

## **A Political and Economic Vision of Climate Change**

### **“The Moral Dimension of Climate Change”**

#### **Workshop**

**Holy See, April 28, 2015**

*La tierra, que es madre para todos, pide respeto y no violencia o peor aún arrogancia de patrones. Debemos entregarla a nuestros hijos mejorada, custodiada, porque ha sido un préstamo que ellos nos hicieron a nosotros.*

Papa Francisco

*Earth, which is mother to all of us, asks for respect and not violence, or worse still, the arrogance of bosses. We must hand it over to our children, improved, well-cared for, because she is a loan that has been made to us.*

Pope Francis

#### **Introduction**

Global warming and climate change are no longer just a theory of a very few scientists: it is a cruel reality.

This is evidenced by the growth curve of global emissions of CO<sub>2</sub> in the last 50 years. In 1960, worldwide emissions were 9.4 metric giga tons of CO<sub>2</sub>, and in 2010, 33.6 metric giga tons. They have multiplied 3.6 times in 50 years, that is, an average annual increase of 2.6%. If this trend continues, in 28 years current emissions will have doubled.

Climate change and its consequences should be treated as an ethical problem, for individuals and human society.

## **The paradox: Open environment and closed knowledge**

There is a new and unjust international division of labor: rich nations generate knowledge that they privatize, while many poor nations generate environmental assets that are freely accessible.

Knowledge, in general, is a freely accessible asset. Exclusion is technically impossible, or very costly. In order to prevent free access, that is to say, to privatize this asset, institutional barriers are raised, mainly in the form of intellectual property rights. The nations of the Amazon region, the lungs of the planet, also produce assets that are freely accessible, environmental assets that regulate the world's climate and without which life on this planet would suffer serious harm. Despite this, the major polluters of the world pay nothing to consume these environmental assets and services. The Kyoto Protocol should be interpreted as an institutional barrier to prevent the consumption of these environmental assets, but the large polluters will not sign Kyoto, while in most of these nations you can go to jail if you copy an idea protected by a patent.

## **Completing Kyoto: Net Avoided Emissions**

Furthermore, the incentives given by Kyoto for the protection of the environment were insufficient, inefficient, and unjust. For example, in the area of reforestation, the system rewards those nations that reforest, but fails to compensate those nations that have not deforested and whose forests already are contributing to the reduction of carbon. Kyoto lacks a concept that comprehensively defines what would be compensated. This comprehensive concept is **Net Avoided Emissions** (or NAE, in English).<sup>1</sup>

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<sup>1</sup> Concept presented by the Republic of Ecuador at the 16<sup>th</sup> International Conference on Climate Change held in Cancun, Mexico, on December 8, 2010.

NAE are emissions that the economy of a country could produce, but doesn't, or emissions that already exist in the economy of a country, but are reduced. Therefore, what the Net Avoided Emissions would compensate is the **net balance**. This concept reconciles the initial compensations of Kyoto and the REDD mechanism (reducing emissions from deforestation and forest degradation), a United Nations program that pays to prevent deforestation. The REDD mechanism adds an important idea: compensation for **abstention**, in other words, for not doing something that you have the right to do, but it just compensates keeping the carbon on the surface of the Earth, omitting, for example, compensation of keeping the carbon underground, as in the case of not exploiting fossil fuels. Net Avoided Emissions includes compensation for actions and abstentions, and incorporates **all** the economic activities that are involved in the exploitation and use of renewable and non-renewable resources.

If the incentives of Kyoto are expanded to include Net Avoided Emissions, in addition to the objectives of climate change, it would mean a revolutionary transformation in international trade, as it would allow many nations – especially developing ones – to convert their economies based on the extraction of highly polluting fossil fuels into economies that are exporters of environmental services.

Let me introduce a core idea for any debate about sustainability: **conservation, in poor nations, will not be possible if it does not result in clear and direct improvements in the standard of living of the people.**

Given that Net Avoided Emissions is a comprehensive concept that significantly expands the possibilities for compensation, we should limit the uses of these funds, mainly for more prevention, mitigation, and adaptation; to make less vulnerable those nations that are facing the consequences of climate change. In addition, if the compensation is always lower than the financial yield produced by the action or abstention, it will generate restrictions to ensure that only those

nations truly committed to the fight against climate change receive compensations.

A concrete example would be the Yasuní-ITT initiative, which sought to leave underground the largest confirmed petroleum reserves in Ecuador. Ecuador asked for compensation for not exploiting this reserve and to prevent sending 400 million metric tons of CO<sub>2</sub> into the atmosphere. The compensation requested amounted to barely half the financial yield that would have resulted from exploiting the petroleum, and the funds would be used for further conservation. Miguel d'Escoto, former President of the UN General Assembly, called the initiative "the most important and concrete proposal for moving from rhetoric to deeds related to climate change". Sadly, the initiative failed because it was greatly misunderstood and because of power issues.

The idea of compensating NAE is anchored on valid environmental, economic, and fairness principles. About environmental issues, as noted, what is important is the net balance, and in net terms, not polluting the environment is the equivalent of cleaning it. Regarding economic logic, environmental goods and services, being freely accessible, do not have explicit market prices. Therefore, the compensations for creating or maintaining environmental assets is based on the need to pay for the generation of value and not only for the generation of merchandise, in order to achieve the maximum social well-being.

Regarding fairness, it is fair to compensate a nation for not performing an action it has the right to perform, when this individual action is not good for the planet; that is, when it has negative externalities. In the same way, if a nation does not have an obligation to perform an action that is not desirable individually, but is ultimately good for the planet, in other words, produces positive

externalities, it is fair that it should be compensated for performing that action.<sup>2</sup>

### **Ecological Debt**

Independently from the compensations for Net Avoided Emissions, there undoubtedly exists an ecological debt, obligations accumulated over time, the consequence of plundering natural resources, bio piracy, and climate change. Payment of this debt is based on human rights, environmental justice, and historical responsibility.

Ecological debt can be expressed in monetary or biophysical terms. Contributions with plausible calculations have come from the academia, but the most important thing is **not** paying the ecological debt, **but** preventing it from growing even more<sup>3</sup>. We must stop the damage and repair the current condition of the physical world.

### **Common but differentiated responsibilities**

Compensations for NAE and for the ecological debt ought to be based on the principle of common but differentiated responsibilities. Just two nations, China and the United States, produce 44% of total emissions worldwide. If we add India, Russia, and Japan, emissions reach almost 60% of the total.

The Gini inequality coefficient for emissions of CO<sub>2</sub> per capita by nation, calculated for the year 2010, was 0.596.<sup>4</sup> This means that 20% of the world population, who pollute the most, are responsible for 51% of global CO<sub>2</sub> emissions, while the 20% who pollute the least are responsible for barely 1.3% of total emissions.

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<sup>2</sup> See Coase, Ronald (1960). *The Problem of Social Cost*. 3 Journal of Law and Economics: 1-44.

<sup>3</sup>See Warlenius, R., G. Pierce, and V. Ramasar (2015) *Reversing the arrow of arrears: The concept of "ecological debt" and its value for environmental justice*. Global Environmental Change. Volume 30: 21–30.

<sup>4</sup> The Gini coefficient moves between the values of 0 and 1. The zero value corresponds to absolute equality. The value of one, in contrast, represents absolute inequality. In this case, the Gini index is a measure of the concentration of emissions. A value of 0 would mean that all nations have an equal level of emissions per capita. A value of 1 would mean that a single nation emits all the CO<sub>2</sub> and nobody else emits.

Compensations for Net Avoided Emissions should also be established on the capacities of the respective nations. **The greatest ecological damage comes from wealthy nations.** In spite of technological improvements and the dematerialization of the economy, that is, the reduction of the amount of materials and energy per unit of production, evidence shows that the consumption of energy and the generation of emissions are directly proportional to the level of income. A person in a rich nation emits 38 times more CO<sub>2</sub> than a person in a poor nation. The consumption effect dominates the effect of efficiency resulting from improvements in technology.<sup>5</sup> This doesn't mean that there is no deterioration linked to poverty, such as soil erosion, lack of treatment of solid waste, etc., but the way in which wealth and consumption are managed in wealthy and industrialized societies becomes a critical factor to determine who is responsible for the largest environmental impacts.

### **Compensation through access to science and technology**

However, there is a crucial problem: technology gaps. In the year 2011, the average energy efficiency of high-income nations was 5 times greater than the average efficiency of low-income nations. Access to science and technology is vital for poor nations to fight climate change. It is essential to declare the technologies that mitigate climate change **as global public goods**, and to guarantee free access to them.<sup>6</sup> This would be a way to put an end to the new and unjust international division of labor.

Compulsory licenses, a regulatory measure in the area of intellectual property rights, prevent businesses from retaining monopolistic rights

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<sup>5</sup> See Correa, R. and F. Falconí (2012). *Después de "Río + 20": Bienes ambientales y relaciones de poder*. Revista de Economía Crítica, N° 14: 257-276.

<sup>6</sup> A public good is one that, besides not having the capacity for exclusion, has no competition in consumption (technically, the marginal cost of an additional beneficiary is 0). For example, a landscape: there is free access and one person's enjoyment of it does not prevent enjoyment by another. Knowledge is generally a public good. For example, technically it is easy to copy software, and its use by one person doesn't prevent use by another.

to critical knowledge and allow other businesses around the world, to replicate patented technologies. This knowledge is not confiscated from the inventors, since the innovation ought to be recognized and their inventors should be compensated with a royalty. This royalty could be financed with the same compensations resulting from Net Avoided Emissions; with global resources allocated to the fight against climate change, like the various funds of the United Nations; and with the creation of global taxes, such as the Daly tax.

### **Daly Tax**

The Daly tax is an ad-valorem tax on the price of a barrel of petroleum, which could be administered by the Organization of the Petroleum Exporting Countries (OPEC).<sup>7</sup> This eco-tax should also be applied to other fuel exports, in proportion to their environmental impact. The effect would be a reduction in the demand for petroleum – and consequently, less production of CO<sub>2</sub>, and the generation of income to pursue three objectives: first, to compensate poor oil importing nations, affected by this tax, by financing programs to eradicate poverty. Second, to finance the reduction of greenhouse gases, for example, through research and technological development and diversification of the energy matrix; and third, to finance poor nations in their efforts to prevent, mitigate, and adapt to the consequences of climate change.

The power of OPEC gives it immense opportunities to have a positive influence on the history of humanity. With the administration of this tax, OPEC could transform itself into the great world coordinator in the fight against CO<sub>2</sub> emissions and climate change.

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<sup>7</sup> See Daly, Herman (2007). *Ecological economics and sustainable development: selected essays of Herman Daly*. Edward Elgar Publishing. The Republic of Ecuador also proposed this eco-tax at the III Summit of OPEC held in Riyadh in 2007.

### **Basic problem at the individual level: our way of life**

Now we know that the economy is part of a larger system, governed not by the economic laws of supply, demand, and prices, but by the physical laws of nature.<sup>8</sup>

At least with the presently available technology, to generalize the standard of living of the so-called developed countries is simply impossible, since sufficient resources would not exist in the planet. This generalization is probably also undesirable: increases in GDP per inhabitant, after reaching a certain threshold, are not related to a greater perception of happiness. This is known as the "Easterlin Paradox".<sup>9</sup>

This means that we must visualize a **new notion of development**, as several countries are already doing, centered on the concept of Sumak Kawsay -or Good Living- of the ancestral Andean peoples, which means to live with dignity, satisfying basic needs, but in harmony with oneself, with the rest of humanity, with different cultures, and in harmony with nature.<sup>10</sup>

For this reason, we need to advance towards a Declaration of the Rights of Nature. The most important universal right of nature should be that it can continue to exist but, also, that it can continue to provide the means of living so that our societies can enjoy Sumak Kawsay.

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<sup>8</sup> See Georgescu-Roegen, Nicholas (1971). *The Entropy Law and the Economic Process*. Harvard University Press.

<sup>9</sup> See Easterlin, Richard (1974). Does economic growth improve the human lot? Some empirical *evidence*, in Paul A. David and Melvin W. Reder, eds., *Nations and Households in Economic Growth: Essays in Honor of Moses Abramovitz*, New York: Academic press, Inc.

<sup>10</sup> Ecuador has presented to the world alternatives to conventional development and recognizes in its new Constitution, approved by popular vote in 2008, the rights of nature.

Here is another core idea, to avoid certain fundamentalisms: **humans are not the only important beings in nature, but they continue to be the most important ones.**

### **A basic problem at international level: power relations**

The new international division of labor is a total paradox. Common and freely accessible goods must be those with no rivalry in consumption, that is to say, goods that don't have a marginal cost if someone else uses them. As a result, the more the people that use them, the better. This is normally the case with knowledge, science, and technology.

As George Bernard Shaw correctly noted: "If you have an apple and I have an apple and we exchange these apples, then you and I will still each have one apple. But if you have an idea and I have an idea and we exchange these ideas, then each of us will have two ideas."

When a good becomes scarce or is destroyed when consumed, like nature and the resulting climate change, its consumption ought to be restricted, in order to prevent what Garrett Hardin called "the tragedy of the commons".<sup>11</sup>

Why don't we do what is obvious? Even more so, why do we do exactly the opposite? Because the problem is not technical, it's political. The new unjust international division of labor is nothing more than the perverse ethics of "privatizing profits and socializing losses". There is nothing that justifies it, only power. To illustrate this, let us imagine for a moment that the situation were reversed, and that the generators of environmental goods and services were the wealthy nations, and the poor nations were the polluters. Surely, already there would have been invasions to force them to pay a "just compensation".

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<sup>11</sup> See Hardin, Garrett (1968), *The Tragedy of the Commons*, Science, Vol. 162, No. 3859, pp. 1243-1248.

Sadly, as Thrasymachus said over two thousand years ago in his dialogue with Socrates, "justice is nothing but the advantage of the stronger".

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