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The Challenges of a Changing Climate

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Dignitaries on the dais and distinguished guests!

It is my pleasure and privilege to participate in this 19th World Congress on Environment Management and to be in Hyderabad once again. It is always good come back here again and again to this city of smiles, of lights, of a thousand faces, endearingly called the Pearl City.

It is easy to be pessimistic when faced with the challenges of a changing climate. In 2016 we recorded a record global temperature, exceptionally low sea ice, and unabated sea level rise and ocean heat, according to the World Meteorological Organization (WMO). Extreme weather and climate conditions have continued into 2017. According to scientists at NASA's Goddard Institute for Space Studies April and May 2017 have been the second warmest April and May in the last 137 years of modern meteorological record-keeping.

Noteworthy extreme events in 2016 included severe droughts that brought food insecurity to millions in southern and eastern Africa and Central America. Hurricane Matthew caused widespread suffering in Haiti and inflicted significant economic losses in the United States of America, while heavy rains and floods affected eastern and southern Asia.

Our challenges are huge: As the global population grows from 7 billion to 9 billion by 2040, with the emergence of three billion new middle-class consumers over the next 20 years, the demand for resources will rise dramatically. By 2030, the world will need at least 50 per cent more food, 45 per cent more energy, and 30 per cent more water – all at a time when environmental thresholds are throwing up new limits to supply. This is true not least for climate change, which affects all aspects of human and planetary health. If we continue business as usual, our collective actions will lead to irreversible damage to both ecosystems and humans.

In spite of this, my message is basically of optimism. Because I think that for the climate of the planet, 2016 was all in all a year of great progress. This applies for the political, the technological and the economic level.

At the political level, the Paris agreement came into force, we got new climate agreements for shipping and aviation, we got the Kigali agreement to phase out HFC gases, and, not least, Indonesia announced one of the biggest climate measures in the world. The universal sustainability goals have been widely implemented. This means that more and more people understand how climate concerns can be combined with poverty alleviation and growth.

The history-making Paris agreement has already come into force as sufficient numbers of countries have signed it. Never before has it happened so quickly with an international agreement. This clearly shows that the world's countries are behind the Paris agreement and take the climate issue seriously.

The choice of Donald Trump as new president in the United States has caused many to fear a global step back for climate policy. The recent US decision to withdraw from the Paris agreement was a disappointment, meaning that we will not have any climate leadership from the White House in the next few years. On the other hand, there are many American states, big cities, major companies and technology communities that have declared that they will pursue good, profitable climatic solutions.

While we are deliberating here, the G20 is meeting in Hamburg. The German Chancellor, Angela Merkel, made it clear that, as host, Germany intends to use the summit to defend the Paris climate agreement. Merkel believes that the Paris agreement is irreversible and

non-negotiable, wanting the G20 Summit to discuss how they can take the Paris climate agreement forward. We thus expect that the G20 Summit will be another confirmation of the rest of the world standing by their commitments from Paris. Global players such India, China and the EU will be carrying the important process forward, together with all the other signatories in Paris.

In the year that went, we also saw a tremendous technological developments: solar cells now cost only ten percent of what they cost 25 years ago, and wind power has also become much cheaper. By 2015, for the first time, more renewable power was installed than power from fossil energy and nuclear power. India is leading the way in solar power with impressive results so far, showing what can be achieved with a determined political leadership. The result of this can be read in the National Electricity Authority's new 5-years plan, which states that little or no new coal power capacity is needed the next 10 years in addition to what is already under construction. Various technologies that save energy, such as LED light bulbs, make energy consumption more efficient. This is important for reaching the sustainability goal that everyone in the world should have energy access by 2030. Developing countries can skip stages with outdated technologies just as they skip to build landline networks. In addition, the batteries have become far more efficient and now cost a third of what they cost six to seven years ago.

The car giants are still developing new electric car models with a longer range and lower price. Bloomberg New Energy Finance expects electric cars to compete on price by 2022. Actually, last month 42 % of all new cars sold in Norway were electric or chargeable hybrids, a share which is expected to reach 50 % by the end of the year. Another indication of change is that Chinese-owned Swedish carmaker Volvo this Wednesday announced that they will have only electric motors in their cars from 2019. The Indian government's very ambitious goal of selling only electric cars by 2030 is yet a sign of political will to further rapid technological shift.

In business, we have seen large global investors take the climate challenge seriously. In Marrakech in November last year, 360 of the world's major companies wrote an open letter stressing that the United States must continue its support for the Paris agreement to keep the steady course needed to keep global temperature rise below 2 degrees. Globally, we have now had three years in which greenhouse gas emissions have stagnated, while economic growth is increasing. The UN Civil Aviation Organization, ICAO, decided last autumn to introduce a scheme whose goal is that the growth of international air traffic after 2020 should be carbon neutral. Aviation believes that more efficient aircraft engines, less detours on the routes and the use of sustainable alternative fuels will not be sufficient and airlines will therefore pay for emissions reductions in other sectors, such as industry and agriculture. In the first few years, 66 countries, will participate voluntarily in the scheme, but from 2027, all countries will have to join. Following Norway's initiative, last year agreement was reached at the UN Maritime Organization, IMO, that all ships must report their greenhouse gas emissions. We will then get better insight into shipping emissions, and the accounts will be a prerequisite for putting in place requirements for shipping companies to cut fuel consumption. There is also a consensus on a plan for escalating climate action in shipping. It is already happening. Today there are at least 70 LNG-fueled vessels globally – 55 of them Norwegian, by the way. In Norway we have already built the world's first battery driven ferry boat and the first battery driven fishing boat. Next year the first autonomous and fully electric cargo ship will be launched, saving 40,000 truck journeys per year between three ports in southern Norway.

Last September in Kigali in Rwanda agreement was reached on HFC-emissions, an agreement which means that we save greenhouse gases corresponding to 1200 years of Norwegian greenhouse gas emissions. HFC is used in refrigeration plants in shops, hospitals and hotels, as well as heat pumps and air coolers in homes. If the gases are released, they are very harmful to the climate, up to several thousand times worse than CO2. Last year it also became clear that the rich countries are well on track to reach the goal of mobilizing $ 100 billion annually in climate funding for developing countries by 2020. We received a happy news from Indonesia before 2016 ended. There, President Widodo has banned the destruction of more of the peat bogs of the country. Destruction of these marshes is taking place in order to plant new palm oil or paper production plantations. Indonesia is one of the world's largest greenhouse gas emittors, largely due to the extensive destruction of peat bogs and rainforests. By implementing the president's decision it can save the atmosphere of emissions corresponding to ten times Norway's emissions - every year to come.

But in spite of the fact that there are lot of good news, the challenges that remain are enormous. Science must point the way to more informed and integrated decision-making and suggest a way to balance the economic development and the environment, allowing them to coexist. The only durable solutions to today's crises are those that position us – technologically, socially, and politically – to solve our longer-term problems. That means finding opportunities, mobilizing resources, and maximize resource productivity. It means investing in sustainable technologies that will create jobs and support the poor, improve health and education, and build more resilient and equitable societies.

Last autumn when I was in Hyderabad, I visited a project run by ClimaAdapt, an Indian organization the Embassy is supporting. ClimaAdapt wants to help farmers adapting better to climate change through micro-irrigation and optimized selection of rice varietals. In the Village Knowledge Centre in Balaji Nagar Thanda village I could observe how local women use internet and computers to gather information on local weather – surprisingly using a Norwegian meteorological site. They transmit the weather data to farmers so that agriculture activities can be efficiently planned. It was both an interesting illustration of global sharing of knowledge and of how technology can help us reach the remotest farmer today with information helping them to deal with the effects of climate change.

First and foremost, however, ClimateAdapt's project is an innovative way of relating to the climate challenge. And it illustrates an approach we all have to follow. Because in spite of the progress made to limit global warming, global warming is coming. That means that we have to adapt our societies to deal with the challenges following global warming. We have to develop green growth market based strategies and we have to develop smart societies

Throughout the 20th century, economic growth was measured by the accumulation of physical, financial, and human capital without regard to changes in natural capital and without taking social risks into account. In the 21st century, the goal must be a "green economy" that can generate economic growth and improvements in people's lives without harming the environment. These actions would certainly affect the standard of living for many nations and influence energy use, emissions and population growth across the globe. This balancing act however is the need of the hour.

Friends, with these thoughts, I would like to conclude. I am sure the different sessions of the congress will deliberate on these issues at length and will bring out some actionable recommendations for policymakers. I wish the congress proceedings all the best. ■