

AAPG SPRING ENERGY TRANSITION FORUM

**AAPG (American Association of Petroleum Geoscientists)
together with PESGB (Petroleum Exploration Society of Great Britain)**

Thursday 19 May, London, UK

2409 words

It was once fashionable to talk about the end of history. The collapse of Communism in Europe and the fall of the Soviet Empire led many people to believe that we might enter a new age of rationality, peace, and cooperation between nations. I remember this golden age very well. It was the geopolitical backdrop to my tenure as CEO of BP and underpinned many of our major strategic decisions.

But it was naïve to think it would last. The demise of peaceful globalisation has come about a bit like bankruptcy: at first gradually, and then suddenly.

The world in which we now live is being redefined by ideology and by values, with whole swathes of perceived wisdom being torn up in a matter of months.

The effects on the energy industry and on the world's efforts to address climate change have been profound.

For a time, it was fashionable to encourage *divestment* of oil and gas interests, because they were bad for the environment, probably immoral, and in any case were delivering sub-par returns. But now, they say we need *investment*, because the market is tight, prices are too high, the world is suffering – and there is great deal of money to be made as well.

For a time, corporate AGMs were dominated by resolutions on climate, with the world's largest investors telling us to vote in favour. But now, it is apparently time to take stock, and reflect on whether these resolutions are really appropriate in this changed world.

And for a time, it was fashionable to focus on the insertion of ESG considerations into every aspect of business strategy because it was what customers, regulators and the public wanted – and because the stock market seemed to like it as well. But now, they say it might be time to focus on something else and kick the ESG can down the road.

All these changing fashions feel more like the acceleration than the end of history, or at least the demise of attention spans.

But while fashions might whipsaw, three fundamentals of society, energy and the climate have remained constant.

First: there can be no functioning economy without hydrocarbons, before well into this century. Their global share of total final energy consumption was approximately 65% in 2019. According to this year's BP Energy Outlook they are still expected to make up around 20% in 2050. The so-called energy trilemma of reliability, security and affordability is still there, even if most people had forgotten about security until recently. This trilemma demands that we work out how to decarbonise hydrocarbons so that their continued use does not irreparably harm our planet.

Second: ESG, CSR, stakeholder capitalism, new forms of growth – whatever you call it, the need to reconcile corporate actions with the interests of society and the planet has not changed at all. We have done a poor job at reconciling these interests in a balanced way, but the urgent need to do so is undiminished. There is no reason to delay and every reason to reinforce the widespread and consistent use of ESG measures.

And third: the big-picture solutions to climate change are still the same. Decarbonisation of hydrocarbons and the supply chains which use them; measures to force energy efficiency and energy conservation; the move to circularity, so that the energy embedded in products is re-used again and again; and the measurement and management of emissions, which keeps us all honest. These are good for all

seasons, and in the case of energy efficiency and resource conservation, are the foundations on which great societies and civilisations were previously built.

Exactly twenty five years ago today I delivered a speech at my *alma mater*, Stanford University in California in which I made the same argument using different words. The year was 1997 and I was the CEO of BP. In delivering that speech I became the first big oil chief executive to acknowledge the link between human-made hydrocarbon emissions and global warming, and to say that there were actions that had to be taken urgently. The speech caused an explosive reaction in the oil industry. The principal lobby group, the American Petroleum Institute, said that I had “left the church”; that surprised me since I had not realised that the oil industry had established one. Multiple industry players damned the speech claiming that there was at least a decade available to determine if anything needed to be done.

Since that time, there have been numerous global climate summits bringing together world leaders, businesses and NGOs. They have proved useful in that they have allowed people to rehearse their beliefs and conform their language. Governments have used them to set great targets but so far they have failed to set out plans for delivery and where governments go, corporations follow. A recent global report found that 20% of companies have made some sort of net zero commitment but, just like governments, they are falling short on delivery. Only 10% of companies with a net zero target have a developed plan to achieve it.

Against this backdrop public attitudes are changing. Consumers are demanding more information about the goods and services they consume, so that they can make informed, low-carbon choices. From air travel to meat consumption, attitudinal changes are translating into climate-conscious lifestyle choices for certain of the wealthier parts of the world. In the US and the UK, more than two thirds of the population think that governments should do more about climate change. In a recent global survey of 28 nations, over half of the respondents said that business is not doing enough, and three quarters said they worried about climate change.

So how do we move forward? There are four things I believe we must do.

First we need to increase the level of investment in climate action and the pace at which it is deployed. As a reminder, we need to cut our greenhouse gas emissions by 50% within a decade in order to limit global warming to 1.5 degrees this century. The investment required to achieve this is lagging behind. Annual investment in climate solutions across the entire value chain needs to rise from its present level of just over \$1 trillion, to \$3.5 trillion a year, if we are to achieve net-zero by 2050. That is a large number, but costs will be much higher the more we delay action. The good news is that some costs keep coming down. Solar electricity costs have fallen 80 per cent in 10 years. Wind power costs are down around 60 per cent, and batteries are 85 per cent cheaper. Early investment and decisive action pays but why is it so difficult to get people to invest? There is an obvious balance to be struck between the short term cost and the long term benefits. Governments have a strong role here, creating the policy instruments to stimulate investment in the short term and creating confidence that healthy returns can be delivered in the long term. Examples include bespoke planning policies which deliver greater market certainty for investment in renewables infrastructure, or the development of market standards and trading schemes for technologies such as heat pumps. The development of a global carbon price, a longer-term ambition, can only be achieved with governmental involvement. In the European Union, carbon pricing works rather well, but that jurisdiction alone cannot carry the rest of the world.

Second, we must use what science has already delivered, and focus instead on the real-world development and deployment of engineered solutions. Some estimate that we already have over 80% of the technologies we need to eliminate greenhouse gas emissions. But the majority of these technologies have not been scaled, are still too expensive, and therefore require investment in their development and further deployment. There are also key gaps which still need to be closed. For example, we have yet to develop long-term energy storage solutions for intermittent electricity generation. The cost of generating power from traditional nuclear power stations is still high and small-scale nuclear reactors, which could bolster baseload energy supply, need to be commercialised at scale. The use of green hydrogen in the manufacture of green steel has the potential to reduce greenhouse gas emissions

from that industry by 95 per cent. If we can produce green hydrogen in a cost-effective manner it will open up new opportunities for fertilisers. All of these solutions are based on hardware as well as software and therefore getting them implemented will take time, and it will very likely be inflationary. No amount of magical thinking will ameliorate this.

We also need to unlock the huge unrealised potential in energy efficiency and intelligent demand-management technologies. The way we generate, store and use energy is changing. Software is being developed to make key supply and demand decisions on our behalf, based on patterns of behaviour. Electric cars which have been charged during working hours can be used to power homes in the evening when demand across the grid peaks. And in the future we will take this one step further to combine weather information, traffic flows, and data relating to human behaviour to match supply and demand in the most efficient way. In contrast to 1997, when I gave my speech at Stanford, we now have many emerging choices in the production and distribution of electricity and industrial inputs, with choices being made at a local and regional level on a cost, but also security of supply basis.

My third point - geopolitical events often derail efforts to bring about secure, green and affordable energy. The human tragedy of the war in Ukraine, which is at the forefront of all our minds, is the latest example. That war has widespread consequences for global security, trade and climate change, and energy security has risen up the agenda. Even before the war in Ukraine, historic underinvestment in hydrocarbons together with the release of pent-up demand led to the highest oil price since 2014, and the highest ever natural gas price in Europe. The recent political decisions to isolate Russia by reducing oil and gas imports have further exacerbated the situation and have shown nations that they need to rely on localised energy sources. In Europe this localisation of supply will probably take the form of more renewables and local oil and gas resources but we also need accelerated investment in nuclear as a necessary component of a diverse and secure energy mix. As ever, security is best achieved through diversity of supply which spreads risk and delivers baseload and peakload power. As we diversify our energy mix, we must ensure that the infrastructure which supports its delivery maintains pace with demand. The

obvious example is the rise in the number of electric vehicles and the sluggish roll-out of electric charging points.

Fourth, we must not lose sight of fairness and the distributional consequences of all the choices I have set out. If we get this right, our actions have the potential to lessen the growing north-south and rich-poor divides. The global response to the climate crisis has to be a united one, with each nation shouldering their share of the burden to the extent they are able. Where gaps exist, they should be filled by those of us in developed countries who are in a better position to assist and protect the most vulnerable in other parts of the world, many of whom will be disproportionately affected by rising global temperatures. The energy transition and the work to achieve net zero must advance the common good. Aside from the moral case, there is a practical case to be made. Climate change will affect certain parts of the world disproportionately and we cannot afford to leave people behind. Mass migration and the disruption of agricultural activity will, for example, affect all of us in the future, so it makes sense to help those most in need now. It is about fairness and what is right, but it is also about leadership and advancing a global solution to a global problem.

When I delivered the speech at Stanford in 1997 I said that I was hopeful for the future of our planet. A great deal has been achieved, but as I have set out, urgent action is still needed on a global scale. But what have I learned over the last twenty five years on a personal level?

I have learnt to come out of the closet about some of the most difficult issues in life and to be clear and outspoken about what I believe.

I have learnt that great words are sometimes needed but targeted and measurable actions are always necessary because that is the way to change things. The impact they have on the world will outlive the words we speak.

I have learnt to be realistic. Being realistic does not mean accepting the *status quo*, but rather understanding what are the next steps and how long they will take. There is, however, always something that can be done now.

I have learnt to look to the future, not to the past. Yes, we can learn lessons from history and from failures, but we have to look beyond the here and now if we are to make progress and move forward.

And I have re-learned again and again that engineering and science are powerful forces in the world, that they will remain powerful, and that those people with these skills need to be looked after very carefully if they are to continue to be the engine of human progress.

As is evident, I have long been preoccupied with the real-world delivery of climate solutions. I am the co-founder and Chairman of BeyondNetZero, a climate growth equity venture which I established in partnership with General Atlantic. All the companies we invest in offer products and services which have the potential to help the world reduce greenhouse gas emissions. My hope is that my individual actions will be amplified through this work, and that we will set an example that others might follow.

I know how difficult the decisions can be when there are trade-offs to be made between important climate commitments and healthy profits. But in the end, it comes down to collective leadership and the conviction that the right thing to do in the short term will, ultimately, pay off in the long term. We simply cannot afford to lose sight of this if we are to build a sustainable future for the planet on which we all depend. I am confident that we will rise to the challenge.