

sustainable

HEROES

green leaders in focus



SUMANT SINHA

ReNewing India

GOVERNOR JAY INSLEE

Smart States, Smart Cities

LAURENCE TUBIANA

Sustainable Europe

CURTIS RAVENEL

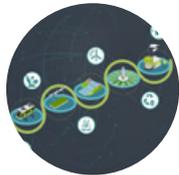
Ensuring the Green Standard

ELISABETH BRINTON

New Energies Strategy

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ReNewing India
Sumant Sinha



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Concept and Design: Gareth Knott, www.lifetimedesigns.com

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Be a part of the Transformation

As citizens of the world, we all have an important role to play in the fight against climate change, the lowering of carbon emissions, and the protection of our planet. With rising sea levels and extreme weather events such as hurricanes, droughts and floods, we are really starting to see the economic and social impact of climate change. Last year, California experienced the deadliest and most destructive wildfire season on record with insurance claims reaching \$12bn as of May 2019. We cannot dispute the severe effects that climate change has on our economy and our lives.

What also spread like wildfire earlier this year was the Next Gen movement. Students across the globe are striking against climate change and the inaction of politicians. In a time of dysfunctional governments due to political polarization, it is even more important for each one of us to be heroes and take action. It is now a time for business leaders and politicians to really step up and lead the Sustainable Transformation.

In *Sustainable Heroes*, we highlight heroes who are doing just that, heroes whose impact is transformational for our environment and society.

In this issue, we interview **Jay Inslee**, Governor of Washington state and 2020 U.S. presidential candidate, a strong advocate for clean energy policies and action against climate change. Governor Inslee recently committed Washington to 100% clean energy by 2045, and he shares his views of the role states and businesses have in the fight against climate change.

We interview **Laurence Tubiana**, CEO of the European Climate Foundation, and France's former Climate Change Ambassador and Special Representative for COP21. Laurence was one of the key architects of the Paris Agreement, and she now uses policy as a tool to shape the sustainable future of Europe. In 2018, President Macron appointed her to France's High Council for Climate Action.

We speak to **Curtis Ravenel**, Global Head of Sustainable Business and Finance at Bloomberg. Curtis is one of the drivers of ESG and sustainable finance, and advocates for the importance of corporations and investors looking at climate

and ESG issues through a financial materiality lens. Curtis served on the board of the Sustainability Accounting Standards Board (SASB) and is a member of the Secretariat for the FSB Task Force on Climate-related Financial Disclosures (TCFD).

We speak to **Elisabeth Brinton**, Global Vice President Strategy & Portfolio of Shell New Energies. Elisabeth has held numerous senior executive roles for energy companies such as PG&E and AGL Energy. Through her leadership, Elisabeth brings operational experience to the energy transformation, and she has dedicated her career to making energy available to everyone in a more sustainable manner.

Finally, we interview **Sumant Sinha**, CEO and founder of ReNew Power, India's largest renewable energy company. Sumant shares his insights on the renewable energy market in India and the importance it has to our climate. He built ReNew Power to help mitigate India's carbon emissions problem and accelerate the transformation of India's energy market.

Greentech is at the forefront of the sustainable industry transformation, working with incumbents, innovators and investors, and empowering individuals and corporations who are creating a more efficient and sustainable global infrastructure. Through sustainable leadership, we can make sustainable change happen. We encourage you to become a hero and contribute to this inevitable transformation. Collective action is needed now more than ever, so let's all join the Next Gen movement, add to their passion and energy, and do what needs to be done.

It can be done!



Jeff McDermott

Managing Partner

On behalf of the entire Greentech family

P.S. We welcome nominations for people you'd like to see featured in future editions. Please send your nominations and other comments to anikolausson@greentechcapital.com

The Transformation

The continued rise of urbanization and increased demand for innovative solutions are changing our infrastructure systems, creating opportunities for cities and businesses. By 2050, approximately 70% of the world's population will live, commute and work in urban areas. According to the World Economic Forum, \$3.7tn will be needed every year until 2050 to fund basic infrastructure.¹ As such, the action cities take in response to climate change and mass migration will have a fundamental impact on the rest of the world.

Cities have already started to prepare for this change, which will require mobility and energy solutions that are sustainable, affordable, secure and integrated with customer-centric infrastructure and services. This creates opportunities for businesses to make an impact and accelerate the Sustainable Transformation.

Greentech operates at the convergence of incumbents, innovators and investors, the most essential players in the Sustainable Transformation of our traditional energy, transportation, food, water and waste infrastructure systems.

Industry Transformation Opportunity

- **Energy** - Declining storage costs, advancement of A.I. and proliferation of clean energy could enable integrated energy solutions to deliver **\$2.4tn of value globally by 2025²**
- **Transportation** - Mobility management, transportation telematics and charging infrastructure can evolve into a **\$1.4tn market by 2030 and reduce CO2 emissions by 60%³**
- **Food** - Improvement in real-time data analytics and precision technology will reduce waste and boost agriculture productivity, becoming an **\$8bn opportunity by 2022⁴**
- **Water** - Population growth drives the need for water conservation and treatment, a **\$1.7tn investment opportunity by 2030⁵**
- **Waste** - Tighter regulatory framework and greater uptake of automation technologies are reshaping waste management markets, which could be a **\$485bn market by 2025⁶**

Greentech focuses on the sustainable impact each one of our clients' transactions has on their businesses, on the industry transformation and on society as a whole. We work with sustainable heroes every day, towards the mutual goal of accelerating the Sustainable Transformation, essential for the future of our planet.

¹ Source: The World Economic Forum; The World Bank Global Environmental Facility - https://www.thegef.org/sites/default/files/publications/GEF_GlobalCommonArticles_July2018_CRA.pdf

² World Economic Forum & Bain 2017: The Future of Electricity: New Technologies Transforming the Grid Edge

³ BCG 2018 Report: Where to Profit as Tech Transforms Mobility

⁴ BCG 2018 Report: It's Time to Plant the Seeds of Sustainable Growth in Agriculture

⁵ World Bank 2016 Report: The costs of meeting the 2030 sustainable development goal targets on drinking water, sanitation & hygiene

⁶ Allied Market Research 2019 Report: Waste Management Market: Global Opportunity Analysis and Industry Forecast, 2018-2025



of Traditional Infrastructure Systems

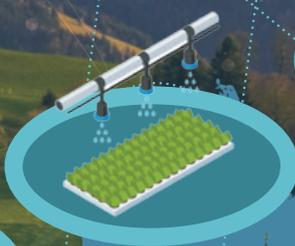
Air & Environmental Services



Sustainable Food and AgTech



Energy Technology



Water



Advanced Transportation



Renewable Energy

Greentech's subsector focus is accelerating the Sustainable Transformation

Smart State, Smart Cities



Jay Robert Inslee is serving as the 23rd and current Governor of Washington state. Governor Inslee is a strong advocate for clean energy policies and action against climate change. He recently committed Washington to 100% clean energy by 2045 and has climate change highest on his agenda for his 2020 U.S. presidential election campaign.

You are a true climate advocate and we are truly inspired by your work. Where does your interest in sustainability stem from?

Coming from Washington state, I have grown up with beautiful mountains, waters and coastlines. My parents were hikers and boaters and we grew up appreciating the natural splendor all around us, and I want the same things for my grandchildren and all future generations. Sustainability and conservation have been part of my whole life, and I have made it a priority in my public service over the past several decades. Fighting climate change is not the only issue — it is all the issues.

You recently signed legislation committing Washington to 100% clean energy by 2045. How will Washington go about achieving this target?

Our only in-state, coal-fired power plant will cease coal-fired operations at the end of 2025. We're going to phase out all coal power imports by that date.

We're going to replace that power with new clean energy resources — renewable energy resources like solar, wind, and hydropower — and other carbon-free technologies that enable integration of variable resources, like energy storage and demand response. Over time, technology innovation and changes to grid operations will enable us to phase out all fossil-fuel fired power generation. We're also going to significantly increase energy



Gov. Jay Inslee



efficiency so that we can maximize the value of our existing carbon-free energy resources.

We believe we can make this transition while ensuring we continue to have affordable and reliable electricity. Clean energy technologies are cost-competitive today, and replacing coal power with clean power can actually save us money in the long-term.

We are also ensuring that the transition to 100% clean electricity benefits all communities, especially vulnerable populations and communities that are highly impacted by environmental pollution. Several important provisions in the legislation will allow for greater consideration of the impacts and benefits to these communities, as well as better targeting of energy assistance that helps reduce household energy burden.

And, we have extended and amended incentives for certain renewable energy projects that support family-sustaining jobs in Washington. This will ensure that our clean energy workforce has a critical role in building the infrastructure we need to make this transition.

What lessons have you learned during your tenure as Governor of Washington state? What successes are you most proud of with regard to your clean energy policies?

In Washington state, we have proven that climate action and a strong economy go hand in hand. We were recently named the best state in the country by the U.S. News & World Report. The publication evaluated all 50 states across a range of criteria, including education, health care, infrastructure, and the economy. The report emphasized Washington's thriving technology sector, as well as the state's aggressive efforts to promote clean, affordable energy.

We are as confident as ever about our efforts to speed up the transition to clean energy.

Do you believe that policy change is the most effective way to combat climate change? What is the role of businesses?

To address this monumental challenge we need business, government, non-profits, and community members to come together with



Ribbon cutting ceremony for new electric vehicle fast-charging stations.

Photo Credit: Forth Mobility

solutions. This will need to be a coordinated and sustained effort. Businesses know that fighting climate change can create jobs and new industries.

We need all the tools in the toolbox to fight climate change. For example, after the Trump Administration decided to pull out of the Paris Accords, I co-founded the United States Climate Alliance, a bipartisan coalition of governors committed to reducing greenhouse gas emissions. Through smart, coordinated state action, we can ensure that the U.S. continues to contribute to the global effort to address climate change. The Alliance's three core principles:

- a) **States are continuing to lead on climate change:** Alliance states recognize that climate change presents a serious threat to the environment and our residents, communities, and economies.
- b) **State-level climate action is benefiting our economies and strengthening our communities:** Alliance members are growing our clean energy economies and creating new jobs, while reducing air pollution, improving public health, and building more resilient communities.

- c) **States are showing the nation and the world that ambitious climate action is achievable:** Despite the U.S. federal government's decision to withdraw from the Paris Agreement, Alliance members are committed to supporting the international agreement, and are pursuing aggressive climate action to make progress toward its goals.

● Who is your sustainable hero and why?

My sustainable heroes are students all over the world who are standing up and speaking out about climate change, as they know the devastating impact it will have on their world.



Photo Credit: Washington state

Global Connectivity For Sustainable Transformation



Sustainable Europe

Laurence Tubiana is the CEO of the European Climate Foundation (ECF), the Chair of the Board of Governors at the French Development Agency (AFD) and France's former Climate Change Ambassador and Special Representative for COP21. Laurence was one of the key architects of the Paris Agreement, and she now uses policy as a tool to shape the sustainable future of Europe. In 2018, President Macron appointed her to France's High Council for Climate Action.

We are impressed by your leadership strategy at the ECF, and greatly admired your work in connection with the 2015 COP21 Climate Change Conference as well as the Institute of Sustainable Development and International Relations. Please tell us about your background – where does your passion for sustainability stem from? What initiatives are you currently working on that excite you?

My commitment to sustainability began over thirty years ago, when I was working on international development issues. The sustainable development approach then recognized that environmental degradation and climate change strongly compromise any hope of long-term development and exacerbate inequalities. It offered a new paradigm: highlighting the limits of the dominant economic system and offering a new basis for a more collaborative and just international regime, working within planetary boundaries. I have since fought for the climate in my successive roles as an economist, political advisor, diplomat, leader of a think tank, and today as CEO of the European Climate Foundation.

Today, I am convinced that we can achieve an ecological transition that is fair and inclusive if we work together, gaining the support of the public. To help make this transition a reality, we need to show that alternatives and concrete solutions exist. Foundations like ECF have an important role to play to support those advocating for sustainable development and calling for bold action on climate.



Laurence Tubiana



You were a key architect of the landmark Paris Agreement in 2015 through your role for COP21. In your view, what's the importance of this Agreement? What success has the Agreement seen to date?

The Paris Agreement is a historical achievement in the way that it has brought all countries into a joint effort to reduce emissions.

Its biggest success remains the way in which it has changed the conversation on climate change. Acknowledging that incremental steps would not be sufficient, companies, investors and governments came together in Paris to adopt a new transformational vision, which has continued to develop ever since.

The long-term temperature goal included in the Agreement – which was for a long time considered unrealistic – has now become the main frame of reference. We are now also talking of carbon neutrality as early as 2050 for many countries, with others to follow shortly after. Conversations are taking place about what this means in practice: such as the need to move away from fossil fuels by 2050 and the need

to shift industrial production as a whole (e.g. in the automotive industry).

Last year, President Macron appointed you to France's High Council on Climate Change. What does this role entail?

The High Council is an independent body, inspired by the Committee on Climate Change in the U.K. It is both a watchdog and an advisor: describing what it means for France to commit to reaching net-zero emissions by 2050, and guaranteeing that France respects this trajectory.

As such, the High Council will also provide certainty and clarity for the private sector and other actors as they plan for their involvement in the delivery of a French transition.

The European Climate Foundation advocates for a Carbon Neutral European Union by 2050. What do you see as the biggest challenges to achieving this goal?

We know that reaching net-zero CO₂ emissions in Europe by 2050 is feasible; however,

the main challenge remains to convince those EU countries that remain reluctant to adopting this objective - especially countries with a high dependency on coal.

What we need to do now is to develop joint infrastructure projects, notably for the electrification of our transportation and integration of our energy systems.

You have been involved in the fight against climate change from a range of different angles – government, think tanks, NGOs, academia. What insights have you gained from these various perspectives?

Nobody can win this fight alone. Governments need pressure from the outside. They need ideas and models to put political rhetoric into action. In the face of urgency, it is essential to work across different constituencies to develop inclusive and efficient approaches that mobilize everyone.

In a recent op-ed of yours, you ask “In a world ravaged by hurricanes, wildfires, heat waves, and droughts, why has it been so hard to garner broad public support for efforts to reduce carbon dioxide emissions and limit global warming to 1.5°C above pre-industrial levels?” You believe that “the answer is all in the messaging”. Can you elaborate on this? How can we change this to gain the support we need?

We have to strike a balance between communicating the reality of the dangers of climate change and avoiding creating a reaction of despair and paralysis. We need governments to act like this is a crisis, but we also need to find a way out. We need to plan for the future we want and start making choices accordingly.

Storytelling and showcasing will play an important role in highlighting our collective capacity to find solutions and innovate.

Can we solve the world’s climate crisis? 10 years from now, what will we look back on and be surprised by?

I think that when we look back in 10 years, we will see these years as a turning point in public awareness about the climate crisis and for different constituencies to understand the need to act and the benefits of acting.

What innovation and sustainable technologies do you find the most interesting and groundbreaking?

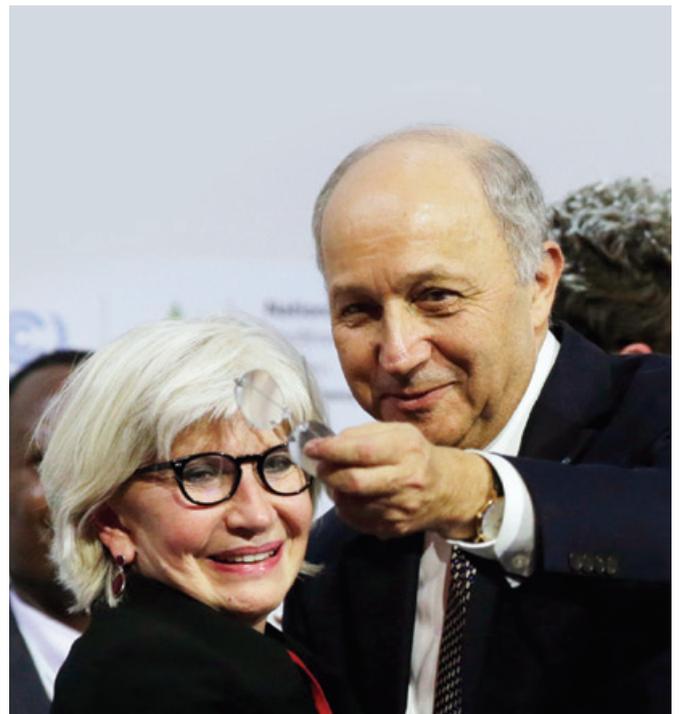
The way that agricultural production is being reframed, putting forward the idea that a more ecological approach to production can be a solution for feeding people is, to me, groundbreaking. It highlights that a lot of the knowledge and solutions already exist and can be used to change our current models now.

In the transport sector, many interesting technologies are also being developed as solutions for zero carbon transport.

Who is your sustainable hero and why?

The people in the environmental movement who began this fight in the 1970s, and without whom we would not have come so far today... and the young climate strikers who stress better than anyone the urgency of taking bold climate action now.

We have to strike a balance between communicating the reality of the dangers of climate change and avoiding creating a reaction of despair and paralysis.



France’s Minister of Foreign Affairs and International Development Laurent Fabius & Laurence. Photo Credit: European Climate.org



Photo Credit: European Climate.org

The Net-Zero 2050 Plan

Climate change is a serious concern for Europeans. According to an EU-wide survey published in September 2017, more than 9 in 10 EU citizens (92%) consider climate change to be a serious problem. On November 28, 2018, the European Commission presented its strategic long-term vision for a “prosperous, modern, competitive and climate-neutral EU economy by 2050”, consisting of 7 main strategic building blocks.

The Commission’s strategic vision is a response to the Paris Agreement’s invitation to pursue efforts to keep global warming to 1.5°C compared to pre-industrial levels. It is also in line with the United Nations’ Sustainable Development Goals. The Commission reported on June 6, 2019 that emission of greenhouse gases from all operators covered by the EU Emissions Trading System (EU ETS) decreased by 3.9% overall in 2018, as a result of a 4.1% decrease of emissions from stationary installations and a 3.9% increase of emissions from aviation, in the context of a GDP growth of 2%.

- 1 Maximize the benefits of **energy efficiency**, including zero emission buildings.
- 2 Maximize the deployment of **renewables** and the use of electricity to fully decarbonize Europe’s energy supply.
- 3 Embrace clean, safe and connected **mobility**.
- 4 A competitive EU industry and the **circular economy** as a key enabler to reduce GHG emissions.
- 5 Develop an adequate **smart network infrastructure** and inter-connections.
- 6 Reap the full benefits of **bioeconomy** and create essential **carbon sinks**.
- 7 Tackle remaining CO2 emissions with **Carbon Capture and Storage (CCS)**.

Source: Special Eurobarometer on climate change, September 2017; European Commission – 2050 long-term strategy; https://ec.europa.eu/clima/news/emissions-trading-emissions-have-decreased-39-2018_en

Ensuring the Green Standard

Curtis Ravenel is the Global Head of Sustainable Business and Finance at Bloomberg. Curtis served on the board of Sustainability Accounting Standards Board (SASB) and is a member of the Secretariat for the FSB Task Force on Climate-related Financial Disclosure (TCFD). He is a galvanizing force in bringing together groups to harmonize environmental reporting standards and looking at climate from a financial lens.

In your role as Bloomberg’s Global Head of Sustainable Business and Finance, what are you most excited about?

We started our team within Bloomberg in 2006, back when we used to be called the “Sustainability group”. Several years ago we changed our name to the “Sustainable Business and Finance group” because Bloomberg really sees sustainability as both business and finance issues. The most important thing we have been able to achieve at Bloomberg is the work on our products and services, simply because of our influence and reach through distribution within the financial and business community. When we build products and services that integrate sustainability into all of the data, news and analytics tools that we have at our disposal, we are able to exert our influence.

We have this running joke that “I was banging on the sustainability door for over a decade, and the door has finally collapsed on top of me”, meaning that demand has really accelerated over the last several years. We were ahead of the curve early on. Originally, we said “build it and they will come”. Now we’re just trying to manage all the requests for collaboration that we receive from both internal and external stakeholders.



Curtis Ravenel

What are the main reasons for the sustainability acceleration?

I see three primary reasons. First, there now is a growing body of evidence that ties performance around broader ESG issues to financial performance and alpha. There are plenty of risk management signals within ESG data – think of the BP oil spill. The second



Photo Credit: Bloomberg

reason being regulatory interest. A number of jurisdictions around the world have signaled quite strongly that this is on their radar screen as a priority, not only from a company disclosure point of view, but from an asset management and financial institutions point of view. And then third, there is a generational shift with millennials. Morgan Stanley states that 84% of millennials are very interested in investing their money in alignment with their core beliefs. This means that we will see a significant transfer of wealth, as much as \$43tn, moving to the millennial generation. Sustainability is a demand-driven trend and these are real drivers.

Looking back to 2006 when you presented your sustainability proposal to the Bloomberg leadership team, did you think it would take this long to get to where we are today?

Every time we talked about ESG we used to say, “in 5 years it will be a big deal”. In the end, it took a lot longer than that, longer than I would have hoped. ESG suffers from the “on the one hand and on the other hand” syndrome; if the investors had the information that they need, it would be a different story.

The availability of data, and history of data, is why ESG is finally taking off. I remember when we launched our ESG product in 2009. Back then there was concern that we didn’t have enough history. Investors love history, especially the quants who want 10 years’ worth of data to make any decision. I remember thinking at the time that the best we could do was to get 3 or 4 years’ worth of data, and I jokingly looked at my watch and said “well, we’re just going to have to wait”. Now we have 10+ years of historical data on a lot of companies. You add that interest, plus the academic research, the rise of machine learning, A.I., big data, natural language processing, and you have got this perfect storm of better information, more history and better tools to analyze the information.

I also think the rise of intangible value is very important. With tech stocks pushing ahead in valuation, there has been a flip flop from book value to market value. Everyone is looking for more information, insight into how a company is managed or their longer-term plans. Frankly, financial information is now commoditized. While ESG doesn’t entirely solve this issue of intangibles, it certainly does provide insight

into how well a firm is managed overall. I think ESG still has a long way to go in the sense that we still need to develop more forward-looking indicators. But I do think ESG helps as a good indicator with how the company will weather through broader forward-looking issues.

Finally, climate has become “the big ‘C’ in ESG”. Between policy related issues around the Paris Agreement, and increased weather events, both extreme and chronic (e.g. water shortages) – there is a whole plethora of inspiring forces that have elevated ESG, and more broadly what I call sustainable finance, to the forefront. I do like to remind people that ESG is technically just a data set: environmental, social and governance data. We look at the overarching spectrum of activity around the space, with green bonds, clean energy investment, impact investing, socially responsible investing, ESG integration, and negative screening, under the rubric of what we call “Sustainable Finance”.

Coming back to your point about data, where do you see the biggest challenge – is the issue that investors aren’t using the data or that companies are not providing the right data?

It’s all of the above. I think historically, as we know, the evolution of ESG data really came more from the SRI (socially responsible investing) community, as they were interested in the company’s impact on society and the environment. So the data sets that evolved around disclosure – the Global Reporting Initiative (GRI), CDP (formerly the Carbon Disclosure Project), etc. – were primarily focused on that outward view: how does a company impact the environment or society? That is not necessarily the same data set that investors interested in financial performance would need.

At Bloomberg, we support and also report against the CDP and GRI frameworks. Their information is extremely important, but can also be confusing to the mainstream investor. Through Mike Bloomberg’s leadership on climate, we have gotten behind the Sustainable Accounting Standards Board (SASB) and the Task Force on Climate-related Financial Disclosures (TCFD), because those groups are bringing a financial materiality lens to ESG issues. After years of research and heavy lifting, they have identified key sustainability

issues that show potential for financial impact at an industry level.

Financial materiality allows for the opportunity to introduce the entire financial market to these issues – it helps them form a better view on the future financial and operational performance of a company. That’s why we, as a service provider to the broader financial community, believe that focusing on financially material ESG issues, and climate-specific issues through the TCFD, brings a benefit to the overall financial markets.

The problem is that we have not priced externalities. If those were properly priced, we wouldn’t have to worry about any of this. If we had an efficient market, markets would allocate capital efficiently. Inefficiency has somewhat resulted in some harm to our planet and to society overall. So ESG analysis serves multiple purposes – it is good for our business, for society and the market – it’s a win-win-win.

What role should the rating agencies play in the sustainable investment evolution?

They are a hugely important part of the ecosystem. I think the primary issue is that we are only as strong as our weakest link and the financial ecosystem has a lot going on. Rating agencies suffer from what Bank of England Governor Mark Carney calls “the tragedy of the horizon” in the sense that they assess companies’ ability to repay debt over a short period of time, and some of these ESG issues are much longer term. Not to mention the fact that they, like the rest of us, haven’t had sufficient information available to do the analysis. This is one of those “on the one hand, on the other hand” cases I mentioned earlier. On the one hand, they should be doing more to integrate ESG into their analysis. On the other hand, they have begun to do that. There has also been a series of acquisitions among the rating agencies to help them bolster their capabilities in the space. Moody’s recently acquired Vigeo Eiris, a green bond and ESG rating agency, and S&P acquired Trucost. The evolution is happening, but they have a ways to go, just like all of us.

What about the equity research analysts, what’s their role?

Equity research has gotten better too. The problem with sell side research is that it is sell side research. If you look at all of the major bulge bracket financial institutions' sell side research, it's pretty good. But, it has not gotten the traction it could because it is on the sell side and not as frequently integrated into their traditional sectoral analysis. At some point ESG analysis needs to become "business as usual". We want every sector analyst to include ESG considerations in what they do. Until it becomes part of mainstream analysis, you will still have adoption issues.

What about the corporations? You could argue that to make sustainability "business as usual", it should fall under the CFO office – what are your views on that?

I agree 100 percent. One of the successful outcomes of the TCFD, and of SASB for that matter, has been the focus on financial materiality. Once you focus on financial materiality, you are talking about the strategy of the firm, its risk management functions and financial analysis, which is the CFO's or the CIO's office. Once it becomes a strategic part of the organization, you get cross-functional activity within the organization. On the flip side, you really have to have financial analysis integrated into sustainability considerations as well.

What can you share about the Corporate Reporting Dialogue's (CRD) Better Reporting Alignment project and its progress to date?

I wrote an article for the Journal of Applied Corporate Finance in 2015 about the need to improve the signal-to-noise ratio and rationalize the issues within the corporate reporting landscape. I think in the beginning of anything, it's really important to have innovative, succinct, and arguably differing evolution. But at some point, in order to reach escape velocity and mainstream adoption, you need rationalization and clarification – a more standardized framework needs to emerge. And for corporate reporting we have reached this point for standardization now.

I think it is also important to note that most of the reporting frameworks were created as "frameworks" (GRI, CDP, etc.), and now we have the emergence of standards. With both GRI and SASB creating a standards board,

there is an even bigger need to rationalize the frameworks.

The Better Alignment project is really an effort to try and rationalize this. And that rationalization is really three steps – (1) where are the metrics the same? (2) where are the issues similar but the metrics different, and how do we try to bring them into better alignment? and (3) where are they different and why?

The first CRD report, which is due in September, will be focused on climate. We started with climate because we believe it's the most pressing ESG issue of our time. Given our work on the TCFD, climate in particular has gained traction as a topic.

Who is your sustainable hero and why?

Michael Bloomberg! The great benefit that I have of working at Bloomberg is that we are a private company, and Mike is a man of conviction. He has the climate and sustainability credentials, the entrepreneurial and business credentials, as well as the financial, government and policy credentials. He has been an entrepreneur, he has been the mayor of the largest city in the U.S., he launched the PlaNYC Sustainability 2030 Plan, he sponsored my efforts to introduce ESG into our products over 10 years ago, and he bought BloombergNEF, our research arm focused on anything related to the energy economy.

In addition to this, his philanthropic work through Bloomberg Philanthropies is hugely influential for trying to decarbonize the economy. It started with a campaign that was called Beyond Coal. Now it has gone further than that and is called Beyond Carbon. Mike announced that he would not seek the Democratic nomination for President and would instead double down on his climate efforts. So, between Bloomberg Philanthropies, Bloomberg LP, and Mike Bloomberg, I have a support framework that is unparalleled. If you believe – like I do – that good policy is necessary to activate sustainability, but that you also need private capital to help usher in this transition to a lower-carbon economy, then there probably is not a better place to influence that than working at a financial information giant like Bloomberg. He is definitely my hero.

New Energies Strategy

Elisabeth Brinton is the Global Vice President Strategy & Portfolio of Shell New Energies. Prior to joining the oil and gas major, Elisabeth has held numerous senior executive roles for energy companies such as PG&E and AGL Energy. Elisabeth brings exceptional operational and global energy market experience to the energy transformation, and has made it her goal in life to make energy available to everyone in a more sustainable manner.

We have watched you through your various senior leadership roles at PG&E, AGL Energy and now Shell. You have proven to be a passionate leader, successfully forging teams and consensus on building low carbon businesses. Where does your interest in energy stem from?

A passion that I have always had is to make a positive difference. Energy is ubiquitous, it is essential to our economic growth, our economy and our everyday way of life. So I thought as a person, if I could make a small contribution in my life to something that is meaningful and ubiquitous, then that is energy.

What inspires me about energy in particular is that we are at this incredible inflection point. In the power and energy sector we have the opportunity to really address one of the huge problems that our planet faces, which is the trilemma of how you have sustainable clean energy that is affordable, reliable and easily accessible. From a career perspective, part of what inspires me is to play my small part in contributing to solve this. It is great to be able to do well by doing good.

What do you see as the biggest challenge with the energy transition and implementation of “new energy” strategies?

One of the biggest challenges is around timing of the energy transition. If you look across any of the data sources, there are different projections. When timing is uncertain and local governments make their own individual decisions, it creates uncertainty



Elisabeth Brinton





over the types of investments you can make.

Another challenge is commerciality: who is going to pay for the energy transition? This will impact companies in different ways, whether you are a traditional utility or an oil and gas major, and it is part of what makes the energy transition work so interesting. Although we have a framework for climate action on a global scale from the Paris Agreement, when you really get down to it, energy gets political, and it gets local. As a result, every different country and sub-region has a different view of how to implement the energy transition (if they even care). So as a business, when you are trying to make commercial decisions in terms of implementing new energy strategies, it gets highly complex.

Does the strategy differ between traditional utilities and oil and gas majors? What role do these players have in the clean energy transition?

Yes, because their core DNA is different. The three utilities (Sacramento Municipal Utility District (SMUD), PG&E and AGL Energy) that I have been an executive officer for have all used

completely different business models, mostly depending on market regulations. PG&E, for example, is a regulated utility operating in California, AGL Energy is a gen-tailer operating in the Australian unregulated energy market, and SMUD is a vertically integrated company. Each of these businesses “grew up” in different regions and from different business models, but they all play a very important role in the energy transition.

When you look at oil and gas supermajors, their revenue engines are very different. Shell is an integrated supermajor, which plays well into the power space. One of the reasons why I chose Shell is because it has made a strong commitment to being a leader in the energy transition. For example, late last fall Shell announced that part of their senior executive compensation will be measured against a reduction of its carbon footprint. This is why Shell is so exciting to work for – they are not avoiding the challenge, but rather leaning into the issue.

What is unique is that Shell has one of the strongest global brands in the world. Shell’s brand is ranked 26th in the world, as independently

verified by Brand Finance. That makes it higher than BMW, Coca Cola, McDonald's, Intel, and UPS, for example. The next closest utility is EDF, from France, which ranks 142.¹

An example of the power of Shell's brand is First Utility, a U.K. competitive energy retailer, which Shell purchased last year and has since rebranded to "Shell Energy". In a survey commissioned by Shell before the re-branding of First Utility, eighty-one percent of U.K. customers said they would buy electricity or gas from Shell. They already know Shell from a fueling point of view and trust the brand. Shell is in a position to innovate and introduce new power solutions. On the industrial side, Shell makes an impact through its focus on natural gas, which is a cleaner alternative to coal.

Shell is seen as one of the most progressive O&G players, with a number of recent acquisitions and investments in disruptive technology companies. Can you share some insights on Shell New Energies' investment strategy? What makes a good investment?

Last year Shell announced to the market that we would invest up to \$1-2bn per annum, and that we aim to produce returns of 8-12%, in the power business. With that return requirement, it is actually pretty hard to invest. That backs into your question on how to make good investments. When we think about strategy, we think about how we shape the portfolio, with the core focus on how to build the best modern integrated power business. We look at what fits and whether it is accretive to the positions we already have in the market.

There are different elements to it depending on what business you look at – renewables and the supply side of the business versus the trading business.

With SENA (Shell Energy North America), we want to make sure we are building a case on top of the position we already have. We look for synergies, goodwill that is actually accretive to the business and the portfolio as a whole. When we think about expansion or other markets, we "think global and act local".

I'm also always thinking about the global portfolio as a whole. What move will make the

portfolio stronger? Is there a strategic fit? We're not a private equity firm, we are a commercial operating business. As a result, we need to make sure each move will help advance the operating business that we are a part of.

Another aspect of being a good investor in this space is to have a passion for leaning into the energy transition and leveraging your operational experience. But, at the same time, you need emotional "dispassion" to make those hard decisions and to say "no". You have to balance leaning in, being bold, but also being rationally dispassionate.

Throughout your career you have led innovation across multiple sectors. What technologies do you see as having a real impact on the industry transformation?

Storage. Obviously, there is a lot of hype in storage, but storage is so important, especially on the liquid side. I am personally really excited about hydrogen. Hydrogen is a dense energy carrier. It is still early days and the cost of the different types of technology need to come down. What is interesting about hydrogen is that regular hydrogen today is not a source of power itself, but it can help solve some of the deep commercial uses down the line. As more and more renewables come online, we will move from scarcity to abundance. What will we do with all that green electricity? Hydrogen can help solve that. One of the things we need to figure out in the energy transition is hydrogen's role in all of this.

Who is your sustainable hero and why?

My sustainable hero is Mary Nichols. She is the Chairwoman of the California Air Resources Board. I have been privileged that she has been and still is a mentor of mine. She is a leader of change over the decades. A lot of people can lead through 15 minutes of fame. Mary sticks with it through all the ups and downs. She balances incredible intellectual curiosity with pragmatism and she knows how you get change instituted. She is an amazing role model, and I want to be like Mary when I grow up.

We think global and act local.

¹ <https://brandirectory.com/rankings/global-500-2019>



ReNewing India

Sumant Sinha is the Chairman, CEO and founder of ReNew Power, India's largest renewable energy company. Sumant built ReNew Power to help mitigate India's carbon emission problem and accelerate the transformation of India's energy market. He shares his insights on the renewable energy market in India and the importance it has to our climate.

What inspired you to get into renewable energy and start ReNew Power?

I began my career as an investment banker in the U.S. and London. Then in 2002, I moved back to India because I thought that India would continue to grow in terms of opportunities and be a good place for me to spend the rest of my career. I first joined the Aditya Birla Group as their CFO and subsequently headed their retail venture. Post this I joined Suzlon as the Chief Operating Officer. At the time it was the third largest wind turbine manufacturing company in the world. I joined to learn more about the renewable energy sector as I had a strong belief that climate change would become very important going forward. I ended up leaving Suzlon in 2010, after the financial crisis when the whole sector was going through some difficult times. This is when I saw the opportunity to set up an independent power producer (IPP). Up to that point, the Indian government had only been encouraging renewable energy adoption through a tax incentive mechanism. But then, in 2009, the government introduced a generation based incentive which really made it viable for IPPs. That's when I decided to raise capital and set up a new wind IPP. In 2011 we raised funding from Goldman Sachs, and that is what got us started.

We now have more than 100 wind and solar sites across India, with a commissioned capacity of close to 5,000MW, and we are constructing an additional 3,000MW. With that combined number, we are by far the largest renewable energy company in India in terms of total energy generation capacity. We have grown



Sumant Sinha



Photo Credit: ReNew Power

very rapidly and we are right now generating approximately 1% of India's total electricity or 10% of all renewable capacity, and helping to mitigate 0.5% of India's carbon emissions. I saw an opportunity to help mitigate India's carbon emissions. India is the third largest carbon emitter in the world. At this point, our carbon emissions are much lower on a per capita basis than any developed country, and only about a quarter of China's. But, if we grow like every other country in the world has grown in terms of carbon emissions, it will be very harmful for the global environment. In India we now have about 80GW of installed capacity between wind and solar, and we are adding about 10-15GW of wind and solar every year. So right now, India is the third largest market in the world for new capacity additions, after China and the U.S. At this rate, I believe that we will probably surpass the U.S. and become the second largest shortly.

In one of your op-eds, you speak about the impact that the Indian government and economy have had on the renewables sector. How do you see these dynamics shaping the future of renewables in India?

The government definitely has had a very big impact on the renewable industry in India. When this current government came in, they set a specific target of getting to 175GW of wind and solar energy by 2022. They have been working seriously to make sure that target is achieved, providing incentives for IPPs and launching the National Solar Mission, and it looks like it will be met. Solar and wind power are now cheaper than thermal energy.

Secondly, they introduced a new government entity between IPPs and the distribution companies (also state-owned), opening up the potential for long-term PPAs and reducing the cost of financing. By these initiatives, the government is naturally helping to solve some of the bigger problems that the industry faces.

I should also point out that before the Paris Agreement, India had maintained the view that our climate change problems hadn't been caused by us. This current government came in and took a very different view. They believe that climate change is a global problem, and we absolutely have to do our part to help. They have been very supportive and proactive. The government that we have had for the last



Photo Credit: ReNew

five years was just re-elected for another five years, which to my mind is very healthy and a step in the right direction. Our Prime Minister is very forward thinking, and he actually won the UN's Champions of the Earth Award in recognition of the efforts he is putting in to safeguard the environment. When this government first came in, ReNew Power had just about 400MW of renewable capacity, and we now have close to 5,000MW. As a company, ReNew Power has had 10x growth over the last five years, which is somewhat reflective of the growth in the industry as a whole. The industry hasn't grown as rapidly of course, but has still grown at about 4-5x, which is quite significant and much of this is due to the government.

What drove your decision to diversify into solar?

When I started the company, wind had already matured as a renewable energy technology. It had been there for 10 to 15 years. Solar was much more expensive back in 2010 and 2011 though. In response, the Indian government introduced the National Solar Mission to build more solar into the grid. It started off fairly small, but our view was that solar would become large with the cost reductions we could foresee happening, so we decided to diversify. Now, eight to nine years later, we have gotten to a point where wind and solar are at roughly the same level of capacity in India, but solar is growing faster, and we believe this will continue into the future. We entered into the utility-scale solar business in 2013, and then in 2015 we started our distributed solar business. We expect this area to grow very rapidly too, with the increased demand for residential

and corporate rooftop solar solutions.

In terms of other sustainable technologies beyond renewables, where are you seeing growth in India?

Energy storage and electric vehicles are interesting technologies; however, they are still in very nascent stages of adoption in India. India has not historically been a good developer of technologies. Rather, we are in some ways good appliers of technologies. So at this point, energy storage and electric vehicles are still very expensive and we are a highly price sensitive country. We need to have costs for both technologies come down before we can start to see larger scale adoption. Energy storage is of course very critical in the context of renewable energy, so that is something that I think we will absolutely see more of. Both pumped hydro and battery storage should continue to grow, but it will be more of a gradual rollout.

I also see micro-grids and energy access in rural areas as big growth areas. There are a few companies focused entirely on this. We, as a company, have done a few micro-grid projects, more from a CSR standpoint than as a commercial venture, because they are very small. You have to keep in mind that a large part of India did not have access to energy or electricity for the longest time. The government has now connected every single village in India to the grid. That still does not mean that every household in India has power. I think that is really what will continue to drive growth in energy and electricity demand in India. Electricity demand is growing at about 6% per year, and so you will probably see a doubling of India's total electricity market in

the next 10 years or so. This would provide a huge demand opportunity for renewable energy and micro-grid solutions.

Can we solve the world climate crisis? 10 years from now what will we look back on and be surprised by?

No, I don't think we can solve it in a 10-year window. I agree with Greta Thunberg that we are moving further away from doing what we need to do; we are falling behind. More voices are being raised about climate change issues, but less is being done about it. There are also large parts of the world that aren't even thinking about climate change as a problem, including the U.S. government. Similarly, Australia has just voted a conservative government into power which doesn't accord top priority to the climate issue. So my concern is that while there is more noise being made about climate change, there is less being done. And, it appears to me that just given the way the political situation is evolving globally, it looks like even less will get done in the future. That is quite worrisome. Therefore, if this continues, if we look back not 10 years but 30 years from now, we will have totally missed the bus. We are doing our best, but we are going to fall short by quite a long way, at this rate.

What advice do you have for aspiring entrepreneurs like yourself?

My advice to all entrepreneurs is to just do it. Just jump into it and try your best. If you are sincere in your efforts, you probably will be successful. At this point we need more entrepreneurs to enter the clean energy space – this space has to really become a mass movement. We need entrepreneurs at the large utility-scale level, in technology research, and in developing and testing new technologies (like rural micro-grids and EVs). I think this sector offers huge and tremendous opportunities, and anyone who chooses to enter it now will be very happy with their decision 20-30 years down the road.

What's next for ReNew Power?

Our intention is to be one of the leading clean energy companies in the world. The way we want to get there, apart from just growing, is by building a strong organization that is highly efficient as an operator of clean energy assets,

and that is able to gather every inch of data from our assets. We have to consolidate our leadership position in India, which is going to be one of the top markets in the world. We also want to make sure that we diversify and start looking at markets outside of India, in particular Southeast Asia and the U.S. We are also looking at some new sectors inside of India, such as transmission. The idea is really to just keep growing our business. As I said, we will be adding 1,000+ MW in the coming year, and will look to add similar to more amounts in the future. We have about 1,000 employees now, out of which we have about 600 based at our various sites across India. We have an internal execution model, meaning we manage in house our own development, EPC work, O&M, and so on, so we don't outsource anything.

Who is your sustainable hero and why?

I have two. The first would be Al Gore. He has done a tremendous amount of work to raise awareness around climate change. The second person would be the current Indian Prime Minister, Narendra Modi, for the amount of work he has put in to promote the renewable energy sector, in particular setting the ambitious target of 175GW of renewable energy capacity by 2022. This target galvanized the entire sector. There was no pressure on him to do that – it was entirely his own target. He came in and said that this is something that we have to do, because it's not just good for the world, but it's also good for India. He has taken a very different view on climate change issues and is trying to make sure that we as a country take on this challenge head-on and contribute to its mitigation.



Renewable Energy

The Indian renewable energy sector is the fourth most attractive renewable energy market in the world per the Renewable Energy Attractiveness Index 2018. It ranked number 5 in renewable energy installed capacity in 2018, with a total of 77.64GW. The government of India is aiming to achieve 175GW of renewable energy capacity by 2022, in response to the Paris Agreement.

Source: BNEF, India Brand Equity Foundation Report.

The Future Heroes

This magazine intends to bring our sustainable heroes and heroines to the forefront and celebrate their achievements and insights into how they are shaping our future.

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