Scientific and Spiritual Dimensions of Climate Change

Unit 8 – Part 2
Addressing a Challenging Reality

Section 1: A Challenging Reality

So far, the Earth has warmed about 1.2°C (1.8ºF) since the Industrial Revolution. We can already see the impacts of this warming on the climate with more extreme storms, heat waves, droughts, floods, and rising sea levels. What will happen to the Earth's climate as the warming continues?

The *Special Report*[1] *by the Intergovernmental Panel on Climate Change (IPCC),* released on Oct. 8, 2018, compares the impacts of climate change in a 1.5ºC (2.7ºF) warmer world compared to a 2ºC (3.6ºF) warmer world.

For many people, as well as plants and animals around the world, the seemingly small difference of only half a degree C warming has a huge impact on their ability to survive. For example, some Small Island States will likely survive with a 1.5°C warming, but a 2°C warming would either flood the islands completely or make them otherwise uninhabitable. Coral reefs would decline by 70-90 percent with global warming of 1.5°C, whereas virtually all would be lost with 2ºC. With a 2ºC temperature rise, many places in the world would become too hot for humans to live in and many coastal areas would become uninhabitable because of sea level rise, including many large cities such as Miami and Dhaka.

By limiting the warming to 1.5°C, some irreversible impacts on polar ice sheets could probably be avoided, but, even with such a limited warming, it is possible that some thresholds for self-reinforcing mechanisms could be crossed that would be perilous in the future. The scientific community now considers a 2°C warming as extremely dangerous for human civilization. “Every extra bit of warming matters, especially since warming of 1.5ºC or higher increases the risk associated with long-lasting or irreversible changes, such as the loss of some ecosystems,” said Hans-Otto Pörtner, Co-Chair of IPCC Working Group II.

Scientists dedicated a lot of effort into the research, the compilation, and the explanation of the vital difference between a 1.5ºC and a 2ºC warming, yet humankind continues to add more greenhouse gases into the atmosphere where greenhouse gas concentrations are continuing to increase:

The world is on track to reach 1.5ºC already sometime between 2030 and 2052, and to reach about 4ºC by the end of the century, if we don't drastically reduce greenhouse gas emissions. 4ºC would be such an unimaginable catastrophe that scientists don't even talk about it.

World leaders understood the threat, at least to some extent, when 195 nations signed the Paris Agreement that aims to keep global warming “well below 2ºC”. However, if all the countries faithfully followed through with their commitments – and it looks unlikely that they will – the Earth is expected to warm around 2.9ºC by the end of the century, because their nationally determined contributions to reduce emissions are not strong enough. A 2.9ºC warming would be disastrous. Mechanisms are incorporated in the Paris Climate Agreement for regular adjustments and improvements of the agreement, however, since the Agreement, atmospheric carbon concentrations have steadily been increasing. Governments, the private sector, and civil society need to put much effort into quickly reducing emissions.

The report explains that, if we want to limit the warming to 1.5ºC, we will need to cut carbon emissions 45% by 2030 (compared to 2010 levels) and to reach net zero by 2050. Net zero means that all carbon emissions will need to be matched by the removal of the same amount of carbon from the atmosphere.

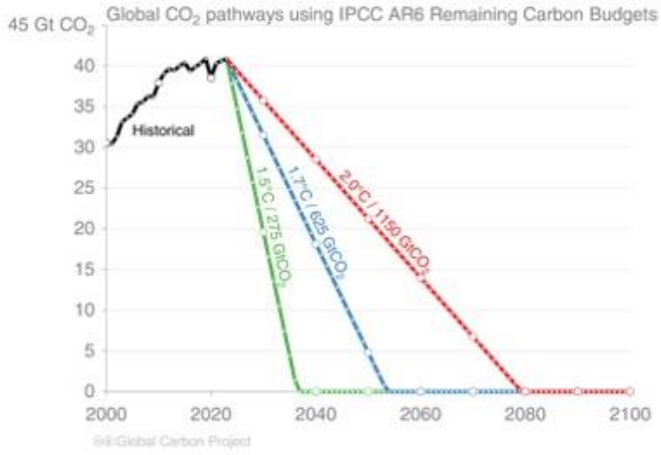
A 2ºC pathway would give us a little bit more time: Cut emissions 20% by 2030 and reach net zero by 2075.

Since 2018, carbon concentrations in the atmosphere have continued to increase. The following graph reflects the situation and science of 2023. It shows the possible scenarios of emissions paths to stay within the limits of 1.5°C, 1.7°C, and 2.0°C:

GLOBAL CARBON project

Remaining carbon budget

Global CO_2 emissions must reach zero to limit global warming



Source: Friedlingstein et al 2023; Global Carbon Project 2023

The emissions reduction actions required to achieve this are massive and appear to be at the outer edge of what is technically and economically feasible. The more formidable challenge is to get the majority of the world on board to unitedly and resolutely implement all of the existing technological, economic, environmental, and social solutions.

Section 2: A Shift in Thinking

Implementing changes on the large scale necessary to effectively mitigate climate change requires a whole new way of thinking. Einstein said, "You cannot solve a problem at the same level of consciousness that created it."[2]

Long held, but obsolete values, such as the limitless liberty of individuals to do whatever they want – including polluting the Earth with impunity, or the myth of unlimited economic growth must be questioned. In the past, a growing economy could justifiably be considered desirable, and this still holds true for many poor people and countries of the world today. However, for the rich countries and for the planet as a whole, we have reached the limits of growth; in fact, we have already surpassed them. We are now in a period where the physical and biological limits of the Earth are becoming increasingly apparent. Natural resources are becoming scarcer and harder to get. And nature is no more able to absorb our waste.

Moreover, the current capitalistic economy not only exploits the Earth and destroys its life-support system, it also exploits many people and exacerbates the extremes of wealth and poverty. A mental and spiritual re-orientation is necessary which embraces the concept that a sound economy depends on a healthy environment.

Shoghi Effendi said, “Political and economic theories are solely designed to safeguard the interests of humanity as a whole, and not humanity to be crucified for the preservation of the integrity of any particular law or doctrine.”[3]

One of the theories that must be abandoned is that limitless economic growth is possible on a finite planet. The new thinking will see the economy as a tool for the well-being of all people and for the sustainable management of the Earth’s resources.

Building a new environmentally sustainable society requires broad changes in our thinking, expectations, and goals for our future – and more fundamental changes in the way we are living.

In his book *Down to the Wire,* David Orr points this out beautifully: “The prevailing assumption is that we can adopt better technologies like hybrid cars, solar collectors, and compact fluorescent lights and change little else. We will need all the technological ingenuity that we can muster, but the science indicates a much more precarious situation and the need for deeper changes that will require substantial alterations in our manner of living. ‘There is’, in John Sterman’s words, ‘no purely technical solution for climate change... we must now turn our attention to the dynamics of social and political change’”.[4]

Complicating the matter is that we cannot view climate change in isolation. We need to put it into the larger framework of sustainable development. Two points related to basic human morality make that point all the clearer.

- First, justice demands to allow poor people, especially those in the developing countries, to satisfy their basic needs. Some progress has been made in alleviating poverty through the United Nations Millennium Development Goals. The Sustainable Development Goals adopted by the United Nations in September 2015 provide a blueprint for further progress. However, there are still

almost a billion people who don't have enough to eat. One in four people lack clean drinking water,[5] and there are children dying from malnourishment and preventable diseases. These people need to have more access to the Earth's resources including energy, while the people in the developed world must become content with using less.

- Second, while we are about 8 billion humans now, that number will likely grow to about 9 billion by mid-century, and 11 billion by the end of the century. How will we provide for their needs when we are already now using more of the planet's resources than the Earth can replenish?

Thus, our goal must be to find ways to not only mitigate and adapt to climate change, but at the same time satisfy everyone's needs, and not to cater to the luxurious wants of a few. The consumerism of the developed countries has been spreading quickly to the rest of the world; obviously, this cannot be maintained. In fact, we will need to re-invent the way we live. Can we find ways to retain the positive and essential aspects of our civilization, while at the same time gradually adjust to using much less energy and fewer resources? Can societies all over the world make fundamental changes in agriculture and food systems, transportation, land planning, and energy production? And can individuals be satisfied with a moderate lifestyle.

"We need a change of heart, a reframing of all our conceptions and a new orientation of our activities. The inward life of man as well as his outward environment have to be reshaped if human salvation is to be secured."[6]

The Earth Charter[7] speaks directly to this issue:

The Global Situation

"The dominant patterns of production and consumption are causing environmental devastation, the depletion of resources, and a massive extinction of species. Communities are being undermined. The benefits of development are not shared equitably and the gap between rich and poor is widening. Injustice, poverty, ignorance, and violent conflict are widespread and the cause of great suffering. An unprecedented rise in human population has overburdened ecological and social systems. The foundations of global security are threatened. These trends are perilous-but not inevitable.

The Challenges Ahead

"The choice is ours: form a global partnership to care for Earth and one another or risk the destruction of ourselves and the diversity of life. Fundamental changes are needed in our values, institutions, and ways of living. We must realize that when basic needs have been met, human development is primarily about being more, not having more. We have the knowledge and technology to provide for all and to reduce our impacts on the environment. The emergence of a global civil society is creating new opportunities to build a democratic and humane world. Our environmental, economic, political, social, and spiritual challenges are interconnected, and together we can forge inclusive solutions.

Universal Responsibility

> "To realize these aspirations, we must decide to live with a sense of universal responsibility, identifying ourselves with the whole Earth community as well as our local communities. We are at once citizens of different nations and of one world in which the local and global are linked. Everyone shares responsibility for the present and future well-being of the human family and the larger living world. The spirit of human solidarity and kinship with all life is strengthened when we live with reverence for the mystery of being, gratitude for the gift of life, and humility regarding the human place in nature."

Thus, we may need to redefine what constitutes true progress. The Baha'í International Community explains this in its statement *One Planet, One Habitation: A Baha'i Perspective on Recasting Humanity's Relationship with the Natural World*[8]:

> *If humanity's relationship with the natural world is to be refashioned, notions of progress, civilization, and development will need to be redefined. Efforts in this direction, such as budgets centered around well-being or indicators of progress more holistic than gross domestic product, must be expanded and deepened, and fundamental questions interrogated further. What are the qualities by which a person, nation, or corporation are judged successful? For what are they commended and appreciated?*
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> *So long as such questions are answered according to values that prioritize possessions over relationships or acquisition over responsibility, a sustainable world will remain out of reach. Such values, by their very nature and effect on the human spirit, beckon incessantly to excess, exploitation, and depletion. They also give rise to gross extremes of alienating wealth and debilitating poverty. Only to the degree that these are set aside can the profound contradictions they give rise to—not least the expectation of infinite growth on a finite planet—be resolved. And only as progress is understood in new terms can the fundamental drivers of present environmental crises be accurately identified and lasting change be made.*

REFERENCES

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6 From a letter written on behalf of Shoghi Effendi, 17 February 1933
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