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Implementation of the COP21 Agreement: Aaron Wildavsky' Major Insight

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Abstract

The COP21 Agreement has been hailed as a turning-point for mankind. This is merely rhetoric. What happens after major policy decisions goes under the label "implementation" in the social sciences, and its lessons are worthwhile taking into account by the UN and the 195 governments that signed. Implementation is messy, complicated, having un-intentional, and un-recognized outcomes. Often based upon a flawed theory-see Wildavsky's major insights. The COP21 Treaty wants to reduce CO2 emissions despite their connections with the GDP and economic development/growth. And it wishes to protect the world forests so that they can absorb CO2, but the rain forests are disappearing for cattle, soya, and palm oil as well as logging on a grand scale. The implementation process of the COP21 Agreement is unique, as it may last 50 years or more, perhaps almost forever.

Keywords

COP21 framework, implementation, Aaron Wildavsky, paradoxes of implementation, the GDP-CO2 connection, deforestation and desertification

1. Introduction

The enthusiasm was enormous when the COP21 Agreement was finalised. But after policy enactment comes the implementation stage. How problematic implementation may be was the theme of several publications by late American political scientist Aaron Wildavsky (1973, 1984). He analysed what happens in American cities after major policy decisions have been taken in faraway Washington DC. The COP21 Approach transfers all the implementation difficulties of Wildavsky onto a global scale, where nations or governments have accepted responsibility for counter-acting global warming. Implementation could result in almost anything, concluded Wildavsky: policy failure, policy change, policy innovation, learning, unintended outcomes, and unrecognized outcomes as well as the very opposite outcomes. The implementation of the COP21 Agreement will be of a different order in terms of size, complexity and overview, lasting for decades.

Even if governments would rely upon markets to take into account somehow environmental costs and begin searching for lee polluting ways of producing and consuming energy with less CO2 in order to fulfil their obligations according to the COP21 Agreement, there are still many tasks in the

reorientation of public management/administration towards ecological sustainability—green public management/administration. Whether the COP21 Treaty will be as revolutionary as people hoped when it was accepted by 195 states remains entirely to be seen. There is reneging in global coordination both *ex ante* and *ex post*. Now, we will see whether the implementation of the COP21 treaty principles will begin 2018.

2. The First Tasks Ahead

It should be pointed out that the COP21 Agreement is opaque and ambiguous. One may question if it constitutes a legally binding treaty as well as whether countries can bypass it by non-ratification. More serious is that there is no clear commitment to future dates when changes should start to take place or could be checked for having already taken place. The overall OBJECTIVES – + 1, 5 or + 2 – is to be achieved WHEN? And when is the reduction in CO2 emissions going to begin and at what pace—the overall MEANS.

There is planned an overview process to follow up on the promises made in the COP21 Agreement, starting 2018 and returning with some 5 years interval. Perhaps the goals and means will become more concrete around 2020, especially if the signs of climate change are strengthened.

The COP21 Agreement singles out two most important objectives to be initiated as soon as possible, of after 2018, namely:

1) To halt the increase of CO2 emissions, and possibly start a process of declining CO2 emissions;

2) To protect the world forests against deforestation and desertification.

How could these goals be implemented? First and foremost, governments could initiate policies in relation the basic facts in Figure 1. The task to halt the progression of Green House Gases (GHG), especially carbon dioxide is going to prove very difficult, given the restriction or condition that economic development or growth must continue. Figure 1 shows the dilemma those countries on Planet Earth face, namely steadily growing CO2 emissions with huge economic development in the form of industrialisation and urbanisation. Can governments counter-act the enormous use of fossil fuels and the on-going deforestation? Of course, governments could look at policies directed at other human sources of greenhouse gases, e.g., methane from the more than billion cows or the methane hidden underneath the permafrost in Siberia.

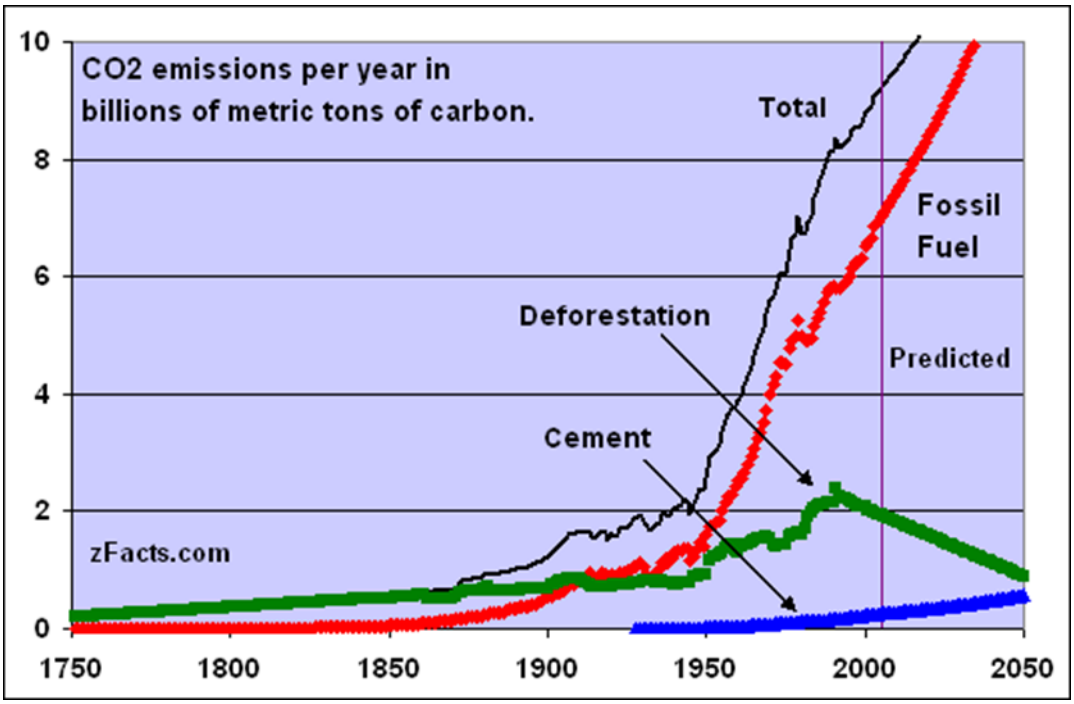

Figure 1. CO2: Global Carbon Dioxide Levels 1750

http://zfacts.com/p/194.html

By focussing upon CO2 emissions and deforestation, the 195 governments behind the COP21 Agreement want to promote decarbonisation in two ways, namely cutting supply of it and maintaining demand for it. Can this double sword policy really be implemented?

The COP21 Treaty leaves out economics to a large extent. Economic development in poor nations and economic growth in rich countries are not be significantly impacted. When developing countries face costs due to decarbonisation, then the super fund is planned to step in.

We now present the actually existing relationship between CO2 emissions and GDP.

WORLD: GDP – CO2 (LN): Equa.: $y = 0.7963x + 5.9638$; $R^2 = 0.9734$

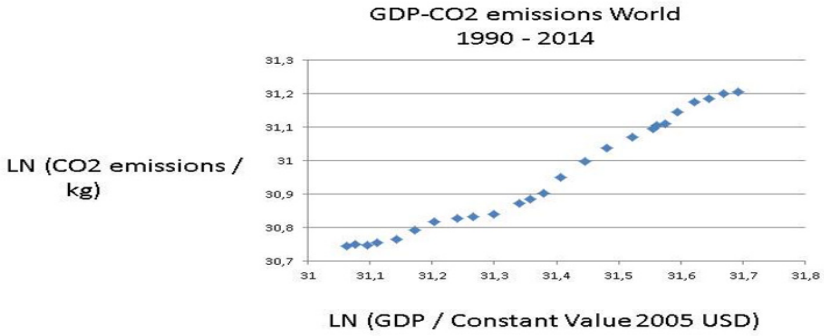

Figure 2. World: GDP-CO2

The global situation in Figure 2 does not look promising at all. The increase in CO2 emissions is phenomenally strong during the last twenty years, when energy consumption has also skyrocketed. Could really the amount of CO2 be pushed down considerably without seriously dampening the increase in GDP? Let us take a look at some country situations to see whether sharp decreases in CO2 emissions can be expected in the near future? We examine the ten largest polluters of CO2 and a few other nations too.

3. Country Overview I: Increasing CO2

We start with the country that has the largest amount of pollution. I argue that total CO2 emissions are the key to the global climate process unfolding. In the literature, there is another focus, namely CO2 emissions per capita with the aim to verify or falsify the existence of so-called Environmental Kuznets's W (EKC). However, it is total emissions of CO2 that drive climate change.

CHINA: GDP-CO2: Equa.: $y = 0.7025x$; $R^2 = 0.9706$

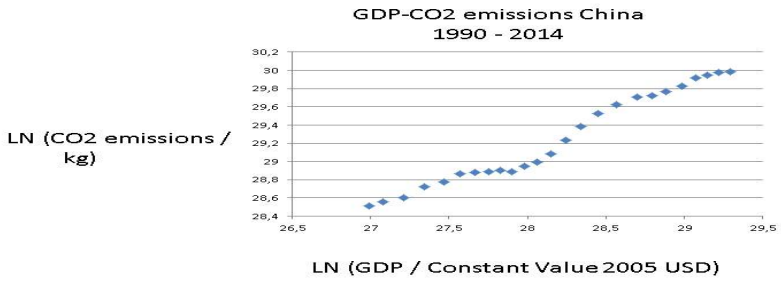

Figure 3. China: GDP-CO2

The climate policies of China are hardly coherent. The environment in China suffers from the period of excessive industrialisation and urbanisation, resulting lack of clean air, clean water and clean surroundings. However, China appears to rely upon foreign initiatives in order to give priority to ecology ahead of economic development. China's CO2 goals have been stated in various ways, on the hand talking about halting the increase in CO2 relative to the GDP, on the other hand promising an absolute cap on these emissions from either 2018 or sometime 2025.

INDIA: GDP-CO2: Equa.: $y = 0.7702x + 6.7864$; $R^2 = 0.9899$

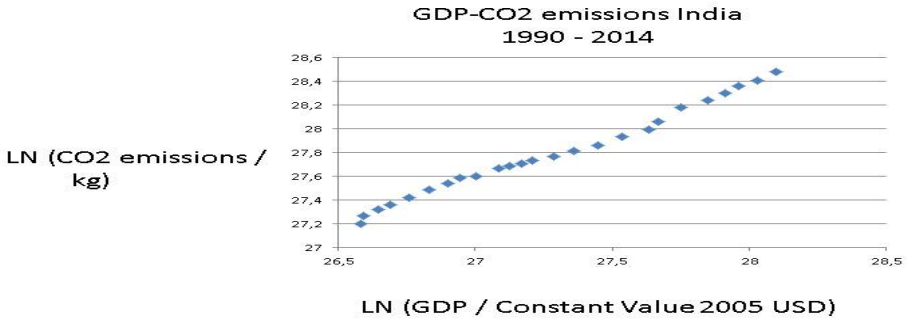

Figure 4. India: GDP-CO2

India is rapidly becoming the future polluter number 1, due to its phenomenal population growth as well as immense reliance upon coal. Some 300 million inhabitants lack access to electricity. Attempts

are made to go into other energy sources, like nuclear power and renewables, but the size of the problem of decarbonisation of Indian electricity production is simply enormous. Then we must add the rapidly growing transportation sector with heavy polluting vehicles. Surely, India must be a candidate for massive support from the super fund.

INDONESIA: GDP-CO2, Equa.: $y = 0.9452x + 1.5811$; $R^2 = 0.8847$

This giant islands country with a fast growing economy has now become the number 4 polluter of CO2 in the world, after the US as third. Not only is there CO2 emissions coming from the thriving economy, the augmentation of living standards, more advanced agricultural production, urban congestion but very significantly the haze from the burning down of the rain forest in Sumatra and Kalimantan – a bad and seemingly unresolvable problem for its neighbours. Developing countries with dynamic economies tend to look like the picture for Indonesia.

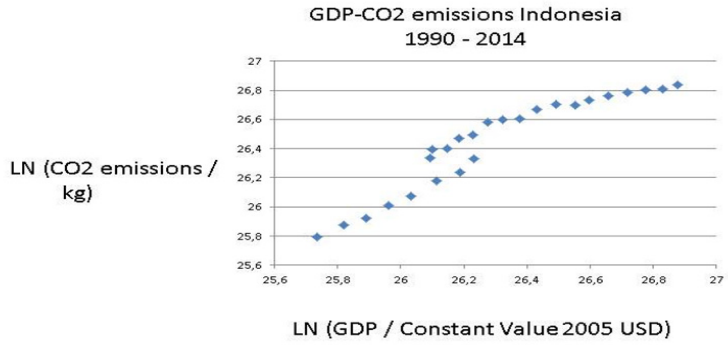

Figure 5. Indonesia: GDP-CO2

SOUTH KOREA: GDP-CO2: $y = 0.646x + 9.1922$; $R^2 = 0.9604$

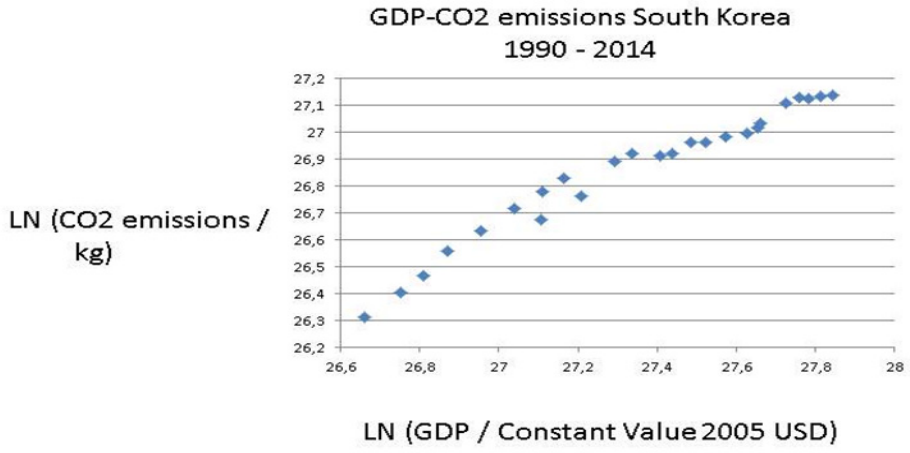

Figure 6. South Korea: GDP-CO2

As a major industrial economy in the world, South Korea has not only great economic affluence but also huge CO2 emissions. The country is heavily dependent upon imported fossil fuels for industry, electricity and transportation. All the so-called Asian tigers display the same combination: large GDP per capita—huge CO2 emissions. Several advanced economies look like this picture for South Korea, but there are a few exceptions to be dealt with below.

CANADA: GDP-CO2; Equa.: $y = 0.7963x + 5.9638$; $R^2 = 0.9734$

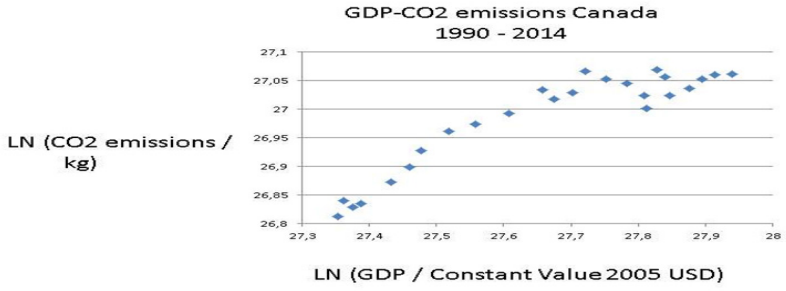

Figure 7. Canada: GDP-CO2

Canada reminds of the picture for South Korea, Canada being highly affluent and engaging in oil- and gas production on a large scale. Canada has considerable renewable sources of energy but is still one of largest emitters of CO2, a typical feature of oil and gas producing countries like the UAE and Qatar. Take a look at Saudi Arabia!

Saudi Arabia: GDP-CO2: Equa.: $y = 1.027x - 0.7706$; $R^2 = 0.9508$

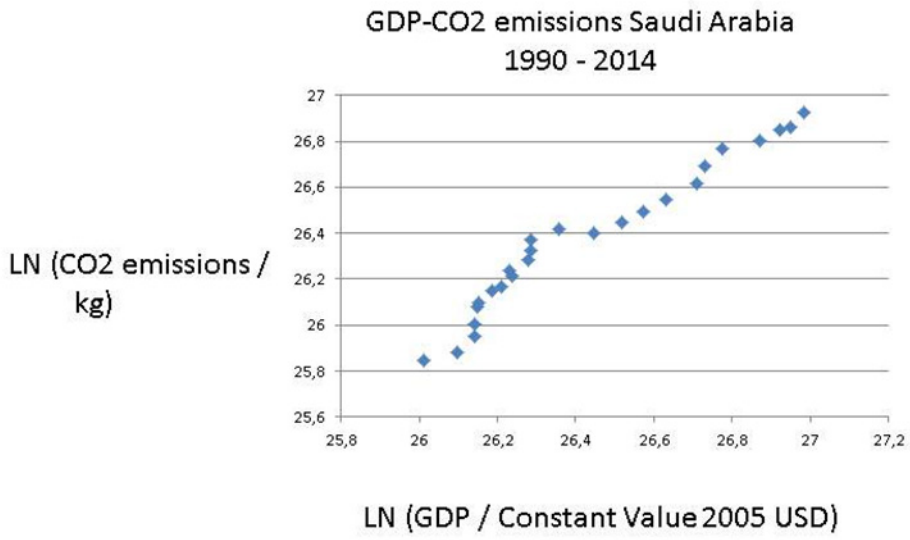

Figure 8. Saudi Arabia: GDP-CO2

The Gulf States have not only the highest income per capita in the world but also the largest emissions per capita. What they need besides petrol for all the elegant cars is electricity to run all the extravaganzas:

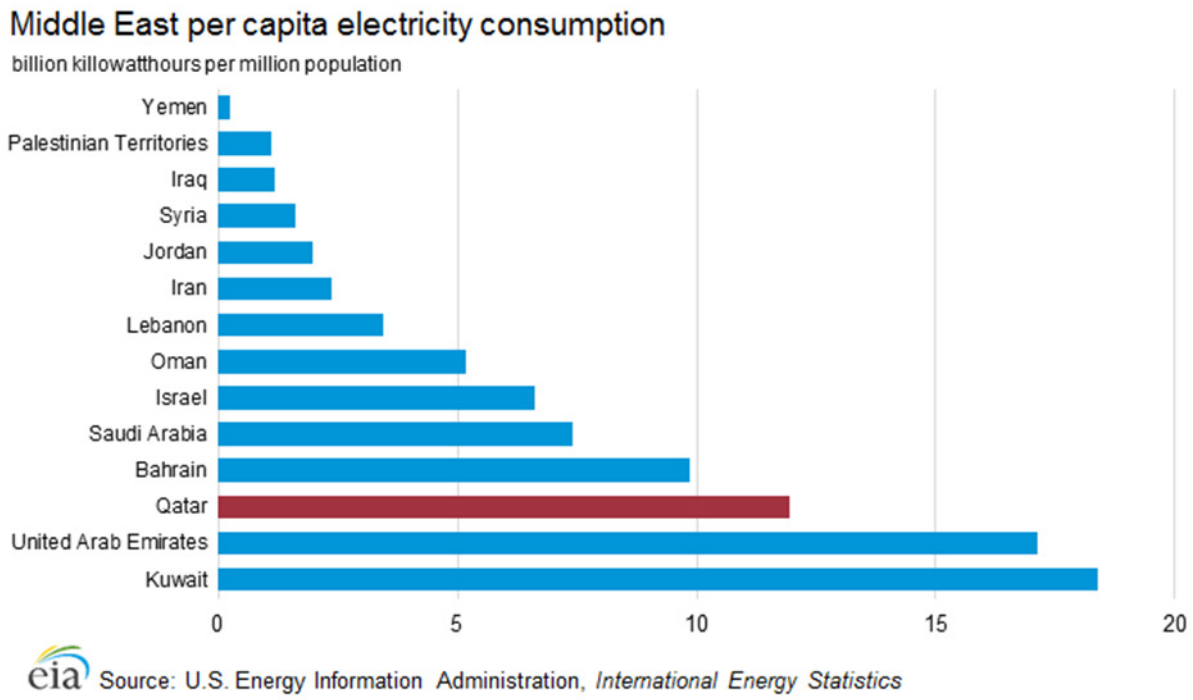

Figure 9. Electricity Per Person

BRAZIL: GDP-CO2; Equa: y = 1.029x – 1.7231; R^2 = 0.9456

Brazil employs the most biomass—ugar canes-in the world, but the emissions stay at a high level, which is a reminder that renewables may also have GHG:s. One advantage for Brazil is the large component of hydro power, but the overall picture for the largest Latin American country is not promising when it comes to the reduction of emissions. Global warming reduces the potential of hydro power, and Brazil has very little nuclear power (Figure 15).

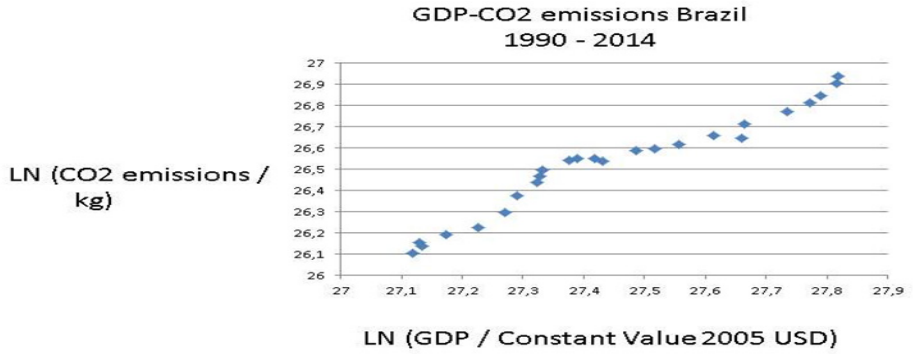

Figure 10. Brazil: GDP-CO2

PAKISTAN: GDP-CO2; Equa.: y = 1,0445x - 0,9726; R^2 = 0,9561

It is true that Pakistan as a poor developing country is not a major polluter, neither totally or on a per capita basis. But the trend is clear and the problematic is the same as with e.g., India—Where to find new energy sources for a rapidly growing population? Similarly, Pakistan employs a considerable portion of hydropower-13 per cent- and a minor portion of nuclear power, but the main source is fossil fuels.

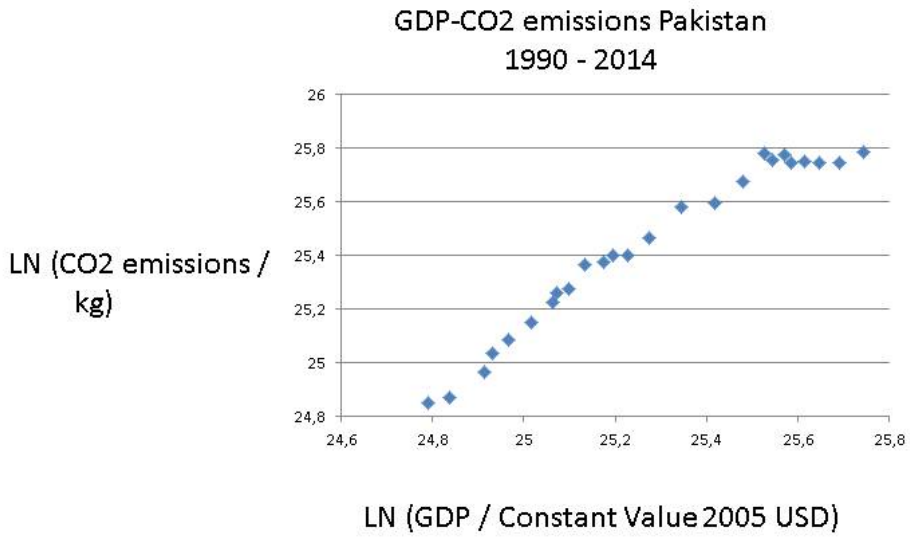

Figure 11. Pakistan: GDP-CO2

4. Decreasing CO_2 Emissions

We come to a few countries that could fulfil their obligations according to the COP21 Agreement, because they are already at a stage with declining CO2 emissions. The question is whether these reductions will continue and offset the increases we have seen above.

USA: GDP-CO2; Equa.: $y = -0.321x + 36.65$; $R^2 = 0.4868$

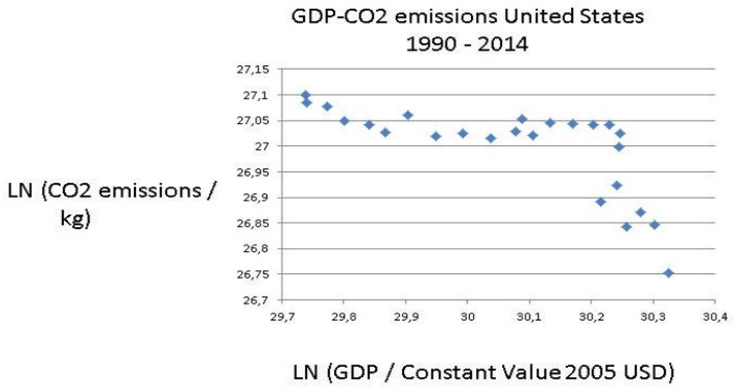

Figure 12. USA: GDP-CO2

What lies behind the strong decrease in these emissions for the second largest polluter in the world? Could it simple be the economic downturn after 2007? It has been argued that economic downturn reduces CO2 emissions. Or can we say that new energy technology has started to bear fruit? With the shale oil and gas revolution, coal consumption could be cut back further. Solar energy is on the rise whereas nuclear power is not further developed. Using renewables like corn is far from as efficient as cutting sugar canes.

GERMANY: GDP-CO2; Equa.: $y = -0.6929x + 47.334$; $R^2 = 0.882$

One should of course recognize that the EU as a whole is the second largest CO2 polluter. But here we focus on single nations. And then we must mention the two of the largest emitters: Germany and France besides the UK and Italy. Each nation has its own energy-environment policy mix.

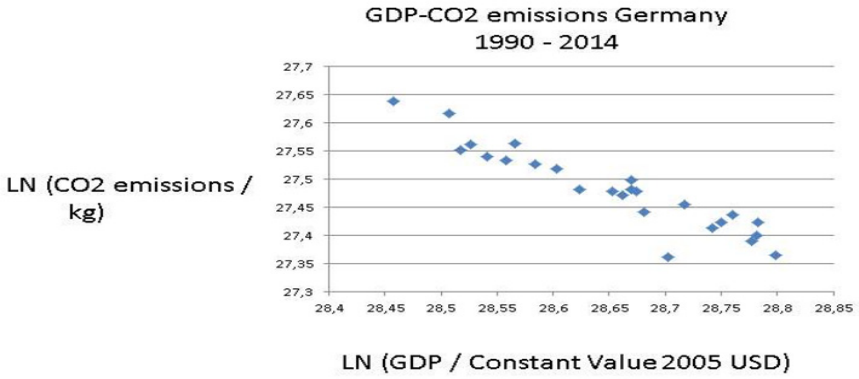

Figure 13. Germany: GDP-CO2

The German data shows a consistent decreasing trend, which is not to be found with many countries, if at all. How come this German exceptionalism? Germany needs massive amounts of energy, but it decided to phase out nuclear power. Can really the domestic employment of renewables satisfy this gigantic demand? Now it imports coal from Columbia, gas from Russia and oil the Gulf. In the future, it may need nuclear energy from France!

FRANCE: GDP-CO2; Equa.: $y = -0.1303x + 30{,}369$; $R^2 = 0.0795$

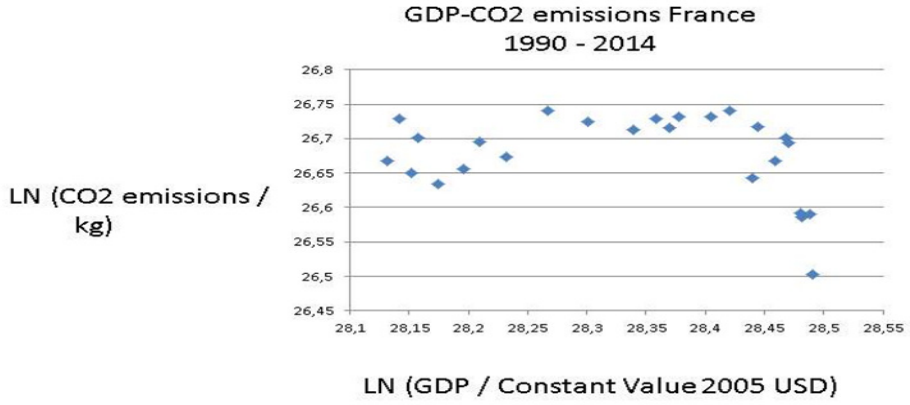

Figure 14. France: GDP-CO2

France displays a sharp decline for the last decade, due either to the economic downturn or the massive employment of nuclear power. France had decided to reduce its reliance upon nuclear energy, believing that renewables can fill the gap and also allow for a reduction in CO2. It remains to see what happens when the French economy picks again.

5. Volatile CO2 Records

The implementation of the COP21 Agreement hangs upon that true information is available publicly. There could certainly be incentives to report falsely in order to receive some leeway. Actually, it is not always easy to tell whether numbers are correct. Look at the Diagram for Russia, one of the largest CO2 polluters.

Russia: GDP-CO2; Equa.: $y = 0.1422x + 24{,}328$; $R^2 = 0.1094$

In September 2013, Russia adopted a domestic Green House Gas (GHG) emissions target that limits emissions to 75 per cent of the 1990 level by 2020. The structure and trends of the past and future national GHG emissions are analysed based on the recent lower growth assumption of the national economy. This makes the target achievable given that: technological emission reduction opportunities are used effectively; non-economic risks that can drive GHG emissions to exceed business-as-usual scenarios are eliminated; and the use of carbon instruments is accelerated. Understanding the costs of climate change to the national economy could make expenditure on mitigation acceptable and thus facilitate establishing an ambitious post-2020 goal. The lack of information on these costs is the basic

reason for Russia's quiescence on climate mitigation. Any future international climate agreement will fail to change this without awareness of the risks of climate change for the Russian Federation. As a result, Russia is unlikely to proceed beyond the "economically viable" development path almost equivalent to its business-as-usual trajectory, which rejects the additional costs associated with emission reductions. This is more or less equivalent to the adopted domestic target, depending to some extent on which of the existing policies proves to be viable in practice.

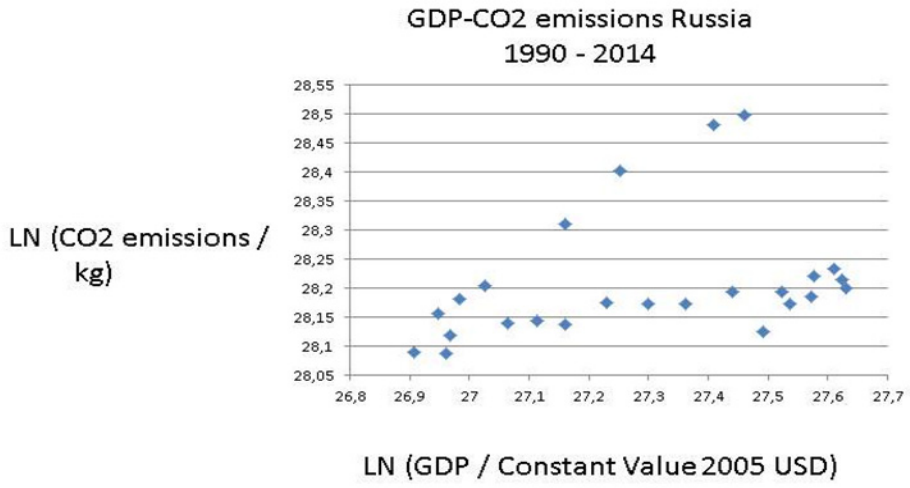

Figure 15. Russia: GDP-CO2

Why so large jumps in this Diagram? Difficult to measure? Or merely tactics? Russia was the most polluting country in the world during the Soviet Era. The closure of many factories and mines has improved the situation – enough to warrant the fall in the Diagram?

Turning to a developing country, one finds a similar set of numbers that are difficult to interpret. Nigeria's oil and gas industry presents a major threat not only to its financial soundness (corruption) but also to its entire environment.

NIGERIA: GDP-CO2; Equa.: $y = 0.1422x + 24.328$; $R^2 = 0.1094$

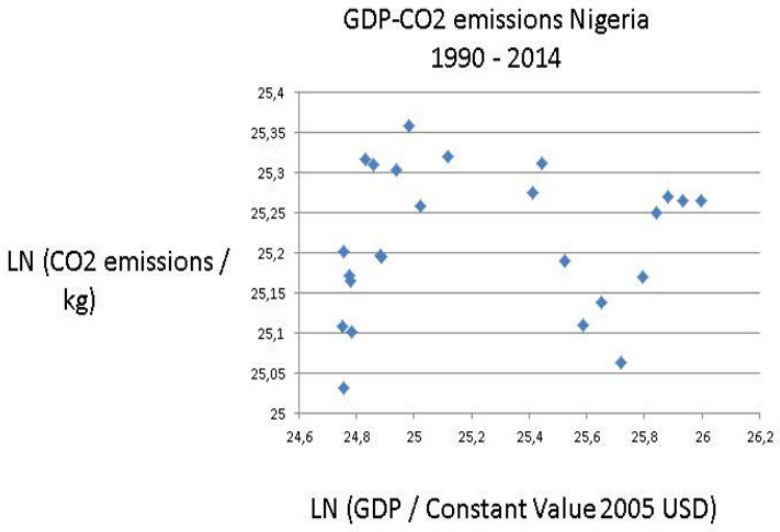

Figure 16. Nigeria: GDP-CO2

The trend for Nigeria, now Africa's largest economy, is sharply down but rising again. Not only the estuaries of the country have been badly hurt by the oil exploitation, but global warming in the North drives deforestation and desertification.

6. Summary

Although a few countries have halted the augmentation in CO2 emissions and even started to decrease them, this positive trend is not enough for hindering that global totals remain very high or even increase somewhat. The scenario below would be very damaging:

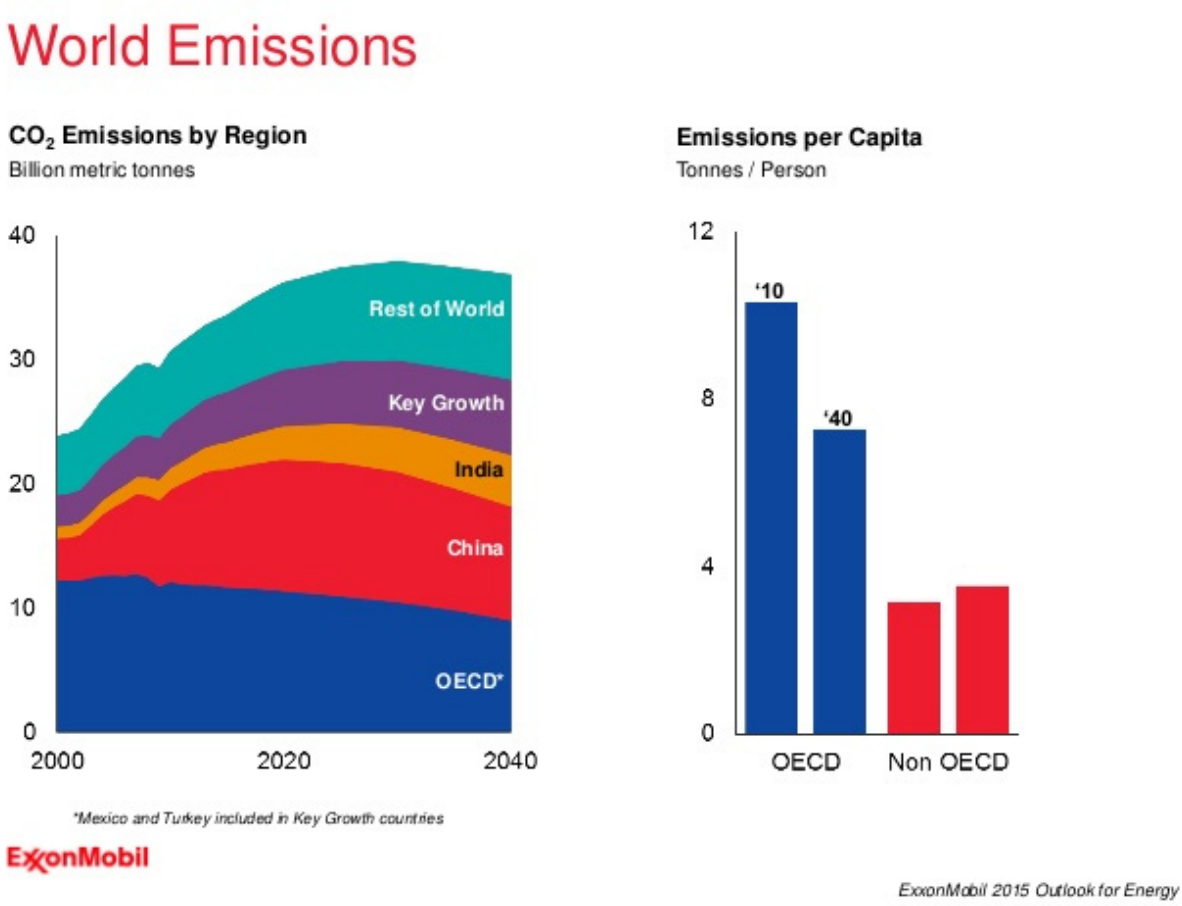

Figure 17. Global CO2 Emissions in Projection

It is very urgent that nations come up with concrete strategies for reducing the CO2 emissions, either by separate policies or common approaches like the carbon tax. Time is running out for halting global warming. Even the fresh water in the world is now becoming warmer, which is very negative. The world has to accept the economic costs-lower growth—for reducing CO2 emissions.

7. Deforestation

If the supply of hazardous CO2 does not decline notably, can there then be helping coming from stopping deforestation? The answer is: NO. Several governments are not capable of protecting their valuable forests and other governments are not eager to take on the costs of doing so. The rain forests are doomed and the huge Siberian forests will be decimated.

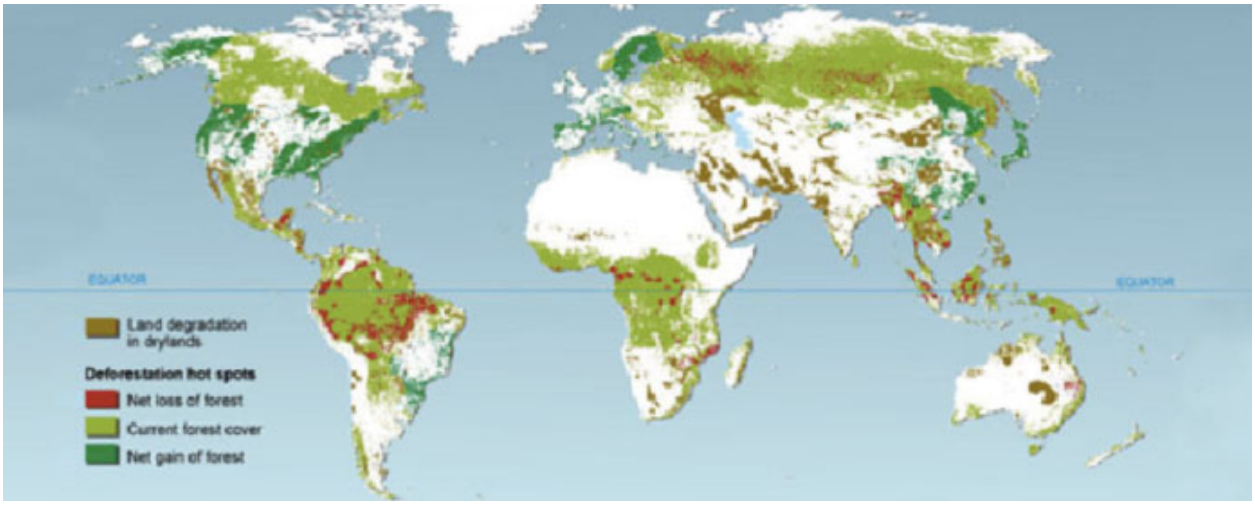

Figure 18. Deforstation

http://www.globalgreencarbon.com/images/image/land-degradation-map.jpg

Can really the COP21 Agreement stop deforestation in the areas above? I doubt that very much. Deforestation is driven by powerful economic forces that are both difficult and very costly to control and restrain.

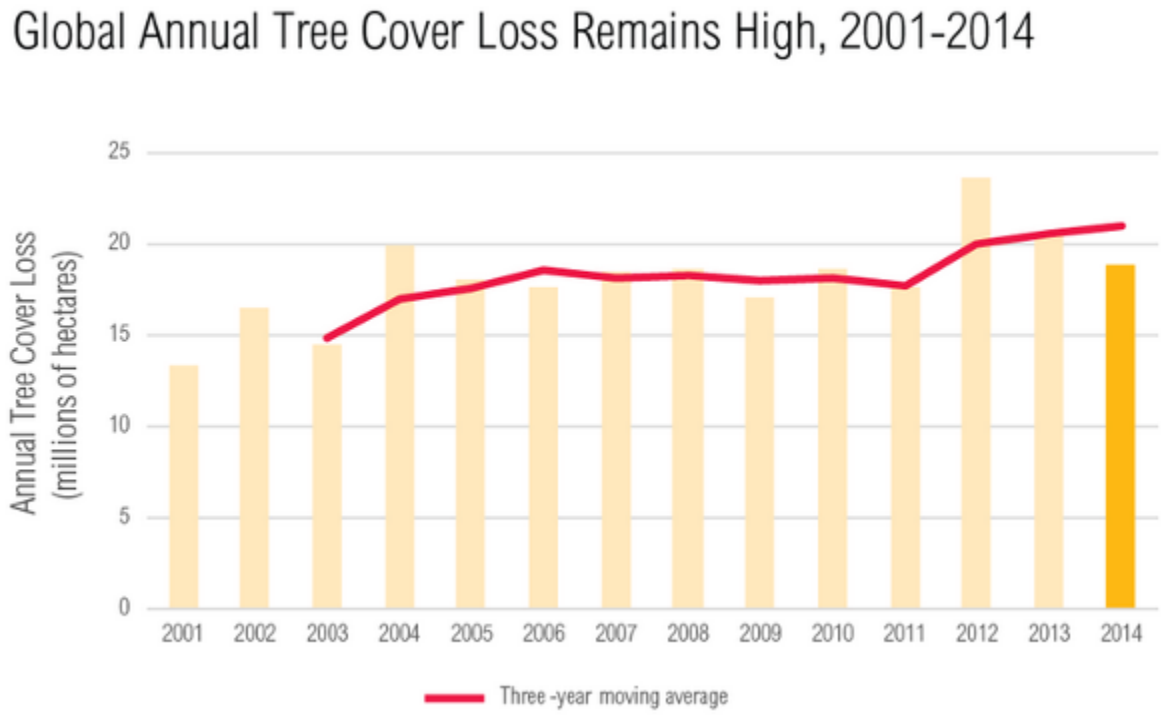

Figure 19. Global Annual Tree Cover Loss Remains High, 2001-2014

The rain forest is cut down for economic reasons: wood for both timber and making fires, agriculture for both small and large farms, land for poor farmers who don't have anywhere else to live, grazing land for cattle, pulp for making paper, road construction as well as extraction of minerals and energy. The governments of Brazil, Indonesia and Central Africa give a high priority to cattle farming, soya agriculture, palm oil and exquisite wood for house construction (e.g., Gabon). The Russian government has other priorities than stopping logging in Siberia,

Deforestation often leads to desertification, as in the greater Sahara region and India. Poor farmers need wood for making fires in order to survive. They also need palm oil, so they burn the rain forests of Indonesia with enormous haze. Palm oil is big business just as illegal logging for exquisite timber, often ending up in China. The prospects for reducing CO2 emissions by saving and planting more forest is bleak.

8. Conclusion

Wildavsky argued that we tend to forget the implementation stage in policy-making. It is all but simple. And things could go terribly wrong. The implementation of the COP21 Agreement will be extremely difficult, not only because it is global policy-making over the heads of sovereign states, but also due to the economic implications of measures to reduce CO2 emissions. The world needs not only lots of new energy technology but also the will to make the environment and not economic growth its FIRST priority. Priorities much change, if the COP21 Treaty will have any chance of successful implementation. But how likely is that really?

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CO2: EU CO2 Edgar database.

GDP: World Bank Data indicators.