

Talk on ESG, Climate Change & Sustainable Development: The Way Forward

by

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ABSTRACT

The talk focused on the complementary role of public and private investment for the achievement of the Paris Climate Agreement and the Sustainable Development Goals. It also focused on major successes and shortcomings of the global financial and sustainability agendas since 2015 and highlighted fruitful areas of focus in the future. Dr. Shah addressed specifically the proper role of ESG investing in the achievement of climate and sustainability agendas and where this effort has succeeded and fallen short.

About the Speaker



Dr. Aniket Shah is a scholar and practitioner in the space of sustainable finance, whose career has bridged the public and private sectors. Aniket Shah is the Managing Director and Global Head of Environmental, Social and Governance (ESG) and Sustainable Finance Strategy at Jefferies Group LLC, one of the world's leading investment banks. In this role, Aniket leads the integration of ESG and sustainability analysis within the global investment bank, across corporate advisory, investment research and sales and trading.

Aniket is also an Adjunct Assistant Professor at Columbia University's School of International and Public Affairs in New York, where he teaches graduate courses on international finance and climate change. He is also a Senior Fellow at the Columbia Center on Sustainable Investment, where he leads the organization's efforts on Environmental, Social and Governance (ESG) investment research in the public and private sectors.

Over the last 14 years, Dr. Shah has advised the UN Secretary General on the Sustainable Development Goals. He has also advised several leading CEO's on how to integrate sustainability into their business decision making and some of the largest investors in the world on how to integrate ESG into their investment decisions.

Salient Points Discussed

The world is facing an unprecedented set of challenges with regards to sustainability. We have never actually dealt with the scale of the issues that we are dealing with now, mostly because we've never dealt with the scale of the size of the economy that we are dealing with now.

Despite all of the discussions on ESG, SDG's, COP conferences, etc., we have made very little progress on climate change. We have made very little progress on poverty. We are backsliding on democratic norms. If anything, we are moving backwards and it is crucial for us to deal with it.

Business, whether we like it or not, will either be the institutional force for solving these problems or it will be the institutional force that will put the planetary system into even more disrepair.

Achieving sustainable development will require transformations of how every business operates, including what it produces and how it produces.

The ESG movement has evolved from an awareness campaign to a transformational agenda for it serves its needed role.

It is the balance of market and the state which puts countries on very different parts of a spectrum, and if it is the right balance, it can lead to enormous technological breakthroughs.

There is a need to build a new financial architecture which will provide low cost capital to places in the world that need it in order to finance their infrastructure and their efforts in sustainability.

Every year, the governments around the world lose between \$500 billion and \$600 billion in revenues because of a massive tax avoidance system that has been created mostly by the West, the largest accounting and auditing firms, the largest lawyers, and the largest investment banks.

Setting The Context

POPULATION:

We are living in a period of unprecedented population growth. Since the industrial revolution, we have had a 10X increase in the global population. When Adam Smith was writing “The Wealth of Nations” in 1776, there were around 800 million people in the world. Today we are at 8 billion, going to 10 billion and more. This is largely because of the major advances that happened due to the industrial revolution.

CO2 CONCENTRATION:

We currently have a carbon dioxide concentration that has not been seen for around three million years, and the last time CO2 concentration was at this level in the atmosphere, the sea level was between 6 meters and 18 meters, higher than it is today. That is the fundamental challenge that we're all trying to deal with in the climate community, i.e., how do you have a \$100 trillion economy of more than 8 billion people and bring CO2 emissions down back to planetary safety?

ECONOMIC OUTPUT:

Unprecedented population growth now has coincided with unprecedented GDP growth. During the financial crisis of 2008-2009, there wasn't any real hiccup in the global GDP. The global economy keeps plowing through, whether or not there's a financial crisis or a climate crisis.

PLANETARY DISRUPTION:

We are not just facing the carbon problem. We're also facing a whole bunch of other issues cropping out of planetary boundaries being crossed. The framework by Johan Rockstrom at the Stockholm Resilience Center shows us nine different planetary boundaries indicating where we are in terms of passing the carrying capacity of the planet.

2015: The Year of Sustainable Development

The Sustainable Development Goals were really a remarkable achievement for no other reason other than the fact that 193 countries together agreed on a 15 year development agenda for no poverty, decreased CO2 emissions, gender equality, quality education, and so on and so forth.

Now the unfortunate news is that despite these international agreements and the white papers that have been written, there has been very little progress on **reducing emissions**.



Progress on reduction of emissions has been limited:

We're at around 35 Gigatons of CO2 a year, and if land use changes are added to that, we get to around 50 Gigatons of CO2 a year, a number that hasn't declined at all in the last eight years. If we are on path for the Paris Agreement, it would decrease by 50% from 2020-2030.

Progress on poverty has equally been limited:

The World Bank has a line for poverty at \$1.90 of purchasing power parity a day as their threshold for extreme poverty. It is quasi criminal that we use such a low poverty line.

Progress on democratic norms has been limited:

There's still a small percentage of the world's countries that have a vibrant democracy, where there's free and fair elections, where there's freedom of speech, freedom of expression and so on. The implications of the lack of sustainable development is evident all around us. We have had the highest number of extreme weather events in human history that happened last year that was higher than the year before, the economic damages of these are enormous, the trust in government is declining, and so on and so forth.

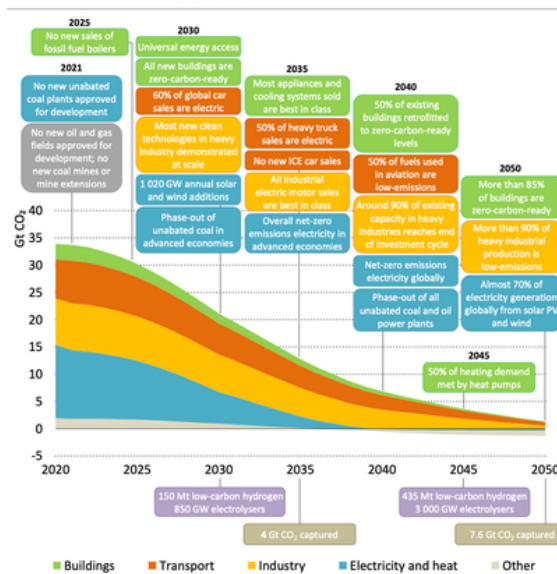
The Way Forward

As of today, there is \$63 trillion of capital that has signed on to be net zero by 2050. \$63 trillion in the last three years has been committed to pushing companies to be net zero by 2050. There is over \$120 trillion of capital globally that has signed on to the principles for responsible investment, which entails integrating environmental, social and governance factors into the investment decision making.

1. Zeroing Emissions In Every Industry in Next Fifty Years:

The first and by far most important agenda is getting to net zero emissions over the next 50 years. The entire physical infrastructure of the world is going to have to be rebuilt. Every car will have to go electric. Every power station will have to be renewable. Our way of dealing with agriculture will have to change. We will all have to fly on planes that are either electric or using sustainable aviation fuel. All of our steel, cement and ammonia will have to be zero carbon. The image given below highlights the International Energy Agency's (IEA) net zero scenario for 2050. It displays the IEA's roadmap for a total transformation of the energy systems that underpin our economies to get to zero by 2050.

Figure 4.1 ► Selected global milestones for policies, infrastructure and technology deployment in the NZE



Source: International Energy Agency "Net Zero by 2050" report

2. Investing and Scaling Climate Solutions:

The total investment in the energy transition has increased by a factor of four over the last

20 years. 2022 was the first year that there was more investment in the energy transition than in the oil and gas industry.

Here's the challenge: For us to be on a path of net zero by 2050, we will need to get to around \$3.5-\$4.0 trillion of investment a year in renewable energy, electric vehicles, hydrogen, etc.

Speaking of technological breakthroughs, Climeworks is a Swiss company that has created the first facility in the world that can remove carbon dioxide from the air. It's like a large fan that sucks CO₂ out of the air and sticks it underground in the form of a rock. If we are to get to zero carbon emission, and then to net zero, we would actually have to be net negative. We really need to remove more CO₂ from the atmosphere than we put out, and technologies like Climeworks are going to play a big role in that. Alternatively, nature based solutions are actually our best way of removing CO₂ from the atmosphere.

3. Integrating Externalities into Accounting and Decision Making:

One of the challenges with sustainability is that we don't pay for a lot of the negative damage that we are causing in terms of air pollution, water damage, CO₂ emissions and all the resultant impacts, but one can put dollar values on all of those externalities. Many corporations actually produce an environmental profit and loss statement which is their income statement adjusted for all of the negative externalities that their economic activity causes.

Phillips, one of the largest conglomerates in Europe, publishes an environmental profit and loss statement every year. One of the challenges of putting a dollar value on the economic damages caused by a business, the financial profits of the business will decrease since a lot of the profits come at the cost of the environment. In a study by Trucost (a part of S&P Global) conducted six years ago, it was found that the total negative externalities caused by the 100 largest companies of the world in a year was \$4.7 trillion. What is remarkable is that this figure is roughly the amount of corporate profits in the global economy year after year. This is an area that is going to become more important for investors and businesses going forward.

4. Improve Taxation Norms:

Every year, the governments around the world lose between \$500 billion and \$600 billion in revenues because of a massive tax avoidance system that has been created mostly by the West, the largest accounting and auditing firms, the largest lawyers, and the largest investment banks. They have created a system to minimize the taxes to be paid. If a govern-

-ment is unable to finance basic public goods, then the amount of private returns going to the private sector will decrease over time. The amount of government revenues lost each year is ten times larger than the amount of international aid given to Africa. It's just a huge amount of capital that is being lost year after year.

5. Paying Living Wages:

This topic is on the minds of investors and business leaders mostly because we have a tight labor market everywhere. There is a lot of demand for workers. There is a shortage of supply of workers. For the first time, especially in the West, laborers have more influence than they had before versus capital. Amazon, Starbucks and Apple have all been going through unionization efforts. Some of the largest strikes are happening across the world.

One of the demands from the workers is that they want to get paid more. They want to get paid a minimum amount of money with which they can support their families. The minimum wage in many countries is just awfully low. In the US, the minimum wage is \$7.25 an hour, which means that if you're working 2000 hours a year, you're making \$14,000 a year. You can't survive in the United States with \$14,000 a year.

There have been efforts to create a metric known as a **living wage**. The living wage is the amount of money that you need to make to put a roof over your head, to feed a family, to pay for medical expenses, etc. A living wage is high enough to maintain a normal standard of living. Now, many investors are pushing companies to showcase whether their workers, across the entire supply chain, are getting paid a living wage.

6. Healthy Partnership between Public and Private Sectors:

It is the balance of market and the state which puts countries on very different parts of a spectrum, and if it is the right balance, it can lead to enormous technological breakthroughs. Large companies like Apple and many others, who get all of their technologies from the US government do everything that they can to avoid paying taxes, to the same institution they source their technological trends from. Thirteen years ago, when Tesla was about to go bankrupt and had no support from any investor, the US government came to its rescue and the Department of Energy gave it a concessional loan that bailed Tesla out. Tesla is now worth half a trillion dollars. Elon Musk is also doing everything he can do to avoid paying taxes even though Tesla would not be where it is today without the government.

Finding the right combination between the state and the market is something that businesses and investors will need to figure out as they move ahead.

7. Promoting Changes in Consumer Behavior:

This has always been controversial since nobody likes changing what they do. There are several companies that are trying to provide products and services that will decrease emissions by their consumers. One of them is the whole plant-based and the meat substitution industry. It's meant for people who eat meat but want a lower carbon alternative. One such company has just got an approval in the US to create cultivated meat, which is meat grown in a lab. Rent the Runway, a clothes sharing company in the US is also taking off. Many other similar companies are trying to change the way we all live our lives and there are continuously more efforts around the world focused towards the same.

8. Building a Financial Architecture that Supports Sustainable Development:

There is a need to build a new financial architecture which will provide low cost capital to places in the world that need it in order to finance their infrastructure and their efforts in sustainability. A country cannot finance sustainable development if it is being charged exorbitant interest rates on its borrowings. This is why organizations like the World Bank and National Development Banks (NDBs) were created. There are many challenges with how the World Bank and the NDBs operate, but there's no better way of getting low cost capital to places that need it other than these institutions.

Q & A Session:



Q: The way ESG has been sold to many investors is in terms of higher returns and lower risk volatility of the ESG portfolio, and the selling point is that ESG portfolio gives better and safer returns since it is representing long term value. That was true until the Ukraine conflict started and all the energy companies started giving phenomenal returns, and all the ESG critiques came out saying, I told you so. What are your thoughts on that?

A: The question really is, “Does ESG outperform or not?”. I say, it depends on how you define this topic. If you ask me what the fundamental problem with the ESG investor community right now is, I would say it is that we haven't been clear on what our reason for existence is. For some, ESG is about making more money, or making higher returns on lower risks. For other people, ESG is about solving the world's problems. It's about solving climate change, biodiversity and so on.

The two will only work at the same time if solving the world's problems leads to higher returns.

It is often not the case that solving global problems leads to higher returns. The reason we have had abnormally high corporate profits over the last 40-50 years is because we haven't paid for the externalities we have been causing through our economic activity. But in the ESG world, we sold ourselves to the world by saying you can have your cake and eat it too. It is always the case that going green leads to better returns. It is always the case that if you are better for your employees, you will have a higher stock price performance.

The multiples on earnings of companies that are involved in the energy transition are significantly higher. The market places a higher valuation on them. Taking the example of Tesla. Even with Tesla stock coming down 50%, it is still worth more than the next five car companies put together.

On the other hand, there are reasons also to believe that ESG has been underperforming on a one or two year basis.

Instead of talking about ESG in the abstract, we have to talk about specific topics, specific technologies, specific parts of the ESG agenda, specific timeframes, and then we can have a better discussion.

So to answer your question, does ESG outperform? It depends on how you define it.

You can build indices using ESG readings that show up-performance, or you can build ESG indices using other readings that show underperformance.

There's a reason to believe that sustainability is a growth agenda, but I would never say that ESG will always outperform.

Q: The Government of India recently has issued green bonds. The government however isn't completely transparent on how they are going to use it. Do you think investors do a complete analysis of such projects before investing in them? How much investor traction are you seeing in such funds?

A: RBI did issue a sovereign green bond a couple of weeks ago. It was issued at a six basis point discount in terms of their interest rates. It just goes to show that investors are actually willing to accept a lower return, or the government is willing to accept a lower return on cost of capital by making this a green bond.

In terms of verification, there are two major bodies that work on this. One is an organization known as the Climate Bonds Initiatives (CBI). The other one includes credit rating agencies such as S&P and Moody's, who are responsible for putting this green label leading investors to say that the use of proceeds will be green. The question is:

What do you call green?

It is a very complicated question. Is natural gas green? Some would say yes. Natural gas compared to coal is a much cleaner source of energy. Some would say no, because if you include all the methane leakages from the natural gas, the resultant warming is actually higher than that from coal or carbon dioxide.

I've never been a big fan of green bonds, I think they're good at getting people to think about directing more capital towards green projects, but as you know, money is fungible, and a company can issue a green bond, put that money for their green stuff while also use other bonds to finance their gray stuff.

For me, the more interesting point is that the entire CO2 emissions profile of the business, including Scope 1, 2 and 3, has to be declining. The important question to ask is "Is the company actually decarbonizing?"

The products that are now out there in the fixed income market is known as the sustainability linked bonds and transition bonds. These are basically the next generation of green bonds, and I think they're going to play a much larger role in helping companies to decarbonize in the next 20 years. Investors are now quite frustrated that companies are issuing green bonds while still financing non green activities.

Q: We see organizations and people, crisscrossing the world in their private jets, wearing high-end clothes, using plastic bottles in their boardrooms, etc. On the other hand, as a consumer, I feel like I am told to give up certain goods and save the environment. What do you say to skeptics like us?

A: I would say that your skepticism is well supported. At large, the efforts around sustainability today have been superficial and they have not gotten to the core of the problem. The core of the problem is that there's a group of individuals, myself included, who live a lifestyle that is completely at odds with sustainable development. If the whole world emitted the way I emitted, we would get past 5 degrees Celsius in 50 years. One may ask as to how that is allowed.

I always go back to the fact, i.e., what changes people's economic behavior is incentives, pricing technology. It costs me \$2000 to buy a plane ticket to come to India. If that plane ticket put a \$500 per ton carbon price on it, the airfare would go to \$4000. I probably would fly a lot less if the flight to India was \$4000 instead of \$2000.

Carbon pricing has always been a major part of the solution because people will change their behavior, not out of volunteerism, but because the prices are dictating them to do so.

Presently, the weighted average price per ton of carbon in the world is \$3, whereas the IPCC says, it needs to be more like \$300 to change people's behavior. How do we get a carbon price like that put on climate, specifically? The only way it can happen is if the government instils a carbon price, and that will only happen if the voters and businesses support governments in putting a carbon price.

The other way to solve the problem is through technology. We're getting there in renewable energy. In many parts of the world, solar and wind, especially solar, is just the cheapest form of energy. The problem though, is that solar is only 2% of the world's energy system right now.

Frankly, I think it is unfair to tell low income countries like India or Africa to decarbonize. The focus should be on countries like the US and Europe. If we want India to decarbonize, we should instead be paying the Government of India to subsidize low carbon alternatives.

I used to be more of a believer in changing consumer behavior. However, my lived experience has shown me that the way to solve this problem is technology. It has to be a technological solution. It won't be through changing a lifestyle. Some of these lifestyle changes are what wealthy people like to say to look good. Having said that, we shouldn't be cynical. Cynicism is dangerous on these topics because there is actually a need for more people to get involved, who would support politicians and business leaders that are trying to solve these problems in a credible way.

Q: Most of these net zero targets are international level. They depend on the evolution of zero carbon technologies. From an investor point of view, what is your current assessment of the scope and future of the development of these technologies?

A: Technological progress on zero carbon technologies is happening faster than what we had anticipated. The IEA in 2018 had said that we have 80% of the technologies that we need for the reductions from 2020 to 2030, but we only have 50% of the technologies that we need for the reductions from 2030 to 2050. In their most recent technology assessment report, they changed those numbers significantly because we were seeing breakthroughs on green steel and on green cement. ArcelorMittal just made a \$120 million investment in a MIT spinout

called **Boston Metal**, which has proven that they can make zero carbon steel. It's an amazing breakthrough. This is happening at a very small scale, but ten years ago, it was unimaginable, right?

We have always believed that there's no way we can decarbonize steel, cement, ammonia, etc. I say, we're actually able to now decarbonize large parts of those production capabilities.

There are two breakthroughs that are needed when it comes to a new technology. The first is the science and the second is the scale.

Today, electric vehicles make up less than 3% of the global fleet. Even the best projections show that at most it'll be 25-30% by mid century. We need that number to be 80-90%.

The other big investment opportunity is climate adaptation. Climate adaptation, for a long time, was considered impolite. The idea was to solve the mitigation problem and then deal with adaptation. Working on adaptation meant that you were not solving the problem of mitigation. We need to now realize that there's a need to do both.

Q: This question is related to an operational challenge, which is data. A lot of the net zero pathways and baseline, especially for investment banks, is based on the data that they get from the clients in the real industry. Most of it is not standardized. Consequently, the baselining would be constrained by the data. Hence, one would think that a lot of partners are not currently equipped to get to net zero by 2050. What are your thoughts on working through that in order to eliminate the challenge eventually?

A: The data challenges around this topic are very significant. They are getting better though. There is a lot of progress happening at the individual company level to better current emissions and future emissions. This is what companies like PwC, Ernst and Young, Deloitte. etc., do every day. The E&Y's Climate Change and Sustainability Services team has increased from a team of 100 ten years ago to 10,000 people now. There are now more people who are working on these issues, but the data is always going to be bad.

Herbert A. Simon, one of the first behavioral economists coined the term, satisficing. Satisficing is a combination of two words, satisfy and suffice. Professor Simon's main insight was that we will never have full information and we just have to make the best of what we have. He backed it with high theory and interesting models.

The point is that we will never have a perfect understanding of a company's glide path to net-zero. We won't be able to predict technological breakthroughs. We won't be able to predict geopolitical issues like the Russia-Ukraine war. To me, the most interesting questions while looking at a company's future emissions are:

- How much money they are willing to spend on decarbonization?
- What are the uncertainties that they have?
- What are they trying to do to solve those uncertainties?

To me, ESG is a question of corporate strategy, a lot more than a question of metrics and data. It involves strategic decisions that businesses need to make, and each business will make those decisions differently.

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