105 billion, an endowment of about 15 billion, and working capital for the University of California System of about 20 billion, all of which is managed and overseen by Jagdeep and his team. Jagdeep has been at the helm of the University of California Investments Office for over six years. So welcome, Jagdeep.

Jagdeep Bachher: Thank you for having me, Henry.

Henry Fernandez: You see investments, you view yourselves as risk managers much more than asset managers. Risk rules drive your thinking. What does risk rules really mean to you, and how does this alter the way you think about investing?

Jagdeep Bachher: Great question especially considering we all are in a risk environment at this point in time. A globally risky environment driven by what has happened to us with COVID-19 and the pandemic. When I think about risk management in the context of asset management, it reminds me that we're getting paid to take risk, and so any return that we're earning is because of the risk that we're taking for those returns that we're seeking. And in order to understand the returns, we need to decompose them into the component risks that we're getting paid for. Going back to 2008, the last time we can remember to have a risky environment, what we typically-- and I refer to as the global financial crisis of 2008 and 2009, two stories come to my mind that helped anchor my own learning about risk management and why we are risk managers more than we're asset managers. Let me share those stories with you.



The first one was-- I recall it was sometime in the early part of 2009, and I remember walking over to the operations team and asking them how much did we own in Ford, General Motors and Chrysler? Why the three auto companies? Because that weekend there was the potential that the auto companies were likely going to need a bailout. And I just wanted to know if the world changed over the weekend what would the implication be on our portfolio, very simply based on how much we owned in those three companies. And I got a response from the team that said, "We'll let you know in a week." This was a Friday when I asked the question, I supposed by Monday we could really see a significant impairment in the market value of these three companies, and if it's going to take us another seven days after that to have an answer, it's too late. That's when I realized that in investment organizations we have a lot of complexity. We have large portfolios and as these portfolios grows, the information related to these portfolios is either available at our finger tips, or most of the time it's available at the custodian. And to try and get that information is not as easy a task as you and I might naturally think.

The other example I'd like to share with you is when we are looking at opportunities and they're advertised with a return, for example, here's a nice triple A bond, it's going to give you a great return. Its investment grade, it's highly secure, and guess what? It fits your nice investment grade bond portfolio. If you look at the labeling and you look at the painting, you might realize that it looks like something that matches a box that you clearly have. However, when you look underneath the triple A bond, you might realize you have mortgages for houses that could go delinquent. How would we ever call them triple A? But the innovation that takes place in the financial industry finds interesting ways to give labels to things that make us feel more comfortable sometimes beyond what the reality actually is. That also was another important lesson for me that you need to understand what you own. Not just how much of it and where it is, but what it actually is. And if you can understand it and you can quantify it, that if the world turns in a way that is uncomfortable at least you know where you're at to figure out where you're going to go.

And so risk rules simply means understand your risks, know them well enough, transparently, so that you can figure out what will happen to your assets when the world behaves differently than you expect it to. And what we're dealing with today is a world that none of us envisioned with the one in 100 year risk, with a potential recession ahead of us. And even the best case scenarios we mapped out or the worst case scenarios we anticipated have proven to surprise us in this particular crisis. But what makes it easier to sleep at night is knowing what I own, more so than why am I not getting the return I expected to get. That's risk rules. It's a mindset, it's human, it's cultural, it's in the DNA, and it's what I like to remind myself and the team every single day.

Henry Fernandez: Jagdeep, those are extremely insightful comments and I almost had that at MSCI I'm on our most advanced and sophisticated clients also look at the world yeah, in a similar vein, which is, what is the risk that I'm taking and therefore, what is the return that I should get out of that risk? And most of the world is structured the other way around, which is they go into an investment and they're looking for a return and then they look at risk as the derivative of the return when what you're expressing is that first is the risk and then the return is the derivative or the payoff of the risk that you're taking. To an institutional investor around the world once they adhere to the framework that you have described in terms of you start with risk and then understand what the payoff or the return of that risk is, and then secondly analyze risk in multiple components, then the next question really becomes--- is how do you operationalize that framework? It starts with the organization of the data, the access to the data, the understanding of the data and the cross correlation of those investments across various asset classes and instruments and the like that may be of the same company, then systems, morals and the like. So how do you and your team at UC investments really look at this saying, and importantly



if you walk us through, what is the trajectory that you follow to get better and better at operationalizing a lot of these components?

Jagdeep Bachher: Risk is really human, and that's my starting point in the framework for risk management. What do I mean by that? For every risk that you think you have, as long as you have thought about a plan or you've created a scenario that helps you mitigate that, it makes you more relaxed about dealing with the risk than if you were dealing with the risk without having a plan in place. So that's what I mean by risk is human, is recognizing that the risks are real, they will come to roost, but you need to have a plan in place. And there's no computer that helps you figure out a plan. There is no database that says, if risk A happens, this is the dataset you need to apply. So it really starts at a very fundamental basic level of risk being a human element, and having a plan for the risks that you're aware of.

Then the next step from there is, well, how can you have a plan if you don't know what your risks are? So you need to be transparent about your risks, which goes back to anything you own you at least want to understand what it is and what is it exposed to. So for example, if all your assets are in the United States, well, could it be that if something happens to the US you might be at a disadvantage? The answer is yes. That's why we bring in the concept of diversification. Thinking about making sure that if you have a risk that comes home, you have the ability to weather the storm by having not all of your eggs in one basket, but having different places in which you're managing your risks. So the human being element thinks about how do I diversify my risks and then have a plan so that something goes wrong that I can't see, I can actually find a way to navigate my way through it.

And to diversify your risks, you can only do that if you truly understand what you own. And what I mean by that is we have a tendency sometimes to invest in fund A, or fund B, or fund C. Well, a fund doesn't mean anything. What matters is, what does the fund own? If the fund is invested fully in China, then your real risk is exposure to China risk. If fund B owns everything in Brazil, then your real risk is the fact that you own a little bit in China and a little bit in Brazil. So that is critical to being able to navigate the risk landscape. Now, once you build out that cultural mindset, you can then start to make progress on the datasets you need, the systems you need, and the models you need. But the data, the models, and the systems coming together with your securities that you own, your transparency starts to paint even a better picture for you as to how things might behave in the future. And that then starts to give you reporting, which as risk managers in an organization, and if hopefully everyone is a risk manager, you can look at these reports and start to say, well, what do I do with these?

And to operationalize this human aspect of risk, this cultural risk, you will fail if you don't put the data in place, if you don't put the systems in place, if you don't put the models in place. And many people might acknowledge the human side of it, but then they might not put the technology in place. And I think that's what we found out in 2008. A lot of people recognized the importance of risk management, but they didn't build the risk infrastructure to actually implement that risk mindset. And so you saw a proliferation after 2008 across the world, everybody said, we need a risk system, we need risk information, we need a risk report because we can't have this happen all over again. Well, that's fantastic. And that's the piece that we all tried to call risk management in many organizations. I don't call it risk management, I call it risk measurement. That's just trying to quantify whether you use measures like value at risk or different measures to try and get a sense of what your existing portfolio will do based on historical datasets.

The next generation beyond that from a risk operationalization is to figure out how might your assets behave if certain risks play out in ways that you haven't anticipated. So if you shock interest rates by one percent, or your markets fall by 20%, or you have another global financial crisis, that gives you some planning for what the worst case scenarios might look like, which is also very important to have,



and I like to call that Risk 2.0 beyond the Risk 1.0 which is measuring your existing risk measures based on the data and the models that you have.

Everything I've described to you is critical to having a proper risk culture in your organization. The human beings, the mindset, the culture, the language, the transparency, the data, the models, the systems, the infrastructure, the reporting, all of that has to get packaged together. Hopefully you're getting a feel by now this is not a light effort, it's a lot of work to put all the stuff together. And therefore the leadership has to be committed to it, it has to start with a tone at the top. But ultimately if you don't do anything with this information religiously, you can completely fail in risk management. So ultimately risk is human to me. And everything supports the human beings in being better risk managers and having the rules in place to be able to monitor their risks so that they can better manage it. And make no mistake, measuring risk is not the same as managing risk. There's a big leap of faith between the two things. Never take comfort in having operationalized the measurement as you're managing your risks.

Henry Fernandez: I can completely sympathize and associate with your thoughts Jagdeep, because risk management is not only human, but it has to be common-sensical. And on the lines of the examples you gave, which is, there's a wrapper, there's a triple A's wrapper, a fund is a wrapper, and then the question is what's inside the wrapper? What's inside the private equity fund? What's inside the closed-end pull of assets for real stake? What's inside a CLO and the rating of that CLO? And I think this is a-- for our audience here, this is extremely important because there is a belief that this process of risk management is something that is largely guantitative and very sophisticated in finance and models clearly in technology, and clearly in data. And it is overtime, but it doesn't start that way. It starts with that human element and that common-sensical approach. I remember after the financial crisis, the most frequently asked question that I had was, how did the MSCI models, whether the borrower models or the metrics models, behave or predicted the financial crisis? And my answer to those guestions often time was, it doesn't take a model to know that an environment in which investment banks were leveraged 50 to 1 was a lot riskier than an environment in which investment banks were leveraged 15 to 1. It doesn't take a big genius or a model to do that, so it was bound to have an accident sooner or later, because the leverage had gone up dramatically in the balance sheet of a lot of these entities.

So that's why I think-- I would add you know what-- I'm sure you would agree that risk is human in nature, it starts with the qualitative questions, and the common-sensical questions, and gradually you can get more into quantitative, and gradually you can build up a sophisticated approach to risk management with sophisticated data, sophisticated models, sophisticated technology. But even that is not going to be a substitute for that human judgement, a human element. So when you look at the landscape in this current environment in 2020, what do you see as those risks that you're looking to understand, manage, consider in your investment process?

Jagdeep Bachher: In the last six years that I've been here at the University of California, the one thing I've kept thinking about-- my own Chief First Officer and I have been discussing is, there's so much more of an intraconnectedness between financial markets and the geopolitics of the world, and even things like climate change. It's not just about the financial markets and financial instruments. There's a lot going on here that moves the markets. And therefore, you have to open up your toolbox or your toolkit to really understand the range of risks you're dealing with as you evaluate the opportunities. Of course the pandemic that we're all addressing right now, that was a one in 100 year event that whilst



we can in hindsight as 2020 say there's lots of reports written up, and yes we could have anticipated it, and we didn't plan for it accordingly, the reality is that caught the entire world by surprise. And that's a new dimension of a risk that we should have expected will come to roost once in a 100 years and it did.

Henry Fernandez: The world talks about many of the events that we have seen lately as a once in a generation, or once in a multi-decade period. When we examine even the last 30, 40 years of financial economic and political environment, you look at the early 1990's it started with the Iraqi - Kuwait war and caused a deep recession that created havoc in the financial markets, you know the time. Ten years later, we had the internet bubble bursting and followed very close by 9/11, which obvious it was a terrorist crisis. Close to less than 10 years later, we had the global financial crisis and the impact that it made on global markets. And a few years later, we had the sovereign debt crisis. I remember all of us being glued on TV about the parliamentary proceeding in Athens for the Greek government at the time. And obviously a few years later, this year, in 2020, the pandemic and obviously there's this deep, deep recession in the world.

So these event don't look like multi-decade or multi-generational events, they look like, for one reason or another, whether it's a bubble in the internet or a bubble in mortgage finance in America, or whether it's a terrorist attack, or it's a pandemic, or is a political or geopolitical event, it looks like this thing-these events are happening more frequently and more recurring. What's your take on that?

Jagdeep Bachher: One thing we have to get used to is recognizing that these risks that we are faced with may not come in long cycles, they might come in shorter time periods. And so being prepared or positioned to manage through the noise or the challenges that come about in shorter time periods, especially when we all call ourselves long-term investors. So it seems like there's a mismatch between the frequency of risks and the duration of our liabilities. And so the one thing to keep in mind is as investors, we have to be clear about what our time horizon is for which we're investing, and being able to stay the course.

Henry Fernandez: So Jagdeep, let us discuss sustainable investing, otherwise known sometimes as ESG investing. As you know, most of the world runs on a free enterprise system, which one definition of it is the bottom-up free allocation of capital from savers to productive investments in a society. As we know from economics, that a system like that always produces externalities one way to another. And as the world has provided more and more information and more and more transparency, clearly there is no surprise that sustainable investing has taken off, because people now understand those externalities better whether they are lack of good governance in an institution, or polluting the environment, or bad social policies in a particular entity. The COVID-19 pandemic and the economic consequences to that have brought ESG investing to the forefront of investors mind a great deal because ESG investing has fared very well during this economic downturn. So what do you think-- why do you think this is the case most recently? And what are the views that you see investments is taking with respect to ESG in general?



Jagdeep Bachher: Henry, a very important question, a very important time to be asking that question because there's a heightened awareness of non-financial risks, and for example, what is going on with the pandemic is squarely about healthcare, and whatever happens to the economy is going to be dependent upon how quickly we can get a vaccine and get people back to work, more so than even what happens in the financial markets. When I think about sustainable investing or ESG as people talk about as well, it reminds me of just even the last five years, if you look at what has gone on around the world there's been a rise of populism, there's been a groundswell movement of populism that has ultimately led to changing political parties, to changing the nature and the leaders that we have in place to run governments and countries around the world.

So companies as a whole have to figure out how are they going to earn their revenues in the future based on the environment they operate in? And if they don't provide the right product for the right customer in the right country, it could impact their ability to do business in that part of the world. As a result, the complexities and the risks that companies face when they're making decisions on how to invest their own capital to earn future revenue streams has become much more difficult now than it ever was, because the customers are very conscious about being sustainable, the companies they do business with, making sure they're green in their practices. So when you put all of these things together, the environment matters to clients or customers of companies. Social norms, social behaviors in countries and in societies matter to your customers. And the governments practices by which you operate also matter. When you put all of these things together, the environment, societies, and governments, they lead to good opportunities, but they also lead to risks that you have to be aware about.

So it's no longer just important to calculate risk and our cash flows based on some future earning stream that you anticipate in a vacuum, we have to put into that equation these factors as you think about how you're going to earn money in the countries and the societies you do business in. If you're a utility, for example, and you're not taking into account a price for carbon, and you make an investment in that utility expecting to hold it for 50 years, or 20 years, or 30 years, and if the regulation changes and the price for a carbon comes into play, which is an environmental factor, it could impact the price of your utility for which you paid today expecting things to stay static for the next 20 years. If your management team has practices that are not healthy to its employees or to its supply chain, your customers can go on social media, on Instagram, on Pinterest or something else and automatically overnight ban buying products from your company. And that can become a movement that can very quickly impact your ability to attract a certain set of customers to earn your future revenues. That's a problem, it's a risk. It impacts your cash flows and it impacts the return for investors.

And last but not least, if you happen to be doing business in a way that is considered bad, governance practices, your customers may tell you that's not a good thing to do and they can ban working with you. And that can become a problem for you that can impair the value of your company's worth. When you add all of these stuff together, environmental, social, governance factors, the way I look at it is risk rules. Your risks are no longer cash flows only, its environmental factors, social factors, governance factors and all the other things that could impact the cash flows that you own.

Henry Fernandez: So as you know Jagdeep, sustainable investing under different labels, it started with values based investing or ethical investing. And in those days, investors were willing to give up returns-- sometimes a substantial give up returns in order to invest those portfolios according to their values and their beliefs. And therefore sustainable investing developed a reputation that it was a form of investing that was partly financial, but partly values-based or ethical based and therefore you will get lower returns compared to normal investing. I think overtime that theory has begun to erode, but it still



exists around the world. And obviously as the manager and director of the large pool of investings-- of investments at UC-- at the University of California Investment Office, you get enormous pressure by the constituents whether it's students or faculty, or administrators or others, about a variety of values, a variety of ethical positions to invest or to decline investments in those areas. So maybe you can shed some light to our audience here as to one, how you go about this approach and make it completely financial, which is one of the hallmarks that you have created there, and then secondly how do you deal with this tension that exists when you get pressure on stopping certain investments that may have high returns because of the beliefs or the values of those constituencies?

Jagdeep Bachher: I actually view our students and our faculty and our staff, and the 300,000 plus constituents that make up the University of California, everybody is part of the knowledge network and our information system. In fact, as a tangible example, I wish we would have listened to our students and our faculty immediately in 2014 when they said you should sell fossil fuels, because you can only imagine that was the right thing to do back then financially. So the good news though is we did listen. We engaged. We learned. And the range of issues varies, because we have such a diverse knowledge base that they're learning and thinking about things, and bringing hopefully as quickly as they learn about it to our awareness those issues for us to think about and consider. At a governance level, the board has expressed through our policy that we will evaluate environmental, social, and governance risks with respect to our sustainable investing framework in the way we make investment decisions on a day-to-day basis and we will look at those risks just like we look at maximizing return, meeting our fiduciary responsibility and our long-term obligations to our clients, and we will evaluate these risks and the way we implement our portfolios. But they leave the implementation up to us.

Henry Fernandez: So your journey on creating a portfolio both in the pension fund and the endowment have been relatively free or very like of a fossil fuel was a long journey. And you have stated in numerous occasions that it was driven by the financial risks. You definitely went on a path of selling down to almost completely of your fossil fuel investments in both the pension plan and the endowment, and put in place a very large investment over one billion dollars in alternative energy in order to ensure that you had an exposure to energy in the portfolio especially as energy assets increase in value you don't want to be absent in that sector and you want to underperform relative to your benchmarks and your measurements. So maybe if you can explain to us the trajectory that you went through to get to this point where you are now.

Jagdeep Bachher: The journey was really about learning from the different viewpoints that exist within the University of California and outside of the university. And after all, we do have some of the best scientists on the planet that are trying to help solve climate change as a crisis. So why not listen to them, in fact from what I recall, one of our professors influenced the Pope in writing the Encyclical on Climate Change. And so if we have that kind of talent at the University of California, we have an obligation to learn and listen from them as to what the impacts are. We also realized that there was as much as for every fossil fuel that-- or any well that's dug, there are wind turbines going up, there are solar panels being put on roofs. And ultimately they're producing similar kind of things, electricity and energy. And so we started to look at did we own any wind energy sources in our portfolio and the answer was next to nothing. Did we own any solar producers or panels-- solar energy sources in our portfolio, the answer was no. So I thought, well, this is interesting, we actually own too much of one thing, but we own very little or nothing of the other thing. That's sort of an easy decision. We talked



about risk management, it's not a bad thing to own some of the newer sources of energy as long as they're profitable in your portfolio. And so we started to look for those.

Henry Fernandez: So let's go deeper into climate change and clearly sitting in Northern California and the San Francisco Bay Area that you are at a time of historical wildfires raging through communities there, it feels very direct and very impactful. So it's clear that climate change is the number one issue of our generation, and I wish it were only our generation, but is also our future generations. And it will have a significant impact on portfolios.

Jagdeep Bachher: When it comes to climate change, we definitely-- there are different camps to this, I'm in the camp that if you listen to the scientists and you look at the temperatures rising in the world, and you look at the impact of global warming and pollution that is coming as a result of climate change, you clearly-- I feel that this is an issue that needs to be looked at. And so the companies that we own and the companies that are squarely in the business of, let's say exploiting oil and gas proven and probable reserves, and they're right in the middle of sort of adding to the global warming, or pollution, or climate change negative impacts. Those are companies we believe could be challenged over the next decade or 20 years, and that's where we have said that companies with proven and probable reserves particularly in oil and gas, we have decided to sell those companies from our portfolio and make sure that we try and find alternative energy sources such as wind, and solar, and hydro, and other cleaner sources of energy that can act as a replacement to what we're taking under the portfolio.

And the nice thing about the other attractive-- the alternatives is if you can get them in the earlier days, as you know with any investable opportunity, the returns tend to be better earlier when you get into those opportunities than when it becomes mainstream and crowded, because then the returns diminish over time. And I think we're still enjoying some of the fruits of earlier investments--- investments in the earlier stages of some of these alternative cleaner energies relative to maybe 10 years from now when it might become mainstream. Wind on the other hand, solar on the other hand, these have become pretty mainstream in many ways. And the attractive returns that we get you've seen them eroding over time. For us that is ultimately translated into public assets and private assets.

And within public assets, when we think about passive investing that's where we work with partners like MSCI, not to try and create customized indices to be able to take fossil fuels out of the equities index, global equities index, but instead work with you to create an off-the-shelf- index that not just us but others can use. But as I said we can be transparent about what we're doing. And that's the approach we take in terms of public equities. And then for the managers that we work with that are actively managing a portfolio of stocks, we express to them our views around fossil fuels and the companies that we don't like to own for the risks that we believe, and we encourage them to think about doing the same in the portfolios they have for us. And for the most part, that is really the direction they have done things with us.

In the case of private assets where you know it's a little harder because you own these assets and these are [inaudible] funds and you typically own them for 10 plus years. We have been finding ways to de-risk our portfolio away from climate change and from energy holdings, because we believe that if you make those investments, they're actually locked in for much longer time periods, they have a higher risk potentially of being impaired if things do not work out from an environmental perspective for those companies. And so we have slowly been selling and de-risking our portfolios, and ultimately at this point in time, I can say after the six year journey, our endowment, our pension plan, as well as our working capital pools are fossil free as per the definition I've shared with you of taking out proven



and probable reserves for oil and gas from the companies that we were invested in with those characteristics in our portfolios.

Henry Fernandez: One of the comments and sometimes conceptions for not weaning off oil and gas investments in a portfolio and substituting them with wind, solar and other forms of renewable energy is the view that that investment industry is still shallow and it doesn't take-- you cannot take a huge amount of investment and the returns are so poor, and part of those so poor returns are actually government subsidies. And therefore, quite a lot of investors have used that as a way of not wanting to get out of their fossil fuel investments.

Jagdeep Bachher: Henry, the problem is so big and the challenge is so complicated that if I was to try and figure out how to solve this problem for planet earth, I would use all the arguments you just did. But I don't have to solve this problem for planet earth, I just have to solve it for my own portfolio, our own portfolio. So in that context, for us, let's quantify the problem. If you were looking at the entire world today, global GDP, about 7% of it pre pandemic was oil and gas and the energy industry, and about another 7% of it was basically the service companies that support the energy industry. That's about 14%. Eleven to 14% is the scale of this on a global basis. If you translate this all the way down to us and our portfolio, let's simplify, if you have 100 billion dollar portfolio, you're talking about a 10 billion dollar question. And when you're talking about a 10 billion dollar question, the bulk of the exposure tends to come from the passive index in our case. So that's where we start looking at our passive equities and look at our exposure in that context.

So as we sort of solve this problem from the big to the small to us, it becomes very manageable. It's a few billion dollars that we have to take out, and we have to look for another few billion dollars to put in. I fully agree with you, but there's more than a few billion dollars of wind turbines in the world. And there are some countries that derive half of their energy or more from solar and wind. And there's a growing appetite even in countries in the Middle East where there's a lot of oil to use more and more solar and wind because of all the land they have. So we're not going to solve this problem in one shot at one time. Our energy portfolio is a mix of energy assets that we have to think about transitioning over time to a greener, cleaner, healthier footprint. And that's the motion of a journey. But if you keep saying I can't do it, I can't do it, when are you going to start the process to begin the journey? And even if progress seems slow to begin with, at least we're moving in the right direction.

Henry Fernandez: So Jagdeep, you and the UC Investments Office have been a leader in the world in ESG investing, especially in the environmental part of that and obviously specifically in climate change and the effect of fossil fuels on climate change. You have also been a leader in defining this problem in the context of your fiduciary duty, I'll say financial issue, i.e. the risk adjusted returns of the portfolio over time and that's highly commendable, because there is a lot of confusion, there is a lot of currents or cross currents that institutional investors have on this topic. So we thank you a great deal for those insights and that perspective on this topic of sustainable investing, which is clearly becoming even more critical and has accelerated in the last few years in the world and in the United States. Thank you.

Jagdeep Bachher: Thank you



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