



Foundation, and Joongang Ilbo to this year's forum.

Let me also pay special tribute to all of our sponsors, partner organizations, and the Jeju Forum Secretariat staff. Without their efforts, this forum could not have been possible. Last, but not least, I would like to express my sincere gratitude to the residents of Jeju Island for their interest and support.

I hope that, despite your busy schedules, you can still find time to enjoy the natural beauty of Jeju, a UNESCO World Heritage site, and one of the world's great treasures. I wish each and every one of you a safe and pleasant trip home. I look forward to seeing you at the Jeju Forum for Peace and Prosperity 2018.

[Special Lecture]

Presenter **Al GORE** Former Vice President of the United States / Nobel Peace Laureate in 2007
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Challenge and Opportunity of Climate Change: Is a Better Growth Possible?

The main dangers facing the international community today are anthropogenic climate change and finding ways to work together to lower carbon emissions. This prompts three key questions. Do we have to change? Can we change? Will we change?

The answer to all three is "Yes, we can." The transition to renewables is a global emergency, but I urge the audience not to be dispirited by the obstacles ahead. This iconic NASA image of the "blue marble" Earth from the 1968 Apollo mission helped launch the environmental movement. This next image is of the "thin shell" of our atmosphere which is filling with "millions of tons of pollution every day."

It is a great regret how hyper-globalization has massively increased forest fires and permafrost melting, but emissions have leveled off over the last three years. Nevertheless, 400,000 Hiroshima bombs of energy are still released every day. Due to temperature rise, "extremely hot days" are now commonplace and 16 of the 17 hottest years since records began have been since 2001.

Air temperatures do not tell the whole story as 93 percent of heat energy goes into the oceans. This is creating stronger and more destructive storms such as Typhoon Haiyan in 2016, the most destructive ever, which created 4.1 million climate refugees.

As more water is entering the water cycle through evaporation, there is more rainfall and atmospheric (or "flying") rivers are forming. Water is then deposited on drought-ridden land, causing tremendous flooding and destruction, as seen in the tragic Sri Lankan mudslides of recent days.

The experts say we can link such extreme weather to climate change as "the environment in which all storms form has changed." The areas that receive rain are shifting, and long periods of drought are being followed by massive downpours, and then more drought. The impact on food security is acute as the plants



we rely on were domesticated 10,000 years ago and are struggling to adapt.

The example of forest fires shows how climate change is inextricably linked to wider geopolitics. Forest fires in Siberia in 2010 caused the deaths of 55,000 thousand people in Russia and also led both Russia and Ukraine to remove damaged grain from the market. This pushed up prices worldwide and led to food riots in 60 countries. Meanwhile, in Tunis a food vendor set himself on fire in protest, his last words being “How am I supposed to live?” This was the spark for the Arab Spring across the Middle East and North Africa.

In Syria, drought from 2006 to 2010 destroyed 60 percent of farmland and climate refugees flooded the cities to find work. Politicians warned there would be unrest, and although there were many other factors, climate change was crucial in creating the conditions for civil war.

Stability is also being affected in Europe as states have been destabilized, and the Brexit campaign was dominated by images of refugees trying to enter the European Union. The situation is likely to get worse as parts of the Middle East and North Africa become uninhabitable and the heat index in Iran recently reached 74 degrees which is fatal after six hours. This is why we need to act now.

Temperature increases are also linked to the increasing threat of disease and microbes as natural ecosystems get disrupted. If we look at the spread of the Zika virus, doctors in South and Central America are saying “Do not get pregnant for two years until this is under control” – this should set off alarm bells.

With regards to air pollution, South Korea is now fifth globally in air pollution mortality rates, behind China in first place where life expectancy has dropped by 5.5 years in the northeast. This is why we must all follow Jeju’s example and move to clean renewables and electric vehicles to make our air cleaner.

Greenland is losing one cubic km of ice every day and melt-water lakes are forming on glaciers in Antarctica, contributing to sea-level rise which threatens one million people even if we achieve the two degrees temperature rise we have set.

This is all an existential threat to the global economy, so yes, we must change. Can we change? The progress in wind and solar power suggests we can. Wind capacity projections have been exceeded 16 times and wind power is now cheaper than fossil fuels even without subsidies. The United Kingdom gets more energy from wind than from coal and wind energy can provide 40 times as much energy as the global economy needs. It is a similar story for solar energy, which is dramatically increasing while costs plummet to approach grid parity. Currently solar energy production is 75 times higher than projections 15 years ago.

The key to realizing this is energy storage systems which is going to lead to a dramatic transformation of human civilization. Can this change happen fast enough? If we look at cell phone usage, in 1980, AT&T projected 900,000 sales by the year 2000 but real sales were 120 times higher. Costs dropped, quality improved, and growth was fastest in developing countries. It is the same for renewables and we see solar energy panels on straw huts and even on North Korean apartments.

Germany produced 86 percent of all energy from renewables on one day last year, and Chile is approaching 13.3 gigawatts capacity in renewables, up from just 11 megawatts in 2011. Jobs in renewables are growing at 17 times the rate of the wider economy. Other efforts worldwide include wholesale uptake of LED lighting, increasing electric vehicles sales, and plummeting fall in cost of electric vehicles batteries. In the United States, three quarters of new energy production was from renewables last year and coal plants are being cancelled nationwide. The Paris Agreement was a historic breakthrough and regardless of President Trump’s decision on it, communities, cities and states will continue because people are demanding it and the movement is growing. Just as humanity worked together to end slavery, fight for women’s and civil rights, and end apartheid in South Africa, we will come together to lower carbon emissions today.

It is a simple choice between right and wrong, and it is wrong to pollute this earth and diminish the rights of the children of the future. We do not want them to look back and ask us “What were you thinking? Why did you not save us?” Instead, by following the example of Jeju and finding the political will, I am confident that instead of asking why we did not act, future generations will ask: “How did you find the moral courage to do the right thing?”



Policy Implications

- International community must urgently work together to implement Paris agreement to meet its targets.
- Governments must treat climate change as a global security threat.
- There must be an increase in systems thinking on how climate change is linked to civil unrest.
- Local communities must be empowered to pursue renewable energy projects to bypass unsupportive governments.
- Governments and international organizations must anticipate an increase in climate refugees.
- International community must cooperate to ensure the effects of climate change do not lead to regional destabilization as seen in Syria and elsewhere.