Thank you for inviting me here today - I am honoured to be the first speaker in the International Energy Agency’s Big Ideas seminar series. Before I begin, I would like to warmly congratulate Fatih Birol on his recent appointment as the Agency’s executive director.

In 1878 Paris hosted the first International Exposition of Electricity as part of the World Fair hosted in the city that year. The city was humming with excitement, as inventors and innovators from around the globe came to exhibit their big ideas that would drive a new era of human development. New technology, like the telephone, the dynamo, and the phonograph, were on display. However, the star of the show was undoubtedly Thomas Edison, in Paris to exhibit his electric lightbulb. Electric lighting had been installed all along the Avenue de l’Opéra and the Place de l’Opéra. When the switch was flipped, electric lighting flooded the streets and France stepped into the age of electric energy.

Parisians were very keen to embrace electrification – but electricity was expensive. At the beginning it was only the very wealthy who could afford access. In fact, it wasn’t until 1937, nearly 60 years after the first International Exposition of Electricity, that an innovative financing mechanism enabled rapid proliferation of access to electricity throughout rural parts of France.
A month from now, Paris will again play host to an international gathering as world leaders meet in an effort to arrive at an ambitious, fair and legally binding agreement to limit climate change. While we don’t know the finer details of the agreement yet – we do know that access to sustainable energy will be critical to the successful implementation of any new climate agreement.

Those of us living and working throughout the developed world take access to modern energy for granted. We forget, or perhaps have never known, the drudgery that access to energy removes from daily life. But today - 137 years after that International Exposition of Electricity in Paris - there are, by the International Energy Agency’s own figures, 1.3 billion people living in energy poverty\(^1\). For me, this is an intolerable failure of human solidarity.

Energy is the engine of development - it brings life transforming benefits – lighting for schools; functioning health clinics; pumps for water and sanitation; cleaner indoor air due to a decrease in cooking on open fires and greater income-generating opportunities. It is imperative that all people have access to productive energy. And yet our traditional means of generating energy, so heavily dependent on the burning of fossil fuels, is driving us to the brink of a global catastrophe.

Climate change requires us to fundamentally rethink how we power our societies. Our tried and tested development paradigm is totally unsustainable. According to the Intergovernmental Panel on Climate Change, average global surface temperatures have already risen by as much as 0.8 degrees Celsius since the late 19\(^{th}\) Century – and this increase is having a devastating impact on vulnerable communities around the world.

What’s more, the impacts of climate change are being felt hardest by those people who have done the least to cause the climate crisis - recurrent drought in the Sahel in Africa; intense flooding in South Asia; more intense tropical cyclones in the South Pacific — those who

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have benefitted the least from the fossil fuel development find themselves on the frontlines of climate change. This is an injustice.

As many of you may know, I am honoured to serve as the UN Secretary General’s Special Envoy on Climate Change. But today I’m here as President of the Mary Robinson Foundation – Climate Justice. Climate justice links human rights and development to achieve a people-centred approach, safeguarding the rights of the most vulnerable and sharing the burdens and benefits of climate change and its resolution equitably and fairly.

Climate justice demands that the global community come together to solve two interdependent challenges. We must enable development for all people. However, we must achieve this at a time when the whole world needs, by 2050, to reduce global carbon emissions to zero. Not net-zero carbon emissions; not carbon neutrality; but zero carbon emissions by 2050. Only this will give us the best possible chance of staying below the globally agreed target of 2 degrees Celsius, while keeping the window of opportunity open to stabilise warming below 1.5 degrees.

Energy is at the heart of the solution to both of these challenges. The overriding priority for developing countries is development. And development requires energy. If affordable, sustainable alternatives are not made available, developing countries will turn to fossil fuels as the only option available to them – and who could blame them? They need to lift their people out of poverty, improve public services and power their economies - just as the developed world has done.

However this would rapidly deplete what’s left of the global carbon budget and render all efforts at climate mitigation futile. We would be on course to a world marked by catastrophic climate change and unimaginable human suffering.

We must recognise that energy policy being crafted today by decision makers in developing countries will have implications for decades to come. For example, a decision to build a coal
fired power plant is a 30 to 40 year commitment. We only need to look around Europe to see how difficult it is to ween a nation off its addiction to coal. Here in France, the three coal fired power plants still in operation are all over 30 years old. In Germany, 27 percent of emissions are as a result of coal – in fact, coal still accounts for about 17 percent of all European emissions\(^2\).

Developed countries cannot simply insist that poorer countries refrain from using fossil fuels on account of climate change. Instead they must provide feasible alternatives. In the spirit of global solidarity and self-interest all countries need to work together to enable an inclusive transition to a zero carbon and zero poverty future.

To reach this future, all countries should show leadership today – but this leadership differs depending on a country’s circumstance. Obviously, developed countries must rapidly peak and reduce their carbon emissions. However they must also make good on their commitments to support action in developing countries – because it is only this support that will enable decision makers in developing countries to avoid locking their nations into fossil fuel development pathways. What is being asked of developing countries is the greater challenge – they must lead the world in pioneering untested sustainable development pathways.

To achieve this, unprecedented levels of solidarity and support – including climate finance and transfer of technology – are essential. Yet enabling renewable energy development to be the norm globally is only the first part of the challenge. We must also devise innovative and people centred strategies to ensure that the benefits of access to this sustainable energy reach all people, including those in the most vulnerable situations.

The 2030 Agenda For Sustainable Development provides a framework through which such a people first approach can be achieved. The Sustainable Development Goals include a dedicated energy goal, goal 7, – recognising the central importance of energy access to

\(^2\) Climate Action Network (CAN) Europe, European Coal Map ([http://www.coalmap.eu/#/](http://www.coalmap.eu/#/))
ending poverty and enabling development. Indeed it is widely accepted that the absence of a goal on energy was one of the most significant oversights of the UN’s Millennium Development Goals, the predecessors to the Sustainable Development Goals.

The first target of Goal 7 reads:

“By 2030, ensure universal access to affordable, reliable and modern energy services”

This is a very ambitious target, and one I wholeheartedly endorse. But I would like to highlight a worrying discrepancy between that target and the current outlook of the International Energy Agency. The IEA’s latest Africa Energy Outlook forecasts that, by 2040, more than half a billion people in Africa will still not have access to electricity.

This throws down a challenge to all of us gathered here today. In order to realise universal access to sustainable energy by 2030, the global community must understand the barriers to energy access for the poorest and most marginalised people. Tackling energy poverty is not simply about the ambitious expansion of electricity capacity. Countries must pioneer innovative solutions that deliver energy services to poor people.

The reality is - just as it was in France 100 years ago - energy access is simply prohibitively expensive for many. Concerted efforts will be required to target the very poorest, those who will not be reached by business-as-usual, as they lack the disposable income to meet the up-front costs of energy access. For the poorest people and communities, access to sustainable energy should be viewed as an enabler of positive development outcomes. As such, it should be considered a public good, in much the same way as education, healthcare or public infrastructure.

As the theme of the speaker series is Big Ideas, I would like to provide one concrete idea that, I believe, has the potential to make significant inroads into energy poverty. Let us consider the potential of providing renewable energy access through social protection systems. Typically, the beneficiaries of social protection programmes include the chronically poor and
those who are economically vulnerable. They also constitute a significant proportion of those who currently have no access to electricity. Therefore countries with existing social protection systems have already identified the people whose energy needs are greatest, and have the infrastructure and delivery mechanisms in place to reach them in a targeted way.

The full potential of such a delivery mechanism is yet to be explored, but some countries are testing the idea. In 2012 I visited Malawi and discussed the potential of coupling renewable energy access and social protection with the government officials and bilateral donors. The government of Malawi has since set a target of delivering 2 million energy efficient cookstoves to households by 2020. In conjunction with Irish Aid and Concern Universal, the government is piloting a project to deliver cookstoves to the poorest households, utilising a social cash transfer delivery mechanism. By the end of 2015 the programme will have reached 8,400 homes. The programme will then be scaled up to 320,000 homes by the end of 2016. Social protection systems can deliver at scale if supported by genuine political will and appropriate financing. Adopting this innovative approach for delivering sustainable energy solutions could drastically reduce energy poverty.

Before I conclude, let me say something about the importance of a human rights framing for both development action and climate action. Climate justice demands that we consider the impacts of climate change and responses to climate change on people, their rights and their livelihoods. The wealth being created globally through largely fossil fuel based development is concentrated in the hands of a few, and those who are vulnerable, excluded and politically disempowered are getting poorer. Oxfam’s most recent statistics on global inequality are shocking – by 2016, the richest 1% of the population will own more than all the rest\(^3\). If measures are not taken to ensure that the transition to zero carbon is more equitable and more inclusive than business-as-usual, it will have failed before it begins. A human rights approach provides the framework necessary for success.

\(^3\)Oxfam (2015), *Richest 1% will own more than all the rest by 2016*, https://www.oxfam.org/en/pressroom/pressreleases/2015-01-19/richest-1-will-own-more-all-rest-2016
As opportunities arise in this transition to sustainable development, it is imperative that investors and businesses respect human rights in their investments, operations and supply. This pertains to the provision of energy services too. To ensure that the transition to zero carbon bolsters human rights - rather than undermining them - all business activity should abide by the UN Guiding Principles on Business and Human Rights and the UN Principles of Responsible Investment. These should be reflected in robustly implemented Environmental, Social and Governance criteria that include climate justice considerations. The Elders – a group brought together by Nelson Mandela to which I belong - recognise the positive significance of the rapid increase in investment in renewable energy in Africa. We will be encouraging responsible investing there precisely because a rapidly growing market can see problems of land grabs and lack of respect for human rights.

Transparent practices and meaningful engagement with civil society is necessary to ensure that the transition leaves no one behind. This is particularly true for the inclusion of women. The provision of renewable energy services must empower women as actors in their own development and enable them to build resilience to climate change. The impacts of climate change are different for women and men – women are likely to bear a greater burden due to existing gender inequalities. In many countries, women are at the forefront of the injustices caused by climate change.

At the World Fair here in Paris in 1878 – sadly overshadowed by the excitement surrounding the electric light bulb - Augustin Mouchot unveiled a solar powered engine. He won a gold medal for his efforts. But with coal in the ascendancy, and no awareness of environmental harms associated with burning fossil fuels, the French government deemed solar energy to be uneconomical and ended Mouchot’s funding. How different things might have been if they had known then what we know now!

Next month a successful Paris climate agreement would send a powerful signal to policy makers around the world, signifying the coming to an end of the era of fossil fuels and triggering a new, sustainable energy revolution.
Perhaps more than any other problem humanity has faced, climate change confronts us with the reality of our interdependence. It is as morally unacceptable to allow uncontrolled climate change to happen as it is to tolerate the existence of extreme poverty in the twenty first century.

Addressing the intertwined challenges of enabling development and tackling climate change will require genuine vision and innovation. Just as the International Electricity Exposition in Paris heralded a new era in human history, so too must the Sustainable Development Goals – which come into effect on 1st January 2016 - trigger a just transition to zero carbon, climate resilient societies, with sustainable energy accessible to all.

It is no doubt one of the greatest challenges in the history of humanity. However, I like the spirit of Thomas Edison who said “If we did all the things we are really capable of doing, we would literally astound ourselves”

Thank you.

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