DEBT OR (AND) CHAOS ?

WHY ARE COP'S INEFFECTIVE ?

SUMMARY

The aim of this study is to bring people to reflect on the underlying reasons for the failures of the COPs since 27 years and future COPs, using a global and neutral mathematical angle of vision.

Alexandre DUMAS wrote : *"Do not estimate money more or less than it is worth : it is a good servant and a bad master."*

Money is a tool invented to facilitate exchanges, a substitute for barter.

The financialization of the economy concentrates money, transforming money, a servant tool, into a bad master, a creditor conditioning its debtor to an exclusively financial constraint.

DEBT has become the main lock forcing humanity to destroy the climate, biodiversity and, more generally, everything that does not produce short-term GDP growth.

Debt is GDP on credit, conditioned by the commitment to its future growth, demanded by creditors as a guarantee of repayment capacity, destroying the climate and biodiversity.

After the "glorious thirties" (1945-1974), the governments of the rich countries suffered a sharp increase in the price of oil, wich they had to import. They then resort to creating debt to maintain their standard of living (GDP growth) and continue their development, on credit.

From 1984, the rich countries wanted to boost the growth of their GDP. They will then create a veritable financial debt industry.

12/11/1999 discreet global financial coup d'état : end of the separation of the deposit bank and the investment bank put in place after the Great Depression of 1929 to protect the savings of individuals (GlassSteagall Act of 1933). Investment banks are become systemic.

Investment banks can now borrow from deposit banks to speculate, invest, create new products, under the permanent threat, in the event of bankruptcy, of creating chaos by causing the bankruptcy of deposit banks and the leaching of personal savings.

The 2008 crisis (Lheman Brothers) and the emergence of the "*too big to fail*", forcing governments to bail out the banks under threat of a global economic collapse, will confirm this discreet global coup d'état of the financial industry.

From now on, the financial industry holds the governments by the double threat or hostage of :

- non-refinancing of the perpetual debt that has become too large to be repaid

- leaching of the savings of the deposit bank permanently threatened by the bankruptcy of the banks

The consequences of one or the other, or both simultaneously, being catastrophic for States : collapse, chaos, civil war, suffering and lasting economic crisis.

The existence of States is now totally dependent on the financial industry.

The financial industry has thus placed itself above the constitutions of States and the general interest, conditioning their survival on the obligation of GDP growth required to guarantee the perpetual refinancing of their debts, which have become too large to be repaid.

The financial industry will organize a competition between States, a contest for the highest GDP growth, to set the financial conditions for the refinancing of the debt at each maturity, arbitrated by three rating agencies (Fitch, Standards & Poors and Moody's).

This GDP growth guarantees the refinancing of the debt and its increase (deficits) at the best conditions, according to its ranking and future growth commitments.

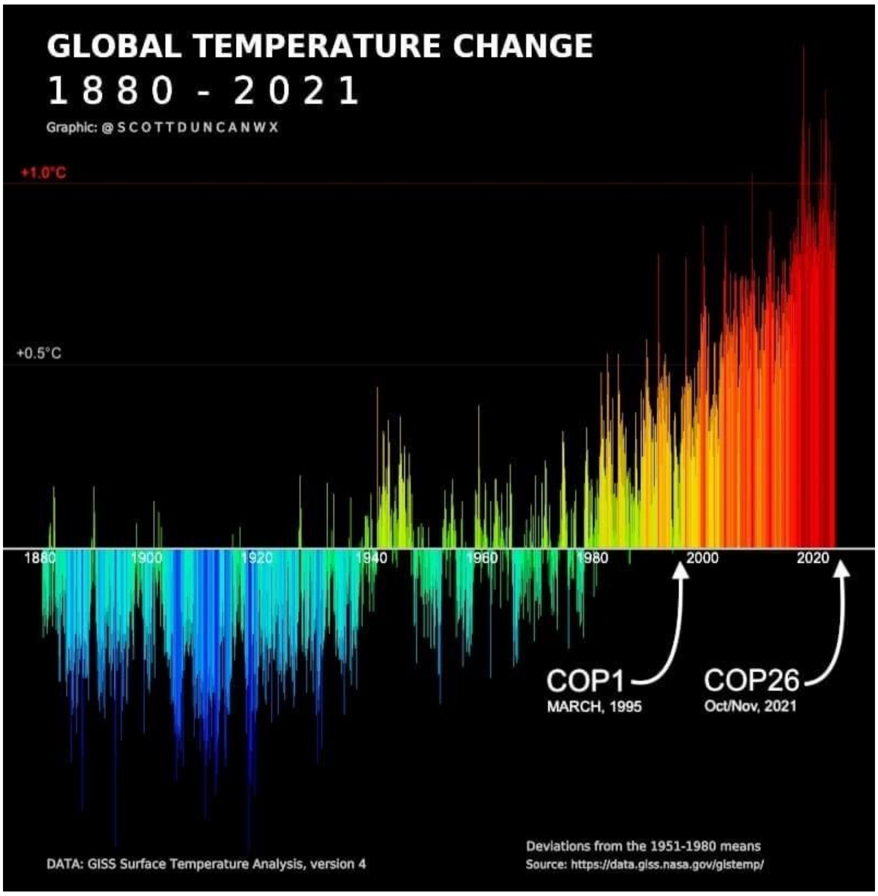
The States imperatively and perpetually need to obtain new loans, in constant growth, to pay the interests of the previous ones and the new deficits caused by the decrease of tax revenues expatriated by the multinationals in tax havens.

There can be no Union of the Nations of the world to solve the urgency of the climate crisis, to save biodiversity and humanity, if the Nations are in financial competition with each other.

Any requirement in terms of climate and biodiversity is immediately perceived as a competitive handicap, a hindrance in this competition for the highest GDP growth.

However, this famous "GDP growth" has mainly become future debt.

The human, economic and financial conventions of infinite indebtedness have given the illusion of infinite growth in a finite world.



The uninhabitability of the Earth, for the human race, is already underway, as in the cities of Jacobabad and Ras Al Khaimah.

Debt will not break the laws of physics, despite the illusion of GDP growth.

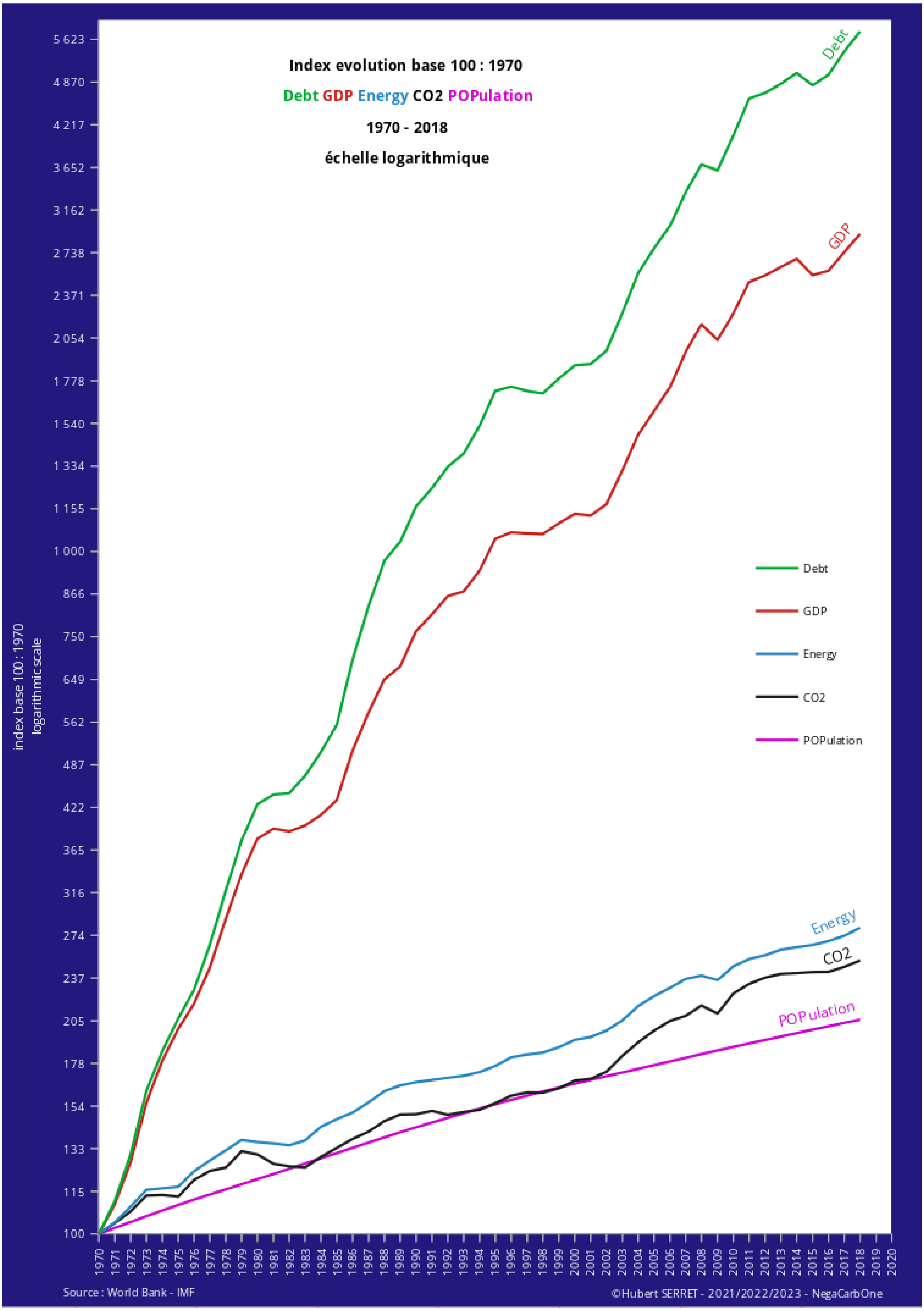
Humanity is facing the greatest civilizational challenge it has ever known : the survival of its species or the maintenance of human financial conventions of infinite indebtedness until the total destruction of the habitability of the Earth for humanity.

Table des matières

"*The truth is that it is a matter of finding the problem and therefore of posing it, even more than of solving it. For a problem is solved as soon as it is well posed.*" Henri BERGSON

1 PREAMBLE

IN PURSUIT OF INFINITE GROWTH IN A FINITE WORLD



"*In science, finding the right formulation of a problem often allows us to solve it.*"
Stephen HAWKING

HOW THE DEBT BLOCKS HUMANITY AND IMPOSES :

- GLOBAL WARMING, DISRUPTION, CLIMATE CHANGE

- THE DESTRUCTION OF BIODIVERSITY AND THE ENVIRONMENT

LEADING TO THE UNINHABITABILITY OF THE EARTH FOR HUMANITY

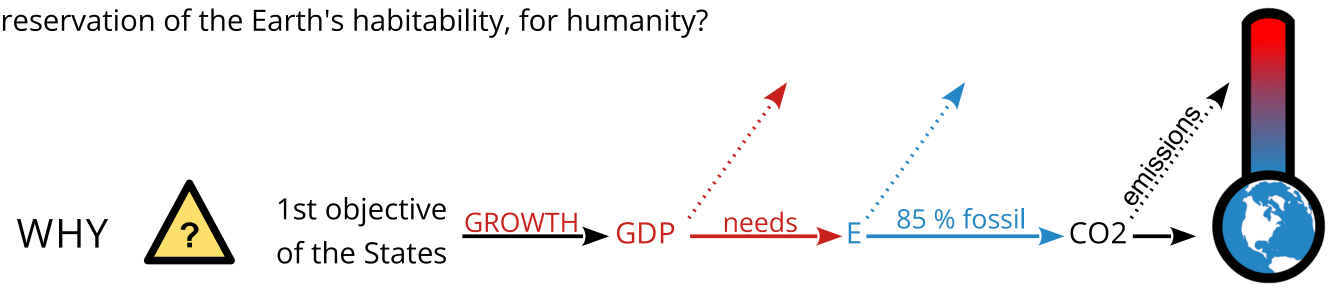
Why despite :

- all the increasingly alarmist reports from scientists, IPCC, Universities, NASA, NOAA etc.
- the repeated and growing warnings from the UN and WMO
- all the annual COP's, on climate and biodiversity, and their "commitments"...
- all the declarations of political intentions and other "One Planet Summit" communications...
- all the political changes and their campaign promises...
- all the demonstrations, individual and collective awareness

nothing seems to be able to stop the continuous increase of CO2 emissions, the destruction of biodiversity, the acceleration and the runaway of global warming ?

What is this "invisible force (hand ? Adam Smith)" that imposes, on all the States of the world, as an absolute priority, the famous "growth", that of the GDP (Gross Domestic Product), even though, paradoxically, the States know that this growth of the GDP leads to an increase in the consumption of energies (E), 85% of which are fossil fuels, emitters of GHGs (Greenhouse Gases) that cause global warming, and that call into question the future of the generations to come, as well as the inhabitability of the Earth for humanity?

Is climate science and the 30 years of reports of more than 4,000 climate scientists experts of the IPCC, sufficient to understand the mechanism that imposes growth (GDP), CO2 emissions (GHG) and the destruction of biodiversity before science the future of future generations and the preservation of the Earth's habitability, for humanity?

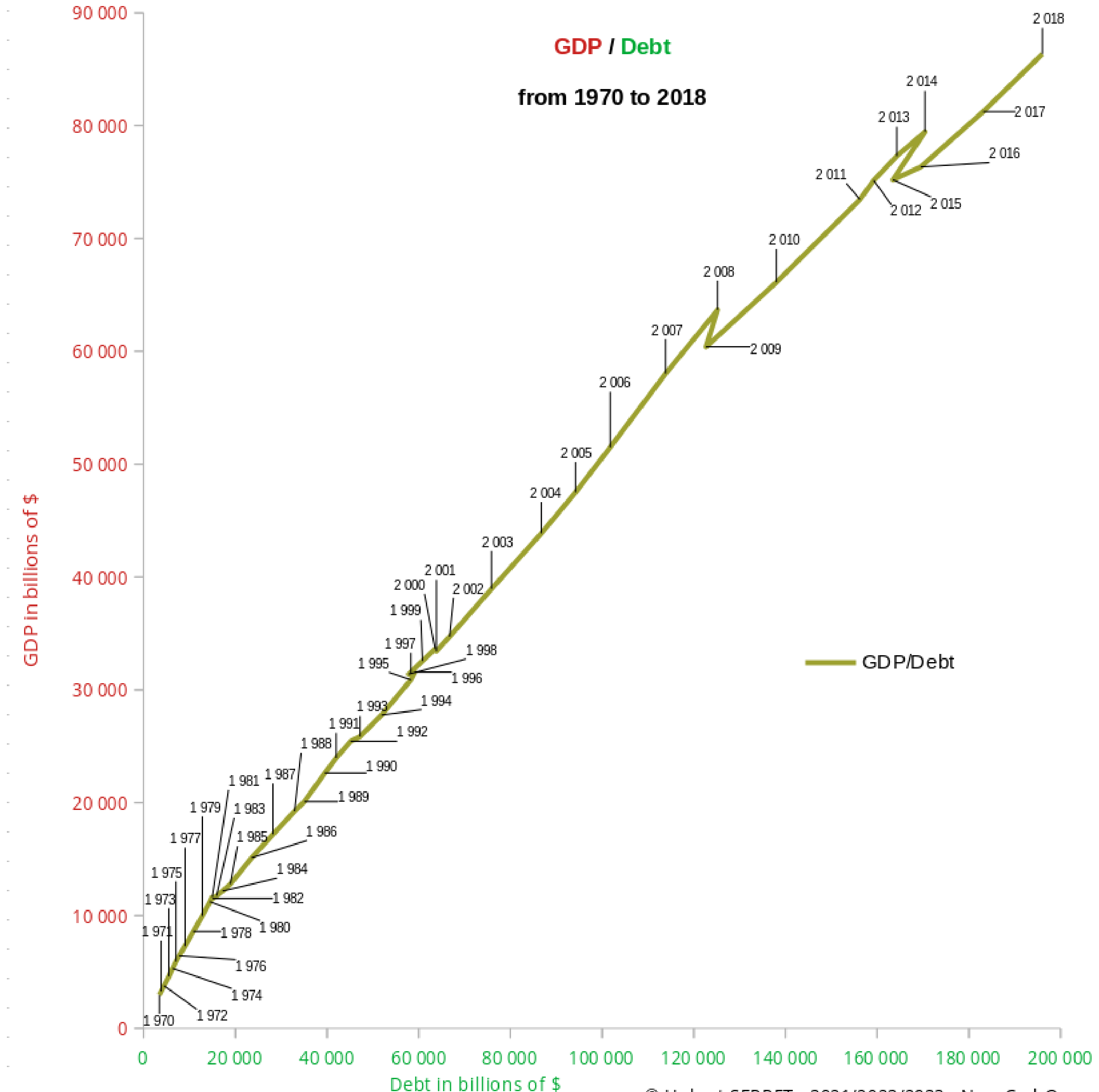


Kaya's Equation $CO_2 = \frac{CO_2}{E} \times \frac{E}{GDP} \times \frac{GDP}{POP} \times POP$, has demonstrated that the CO2 emission's are due to the CO2 content of the primary energy (E) consumed (CO2/E), 85% of which is of fossil origin. POP being the world POPulation.

The States have therefore decided to decarbonize their energy mix by transforming 85% of fossil fuels into decarbonized energies ; this is the famous "*energy transition*"...

Problem : several studies ([MIT](#)), show that this transition will be long, 400 years, much too long compared to the time remaining (2 to 12 years) to limit the temperature rise to + 2°C.

Is the problem well enough posed to make its resolution possible ?
With a coefficient of determination (R^2) > 99.5% the relationship between debt (D) and GDP is very clear.



Source : World Bank - IMF

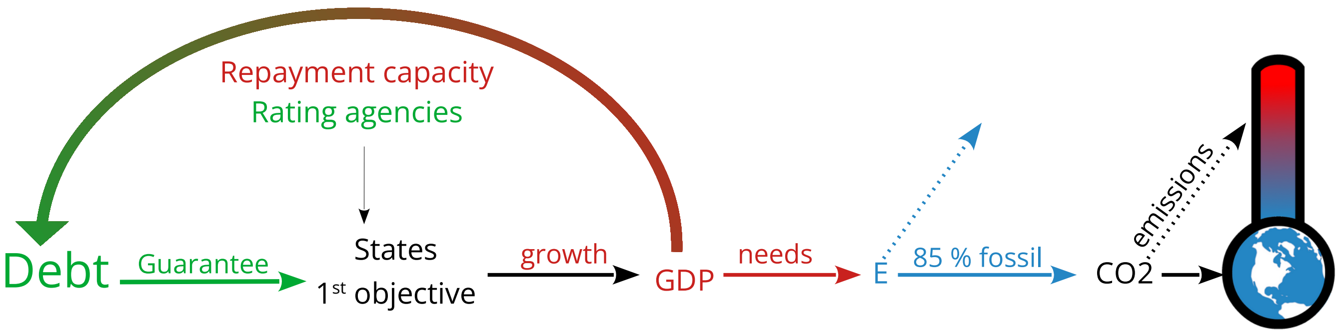
What is this force, this "*invisible hand*" (? A. Smith), that pushes States and their governments to prioritize "*growth*" (of the GDP) over everything else, even if it means destroying the climate and biodiversity and the habitability of the Earth for humans, in the name of this sacrosanct "*growth*"?

Why and how did this famous "*GROWTH*" become the leitmotiv that would be synonymous with "*happiness for humanity*" (...), often confused with the growth of the stock market, as, for example, the growth index of the CAC 40 which suddenly also becomes synonymous with happiness (...) by common assimilation to the magic word "*growth*"?

I propose you to study Kaya's equation, from the total world sourced values, World Bank and IMF, for all the parameters, by inserting a very important but "forgotten" parameter (?...) :

Debt (D)

$$CO2 = \frac{CO2}{E} \times \frac{E}{GDP} \times \frac{GDP}{D} \times \frac{D}{POP} \times POP$$



Sometimes, for some people, the word "equation" brings back bad memories of youth, difficult and complicated mathematics courses, leading to an almost Pavlovian reflex of rejection.

I reassure you, the Kaya equation is a simple equation, understandable by all.

Why use an equation?

Mathematics has the advantage of being neutral, it has no political, economic, religious, sectarian, ideological, dogmatic, philosophical or other opinions.

Mathematics is simply a neutral and objective tool to better analyze a problem.

Prof. Yoichi KAYA : Japanese energy economist who created this equation in 1993. Director General of RIITE: Research Institute of Innovative Technology (Japan).

Equation used by AIE, GIEC, JM JANCOVICI, Price Watherhouse Coopers, etc.

The aim is to link anthropogenic carbon dioxide (CO_2) emissions through 3 factors:

- E : Primary Energy consumed in toe (tons of oil equivalent) Reference of energy specialists
  1 toe = 11630 kWh

- GDP : Gross Domestic Product total value (goods + services) in a year in billions of US$

- POP : world POPulation mondiale in billions

The reasoning is simple :

$CO2 = CO2$ *until then, do we agree? ;-) in billions of tons of CO2 equivalent (GtCO2eq)*

$CO2 = \frac{CO2}{E} \times E$ *if we divide the CO2 by E and multiply it by the same E the operation is neutral*

$CO2 = \frac{CO2}{E} \times \frac{E}{GDP} \times GDP$ *idem : we divide E by GDP and multiply it by GDP, neutral operation*

$CO2 = \frac{CO2}{E} \times \frac{E}{GDP} \times \frac{GDP}{POP} \times POP$ *idem : we divide the GDP BY POP and multiply it by POP, neutral*

I propose to bring my stone to the building by inserting in the equation of KAYA a 5th factor which seems essential to me : D the world Debt in billions of US$.

$CO2 = \frac{CO2}{E} \times \frac{E}{GDP} \times \frac{GDP}{D} \times \frac{D}{POP} \times POP$ is the equation of Kaya + Debt

The interest of this equation is also to be able to analyze different ratios and their evolution over time, since 1970 :

CO_2/E = the average quantity of CO2 emitted per toe of primary Energy used in the world

> *How much CO2 is emitted on average worldwide per toe (tons of oil equivalent) of Energy and its evolution from 1970 to 2018 ?*
> *The toe (tonne of oil equivalent) is the usual measure of energy producers and the reference for global studies. 1 toe = 11 630 kWh*
> *Gtep means Giga i.e. in billions of toe or 10^9 toe.*

E/GDP = amount of Energy needed to produce $1 of GDP on average worldwide

> *How much E nergy does it take (gtoe = 10^{-6} TO e), on average worldwide, to produce 1$ of GDP and its evolution from 1970 to 2018 ?*

GDP/D = $ of GDP produced per $ of Debt contracted, yield of Debt in GDP produced in world average

> *How many $ of GDP s produced on average worldwide per $ of D ebt contracted and its evolution from 1970 to 2018 ?*
> G = Giga = billions = 10^9

D/POP = $ de Debt per capita

> *What is the average world D ebt in $ per capita of the planet Earth and its evolution from 1970 to 2018?*

POP is the world POPulation, the number of inhabitants on Earth in billions

We will study each factor in the order of the Kaya + Debt equation.

$$CO_2 = \frac{CO_2}{E} \times \frac{E}{GDP} \times \frac{GDP}{D} \times \frac{D}{POP} \times POP$$

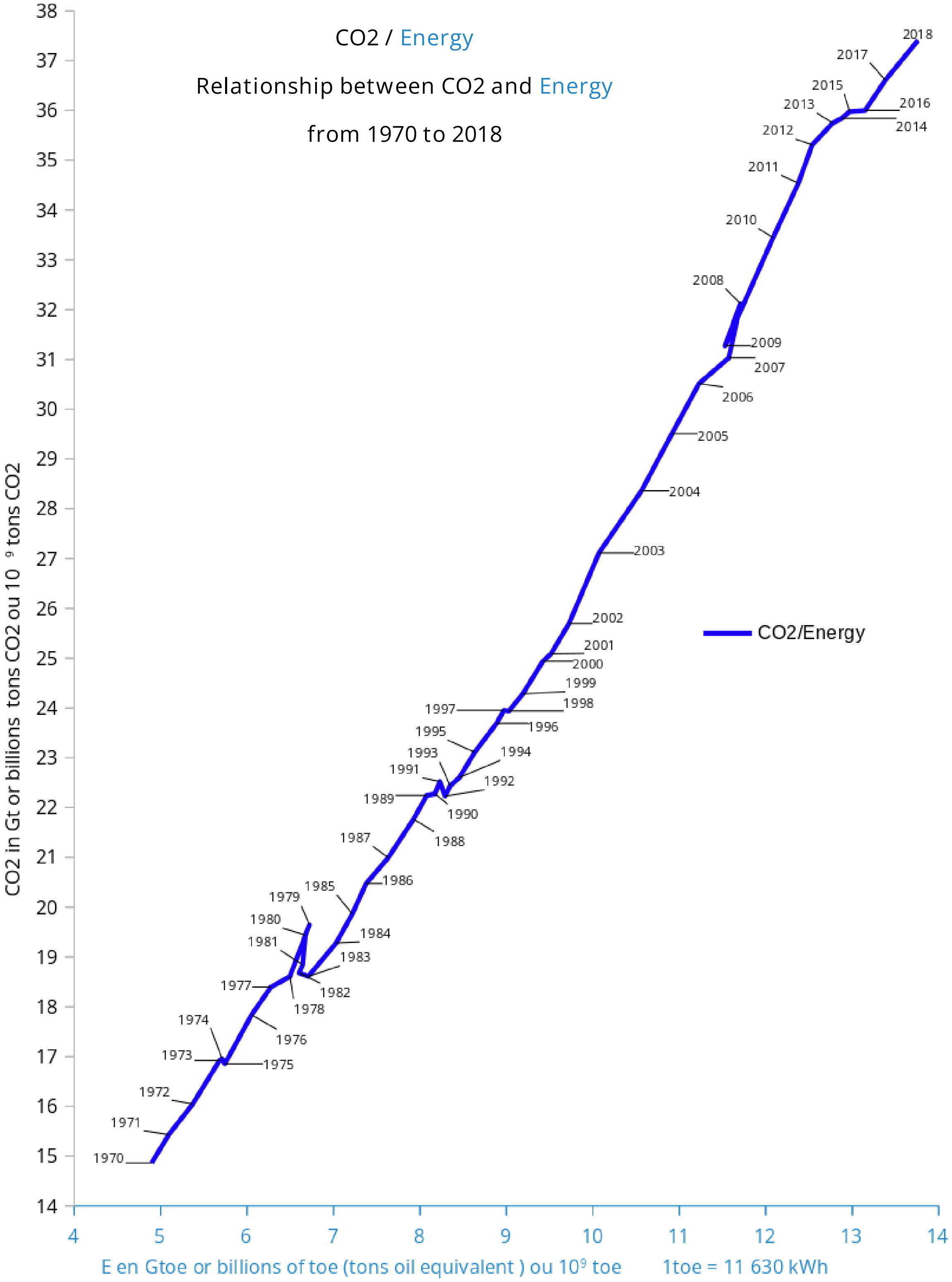
tCO2/toe | toe/$GDP | $GDP/$D | $D/hbt*

*hbt= inhabitants

2 KAYA EQUATION + DEBT

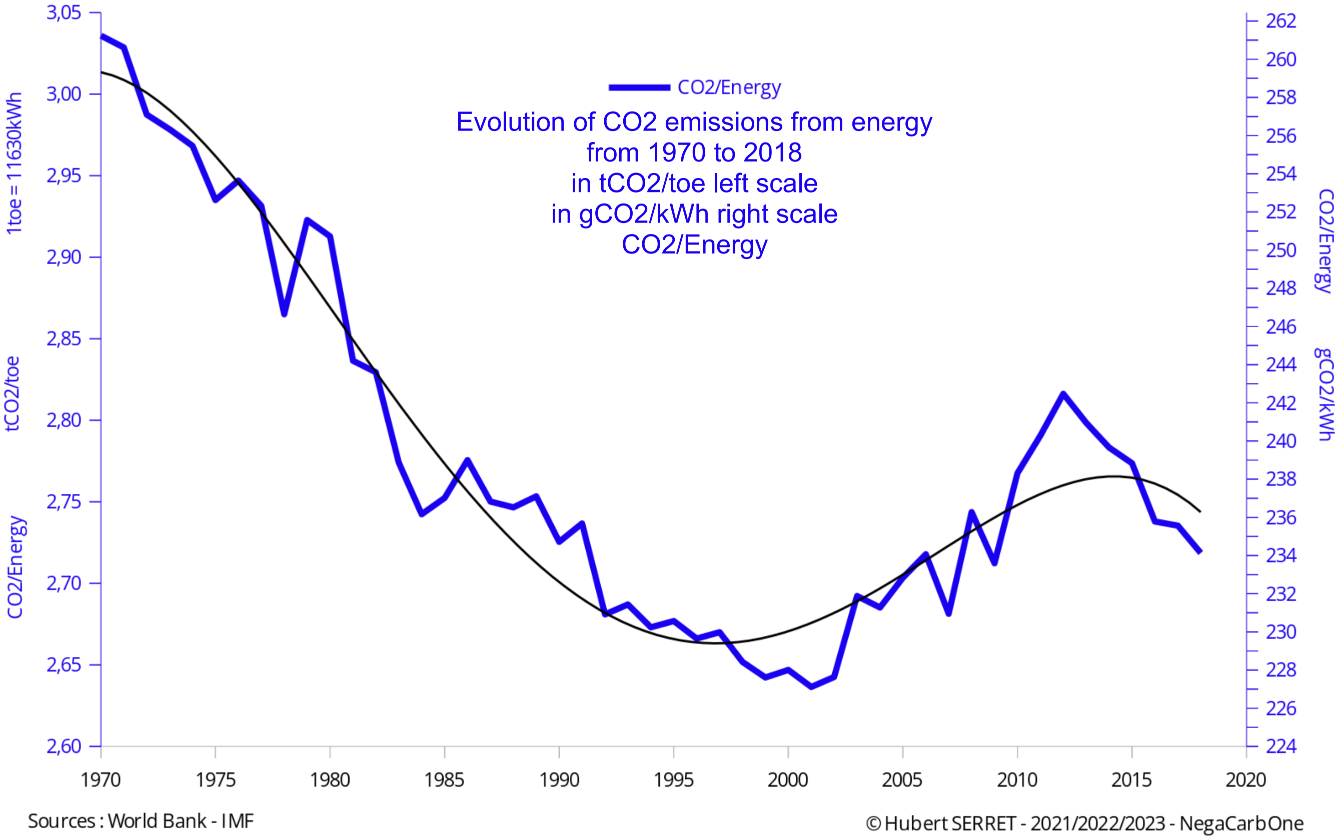
2.1 CO2/E : average quantity of CO2 per toe of primary energy (world average)

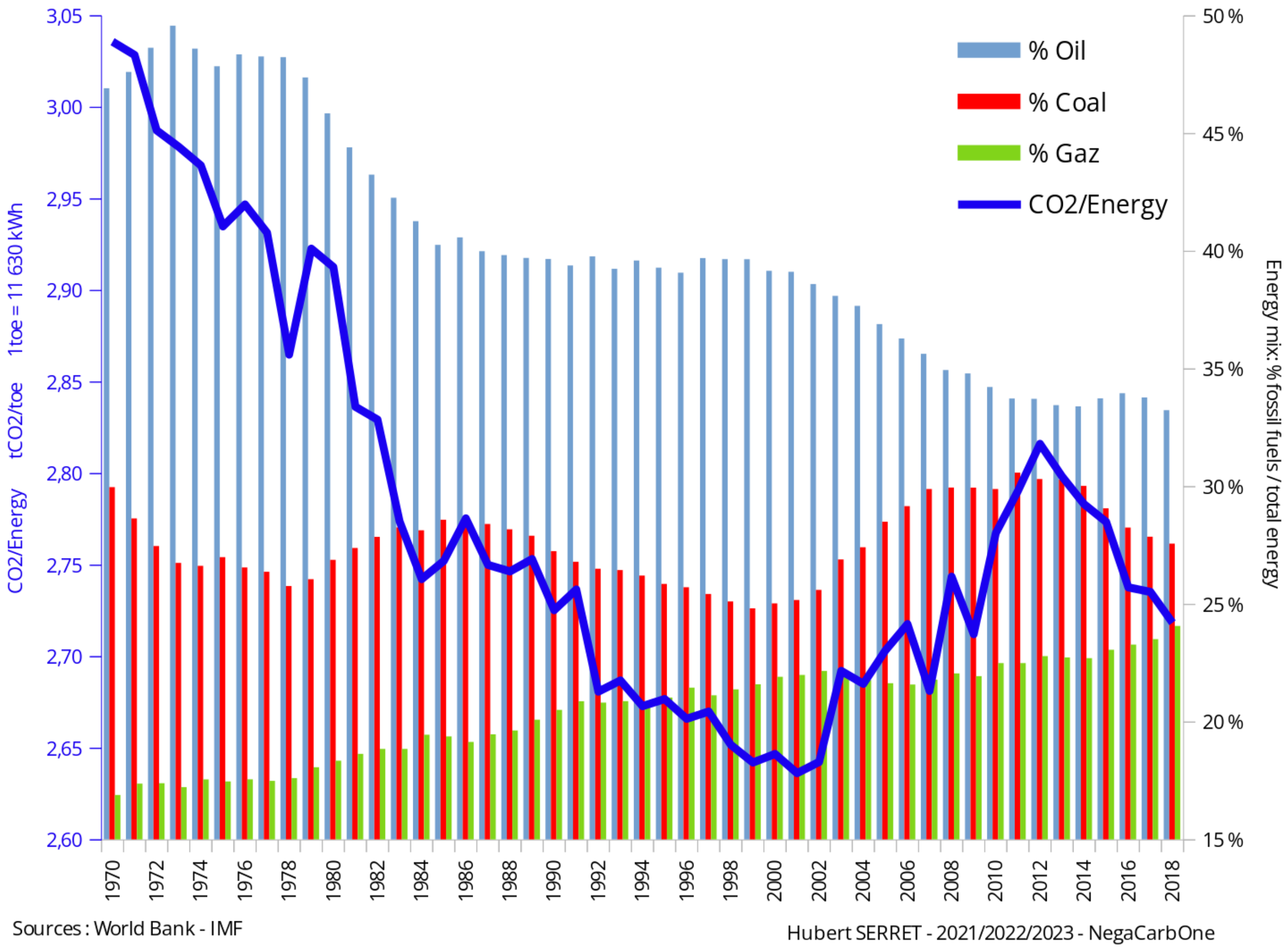
Rapid decoupling and carbon neutrality in less than 10 years = mission impossible ; 10 years is the time remaining if we want to stay below a +2°C temperature rise.



Sources : World Bank - IMF © Hubert SERRET - 2021 - 2022 - 2023 - NegaCarbOne

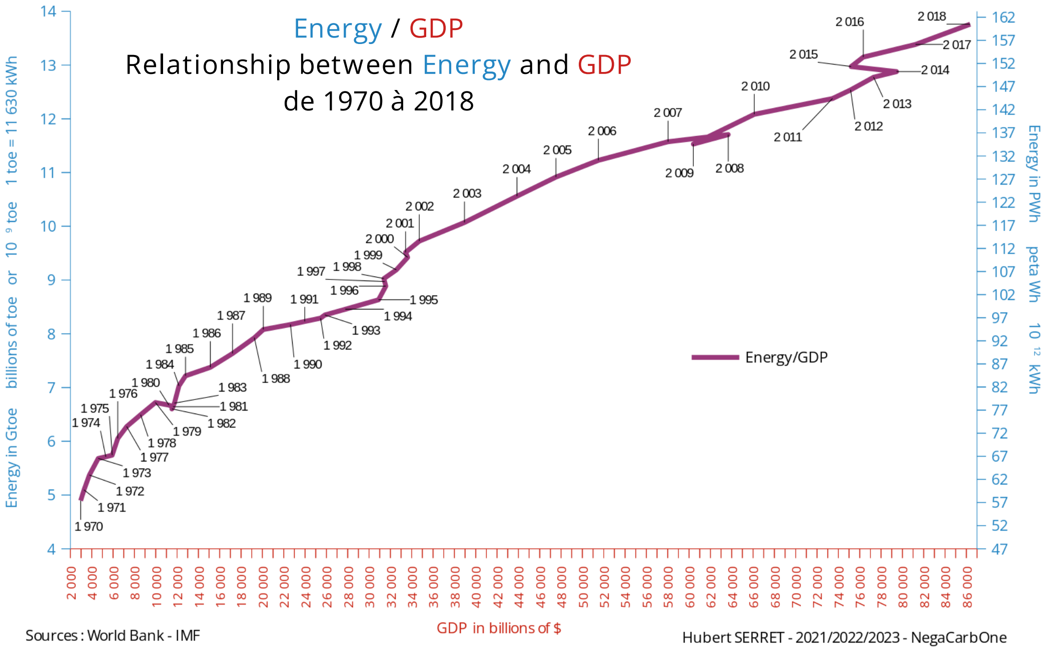
Confirmation of the very close relationship, coefficient of determination (R^2) greater than 99%, between primary energy consumption and CO2 emissions due to 85% fossil fuels.



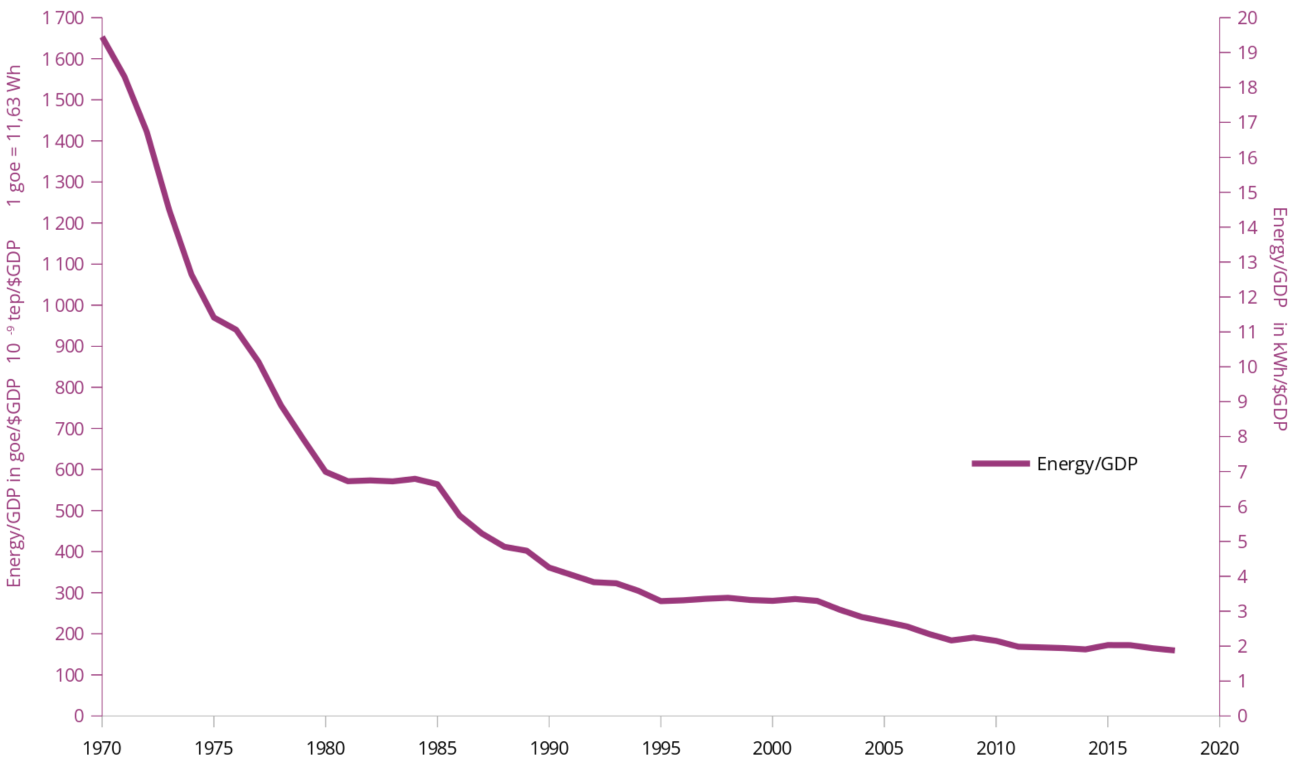


A low peak at 2.6 tCO_2/toe (2001), a sharp rise driven by growth in the consumption of coal whose reserves are the largest, coal which is also the strongest emitter of CO_2, 2012 peak at 2.8 tCO_2/toe.

2.2 E/GDP: amount of Energy needed to produce $1 of GDP (world average)



Strong relationship between primary energy consumption and gross domestic product (GDP)



Sources : World Bank - IMF ©Hubert SERRET - 2021/2022/2023 - NegaCarbOne

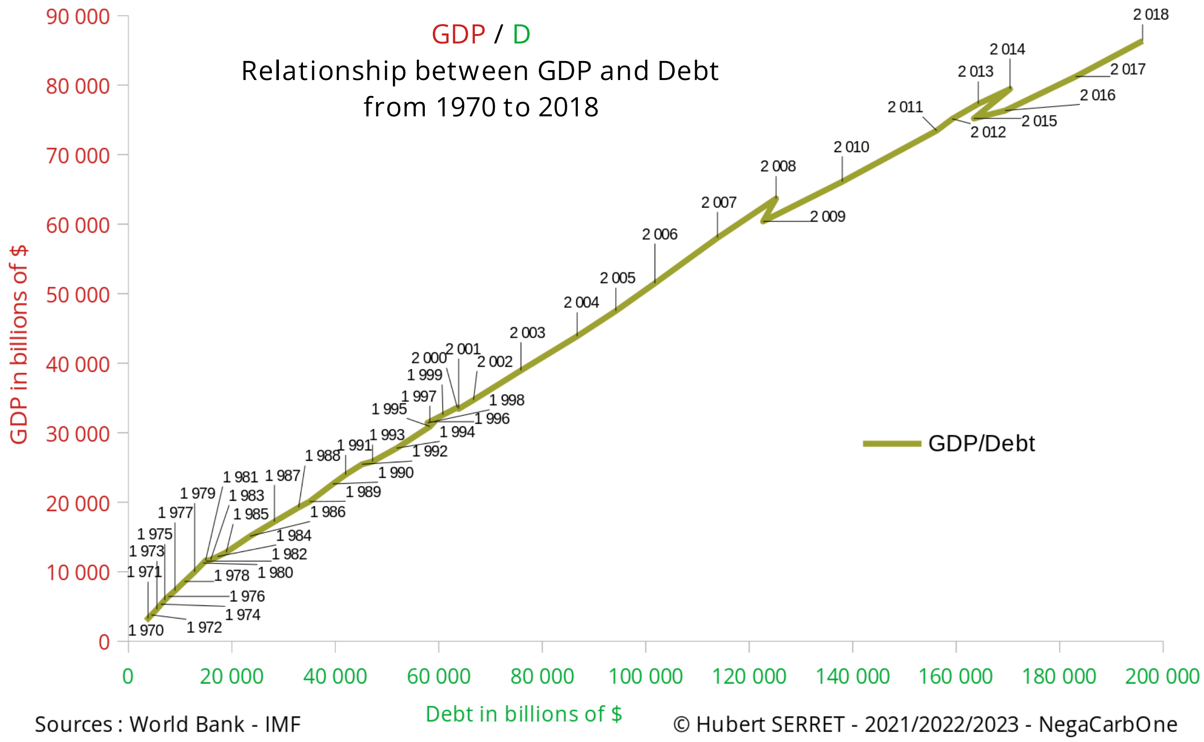
Does this decrease over time of the energy needed to produce $1 of GDP only reflect an incredible and "miraculous" improvement in energy efficiency ?

- 1970 it took 1653 goe/$GDP (1 gep = 10-6 toe) or 20 kWh to produce $1 of GDP
- 2018 only 159 goe to produce $1 of GDP or 2 kWh to produce $1 of GDP

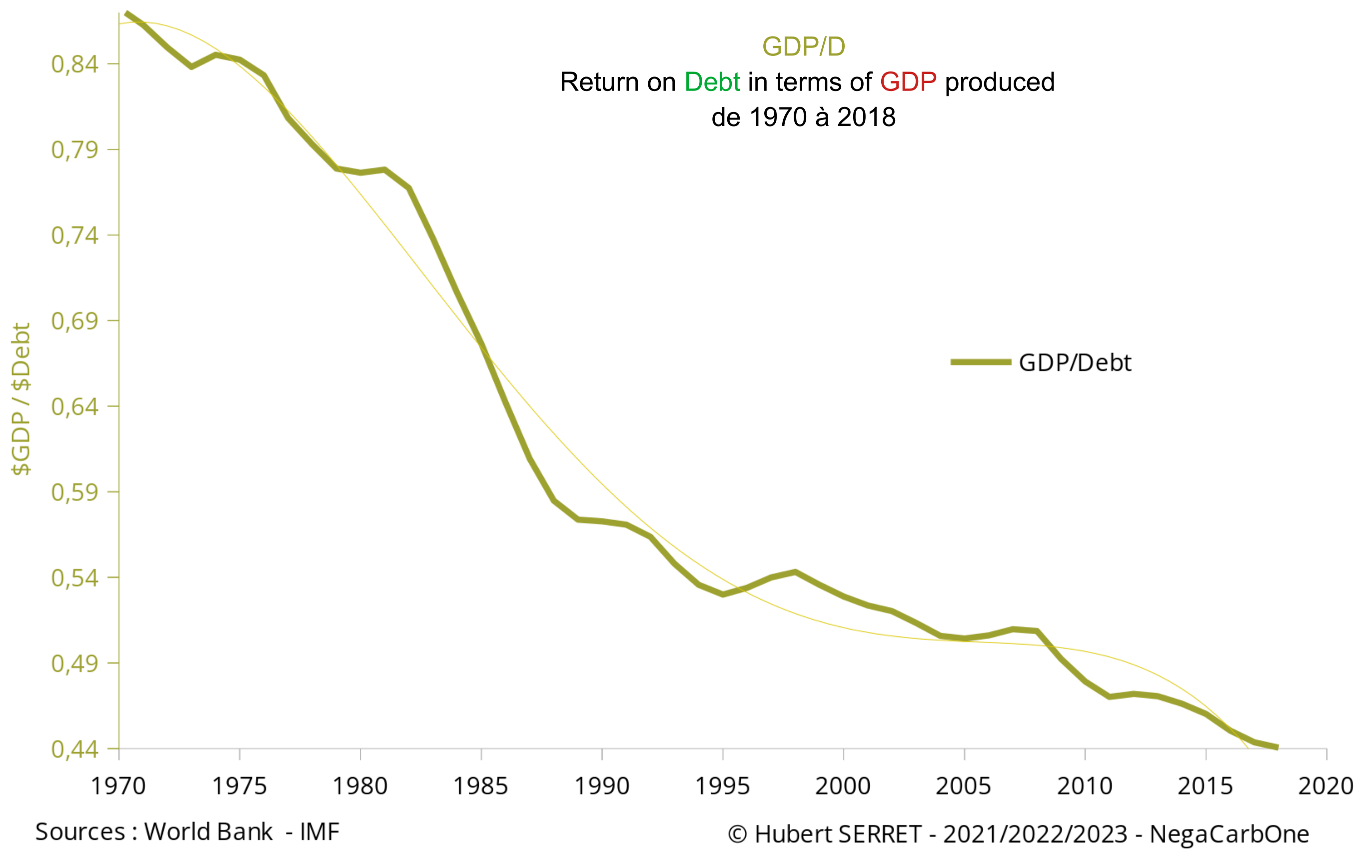
10 times less energy to produce $1 of GDP in 50 years !
better energy efficiency ?... really ?...

The exponential decrease in energy content per $ of GDP is reaching a low plateau.

2.3 GDP/D : yield on Debt or $ of GDP produced per $ of Debt contracted (average world)



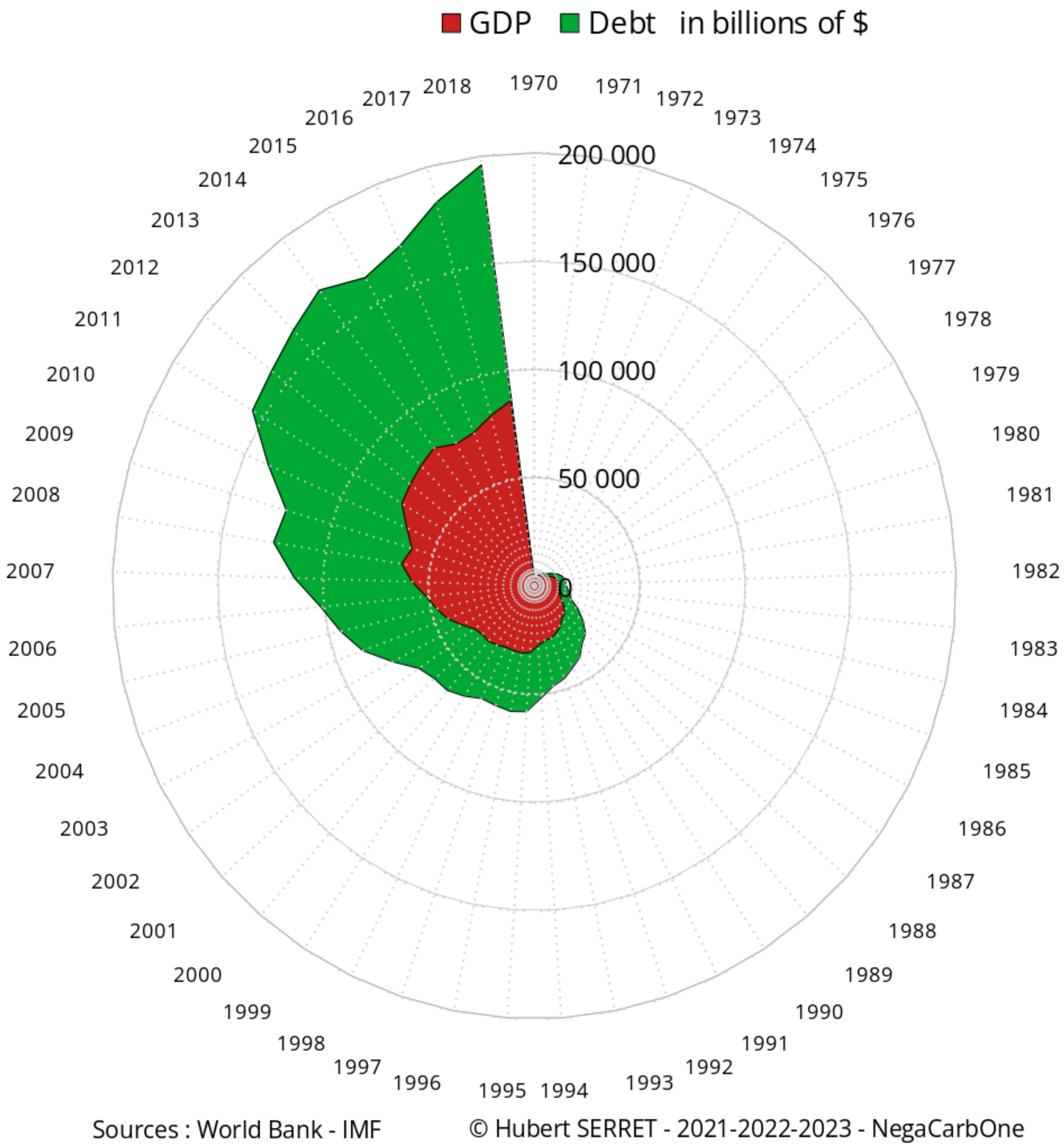
Étroite relation entre PIB et Dette supérieure à 99,5 % de coefficient de détermination (R^2)

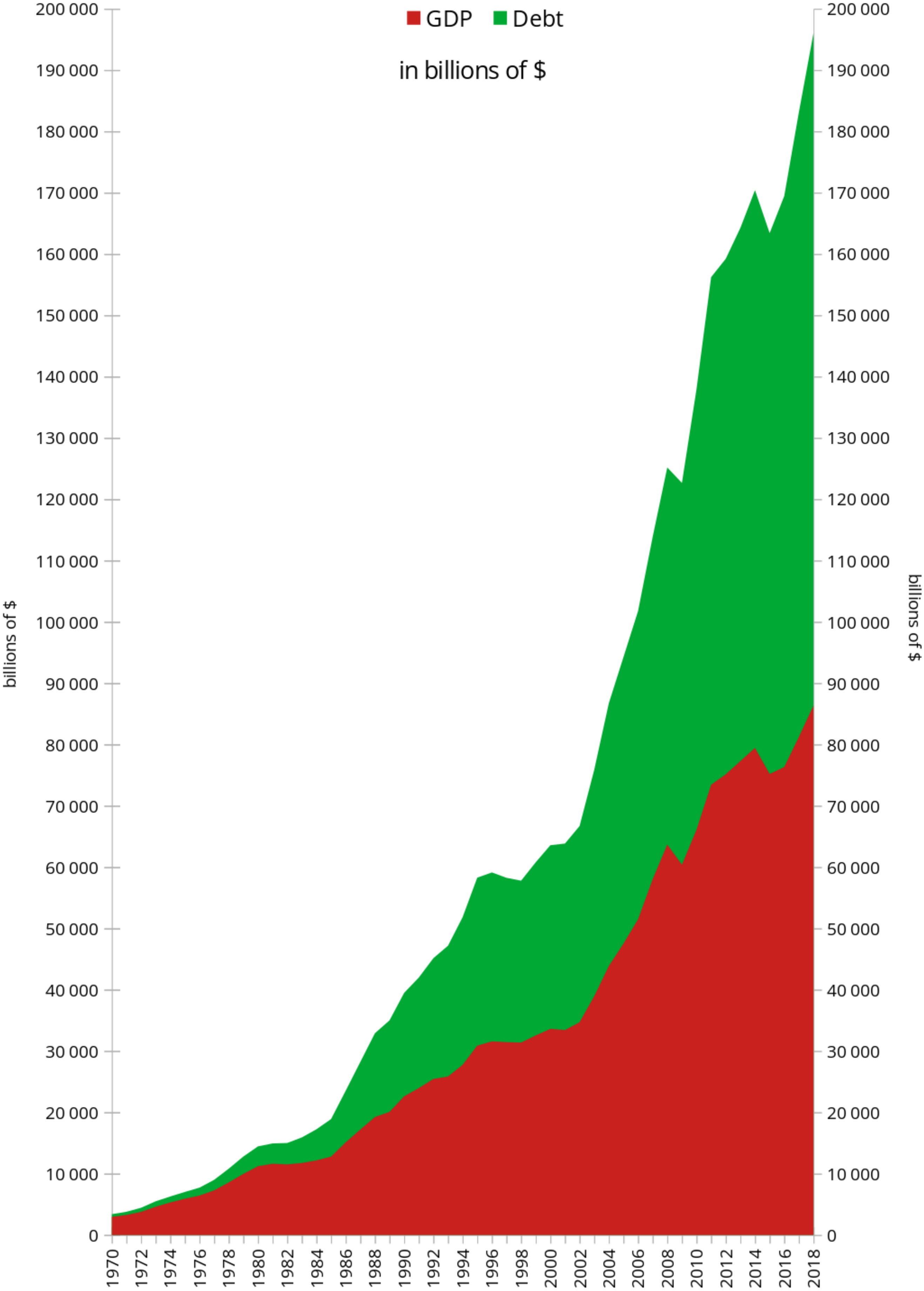


Continuous decline in the return on Debt in terms of GDP in $GDP/$D.
More and more Debt to produce less and less GDP :
$1 of Debt produced $0.87 of GDP in 1970, i.e. twice as much GDP as in 2018 or
$1 of Debt only produces $0.44 of GDP.

The constant search for GDP growth seems to accelerate more than proportionally the growth of the Debt because of the continuous diminishing returns of the Debt in terms of GDP.

The proportion of Energy contained in the GDP has continued to decrease and has been gradually replaced, from 1984, by an exponential growth of the Debt per inhabitant.

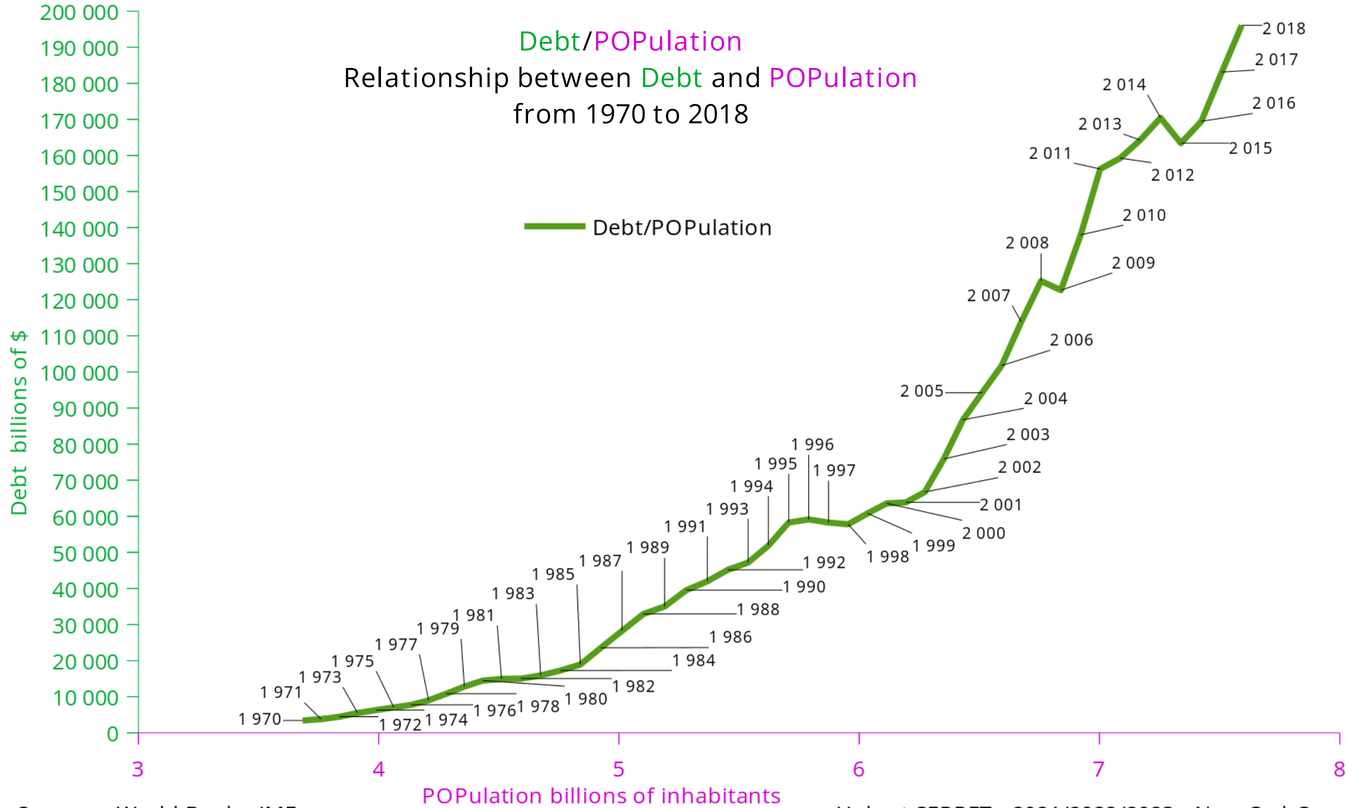




Sources : World Bank - IMF

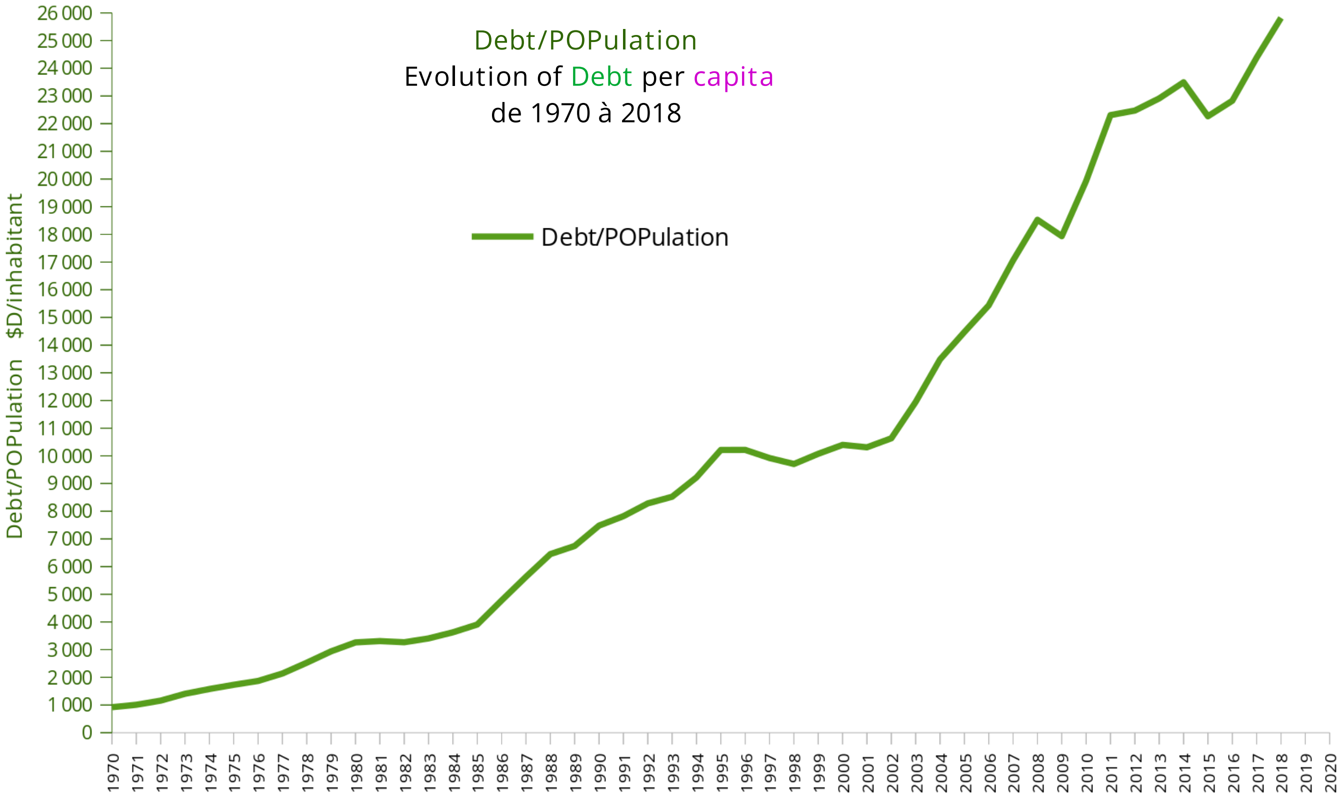
@Hubert SERRET – 2021/2022/2023 - NegaCarbOne

2.4 D/POP : $ of Debt per capita



Sources : World Bank - IMF

Hubert SERRET - 2021/2022/2023 - NegaCarbOne



Sources : World Bank - IMF

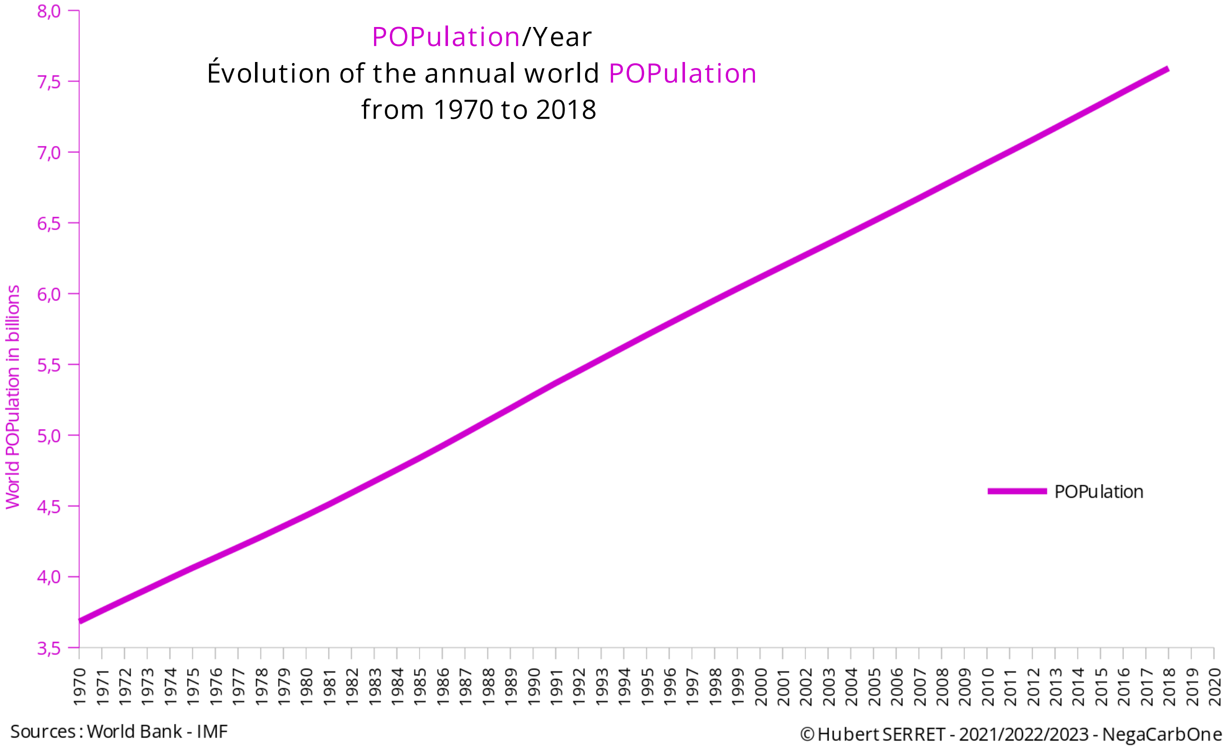
© Hubert SERRET - 2021/2022/2023 - NegaCarbOne

Debt per capita growing exponentially (trend) over time, coeff. of determination R^2 greater than 95.7%.

In 1970 a child was born on Earth with an average debt of $921

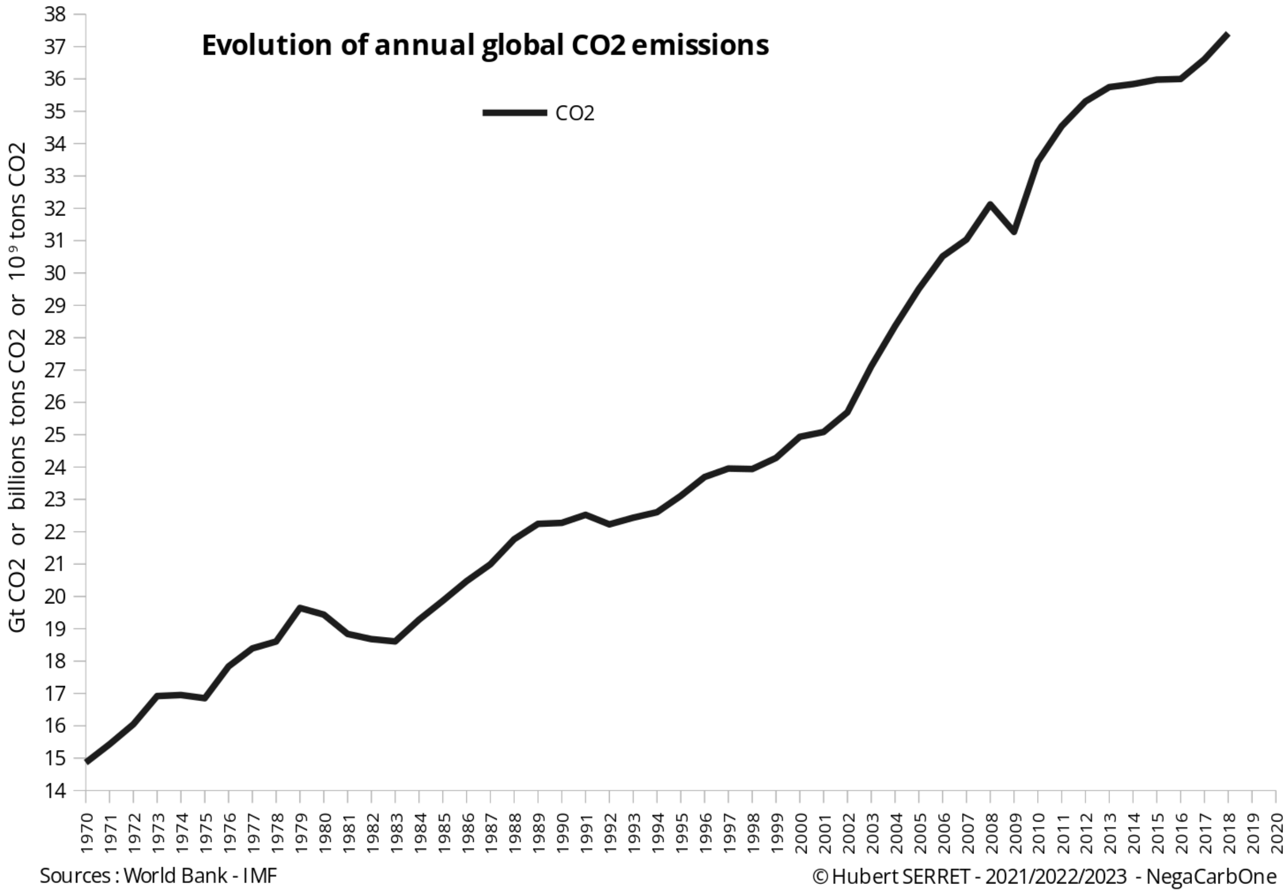
In 2018 a child is born on Earth with an average debt of $25,821: X 28 in 48 years !

2.5 POP : world population growth (world average)



Population growth is linear over the past 48 years. R^2 greater than 99.97%

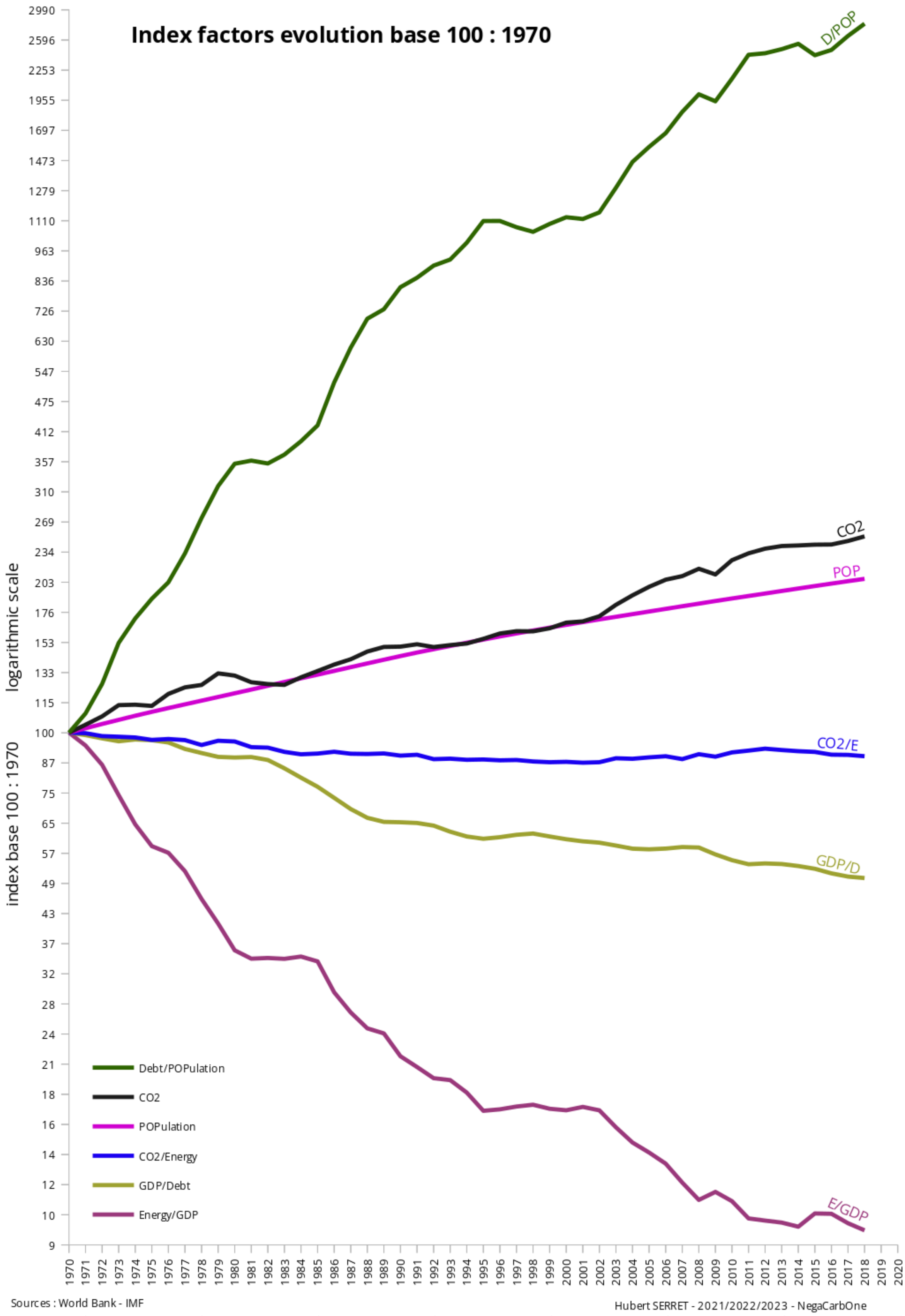
2.6 CO2 : growth in global greenhouse gas emissions



The growth of CO2 emissions is an exponential function over time with an R^2 coefficient greater than 97.5%.

3 ANALYSIS

3.1 Index analysis of CO2 emission factors

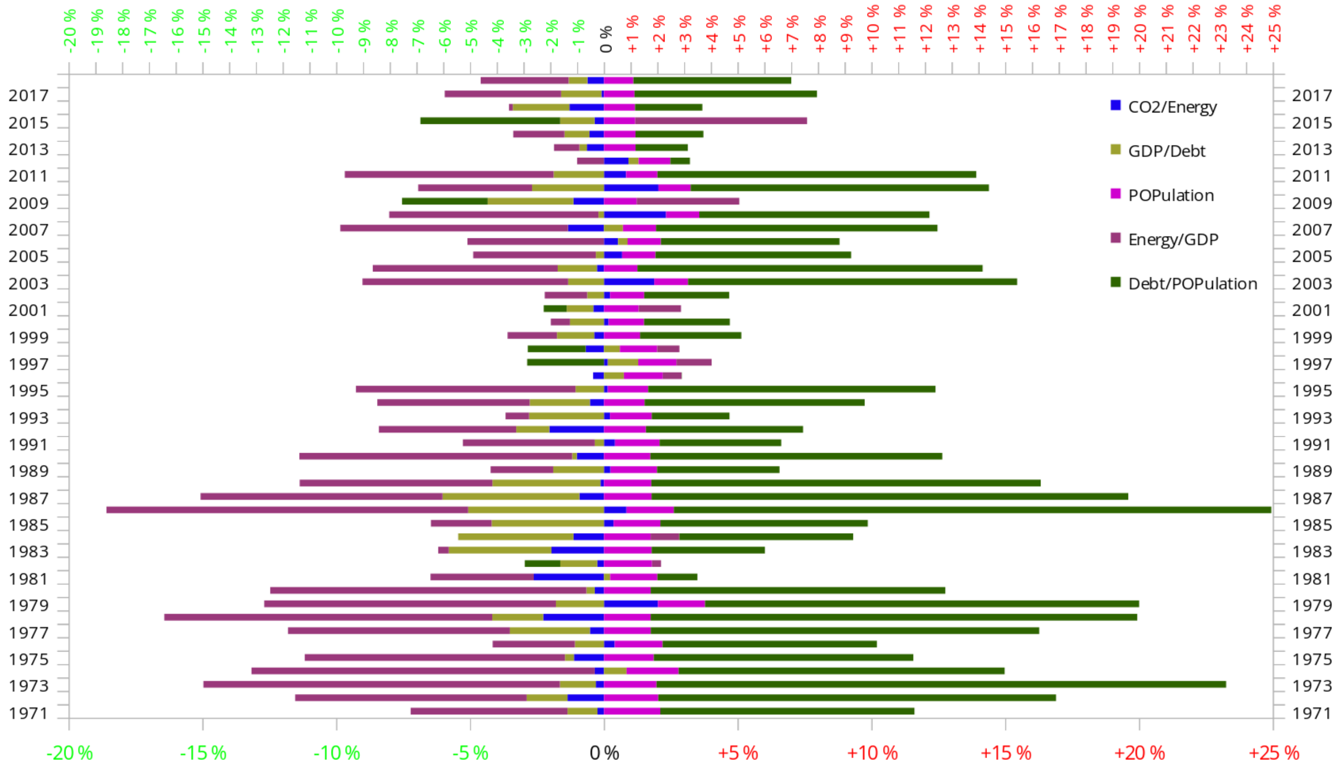


The $Debt/POPulation factor, debt per capita, seems to be the inverse reflection of the Energy contained in each $ of GDP.

3.2 Annual analysis of the CO_2 impact of the various factors

3.2.1 Global annual analysis of the CO_2 impact of factors

Impact of all factors on the annual growth of CO2 emissions



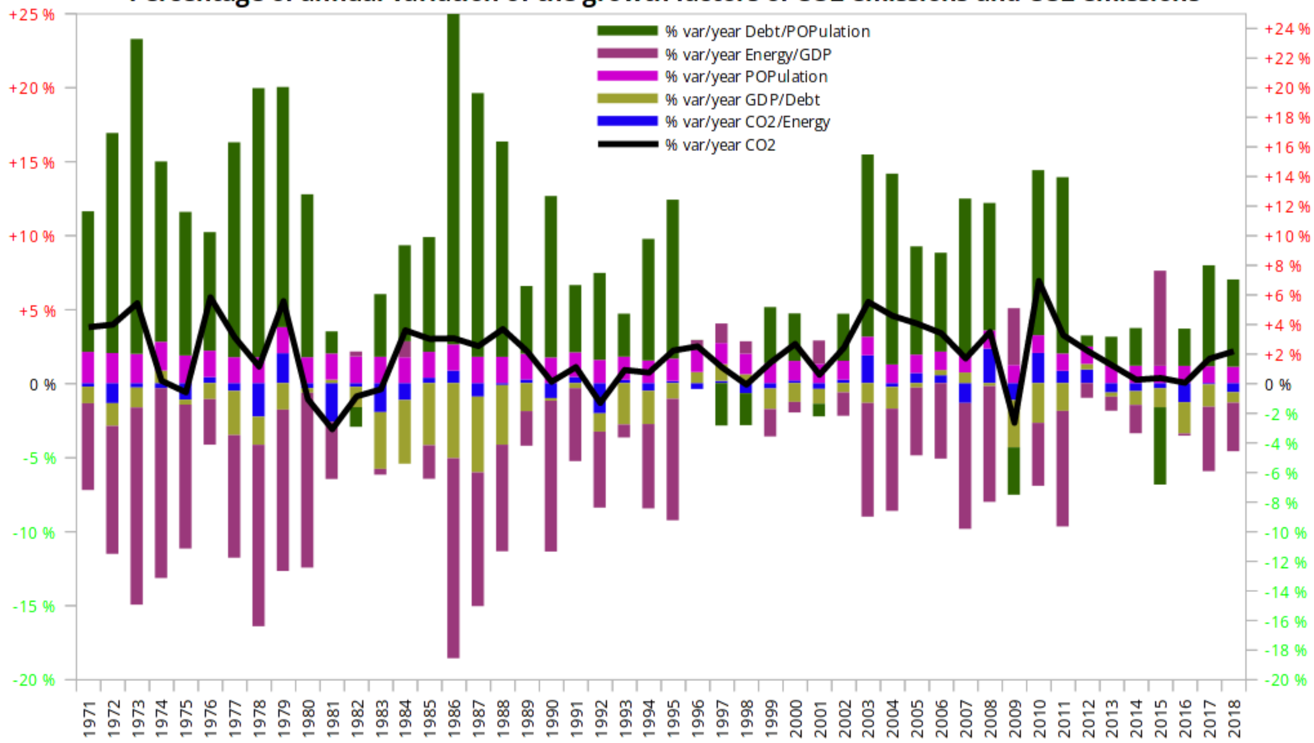
Sources : World Bank - IMF

Hubert SERRET - 2021/022/2023 - NegaCarbOne

2 factors seem to mainly act on the increase in CO_2 emissions :

- the annual growth of Debt per capita (D/POP)
- the amount of Energy to produce a $ of GDP

Percentage of annual variation of the growth factors of CO2 emissions and CO2 emissions

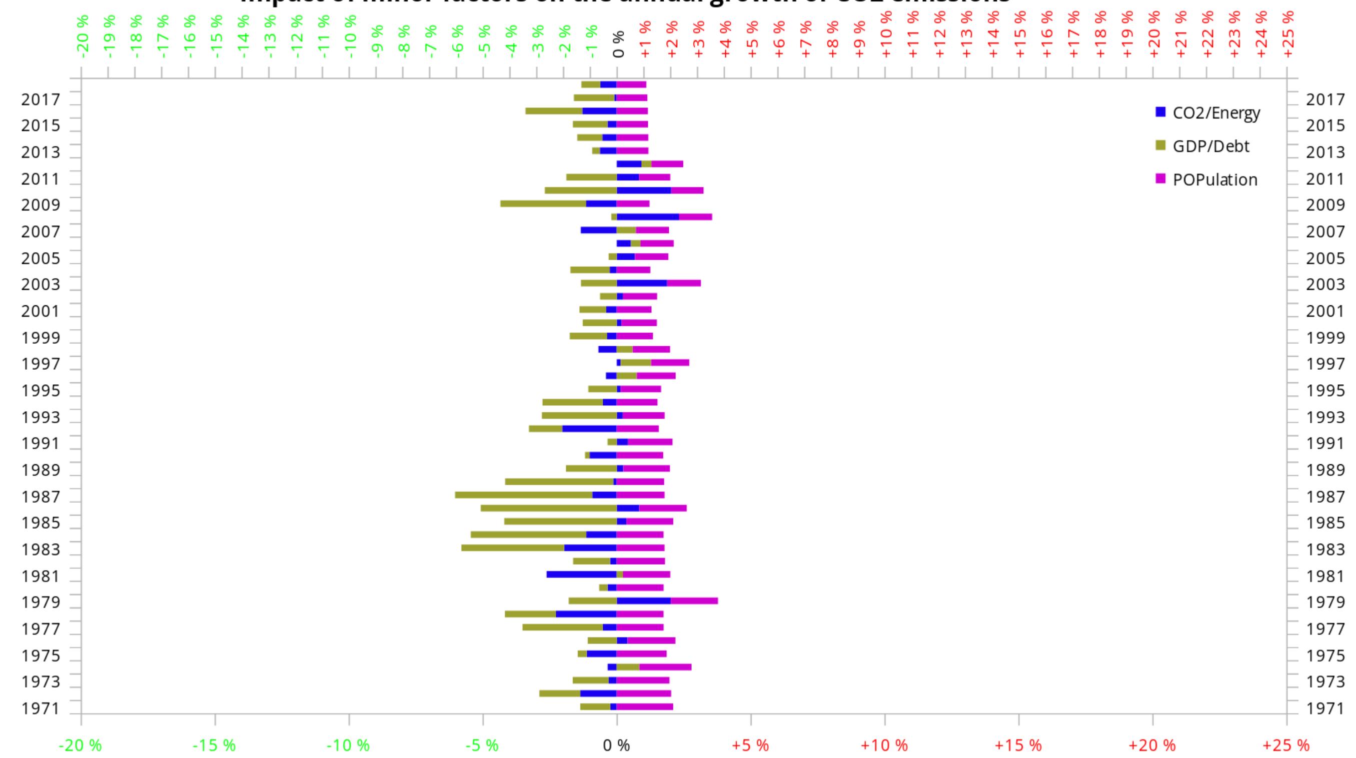


Sources : World Bank - IMF

Hubert SERRET - 2021/022/2023 - NegaCarbOne

3.2.2 Analysis of minor CO2 impact factors (excluding Energy/GDP and Debt/POPulation)

Impact of minor factors on the annual growth of CO2 emissions

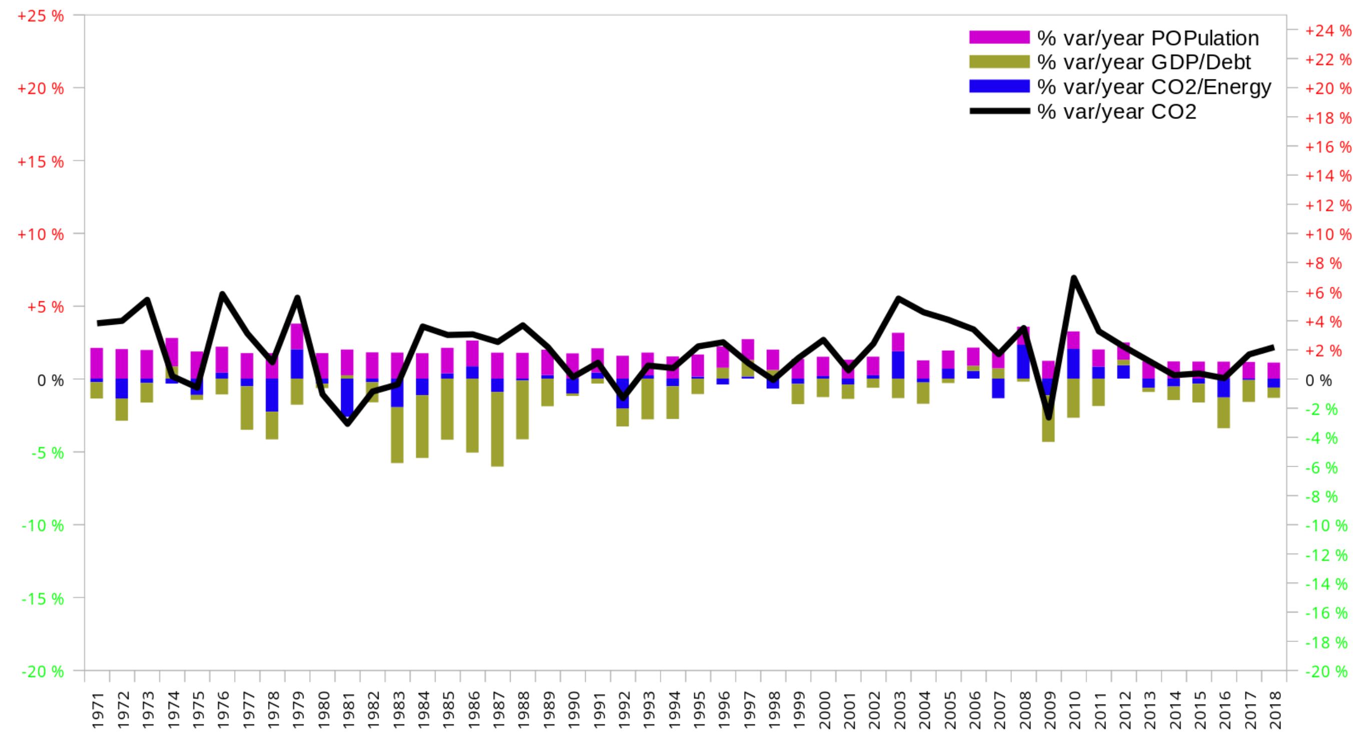


Sources : World Bank - IMF

Hubert SERRET - 2021/2022/2023 - NegaCarbOne

The demographic impacts of POPulation, the CO2 content of the Energy mix and the yield in terms of GDP production per $ of Debt, only very marginally explain the annual variations in CO2 emissions.

Annual percentage change in minor growth factors of CO2 emissions and CO2 emissions

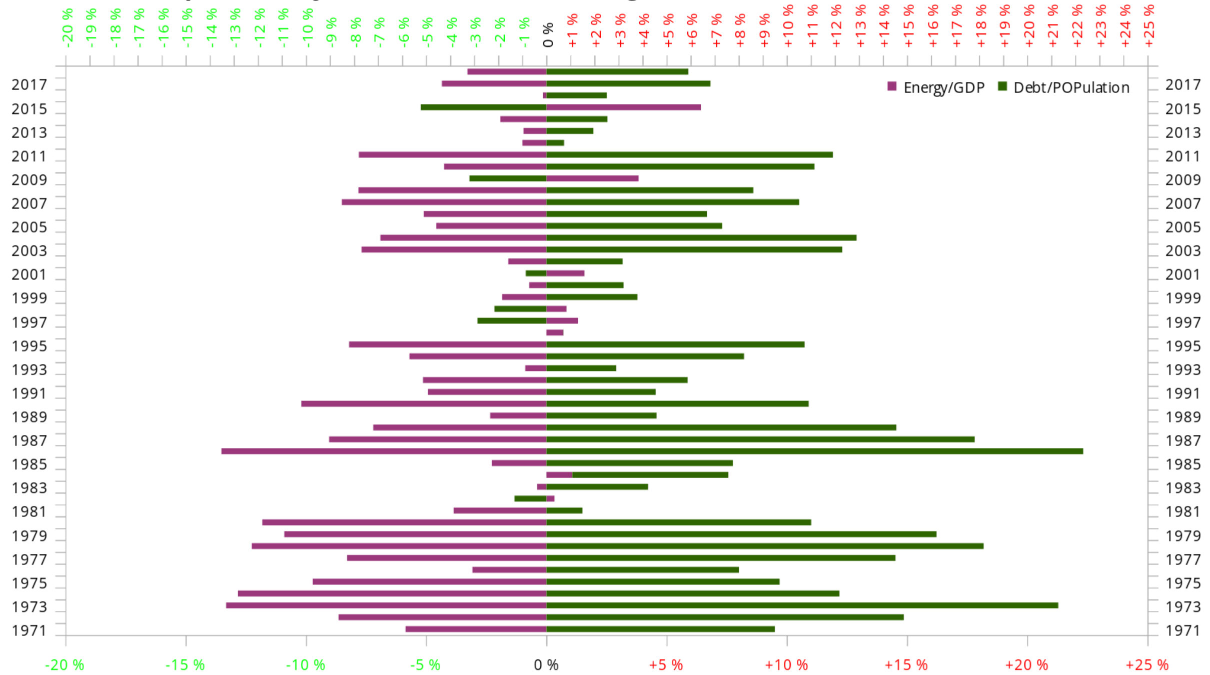


Sources : World Bank - IMF

Hubert SERRET - 01/2021 - NegaCarbOne

3.2.3 Analysis of major factors impacting CO2 emissions

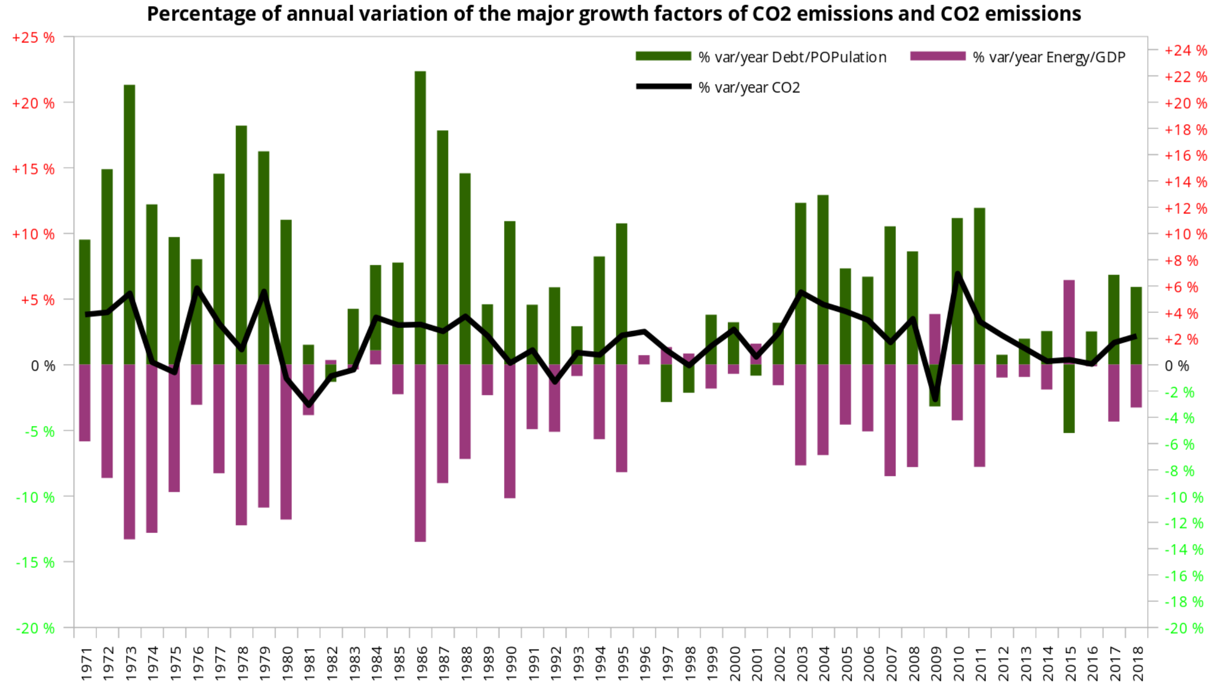
Impact of major factors on the annual growth of CO2 emissions



Sources : World Bank - FMI Hubert SERRET - 2021/2022/2023 - NegaCarbOne

There seems to be a drawer/mirror/reflection/substitution effect between the Debt in $ per capita and the Energy needed to make $1 of GDP, when one believes the other is decreasing and vice versa, while maintaining a certain proportionality, but not equality, with the notable exception of the simultaneous growth of the two factors in 1984, a pivotal year.

Percentage of annual variation of the major growth factors of CO2 emissions and CO2 emissions

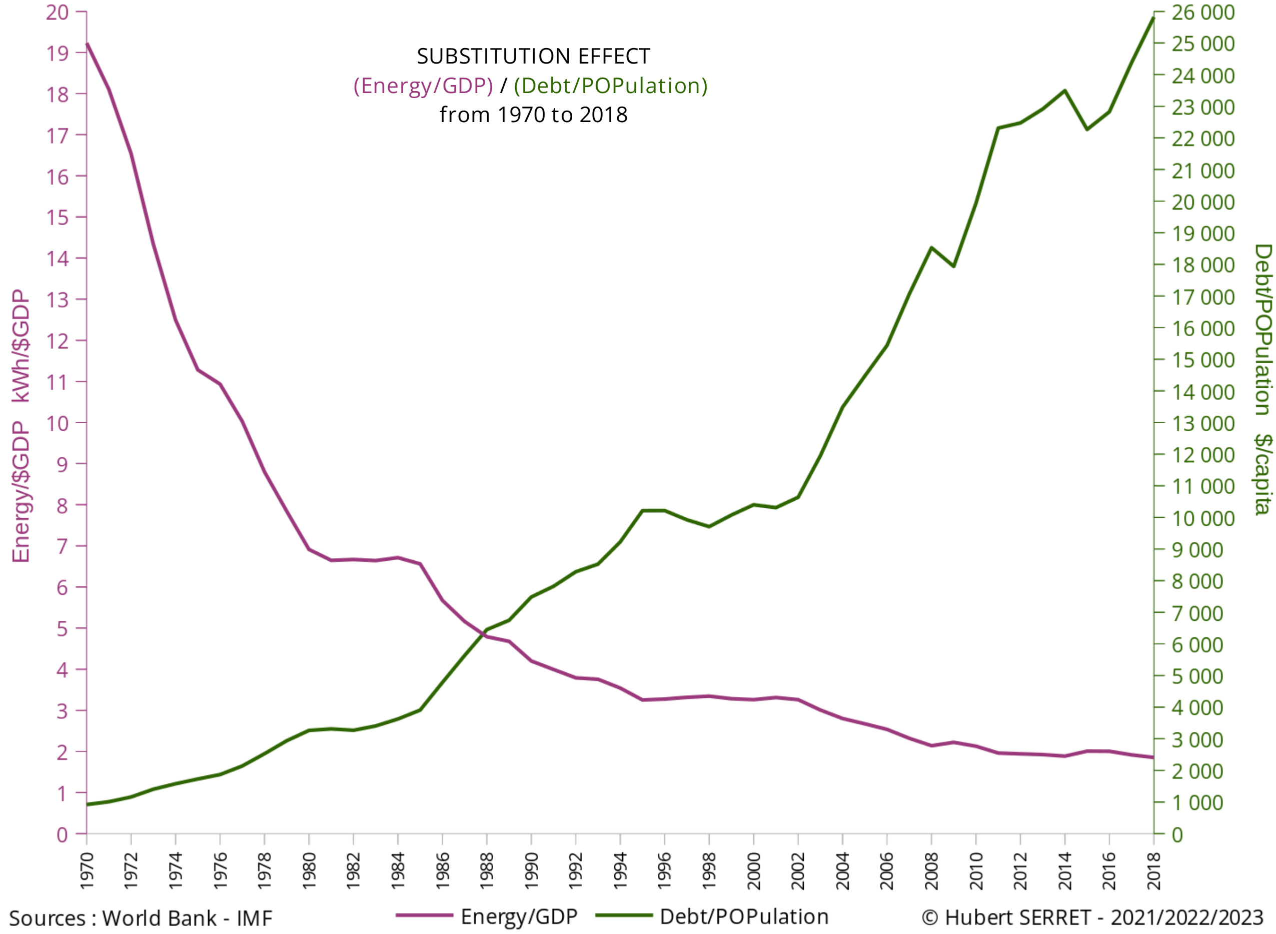


Sources : World Bank - IMF Hubert SERRET - 2021/2022/2023 - NegaCarbOne

The increase in the Debt/capita reduces the Energy contained in $1 of GDP, and conversely the increase in the energy contained in $1 of GDP causes the Debt/capita to reduce the two factors E/GDP and D/ POPs are closely related.

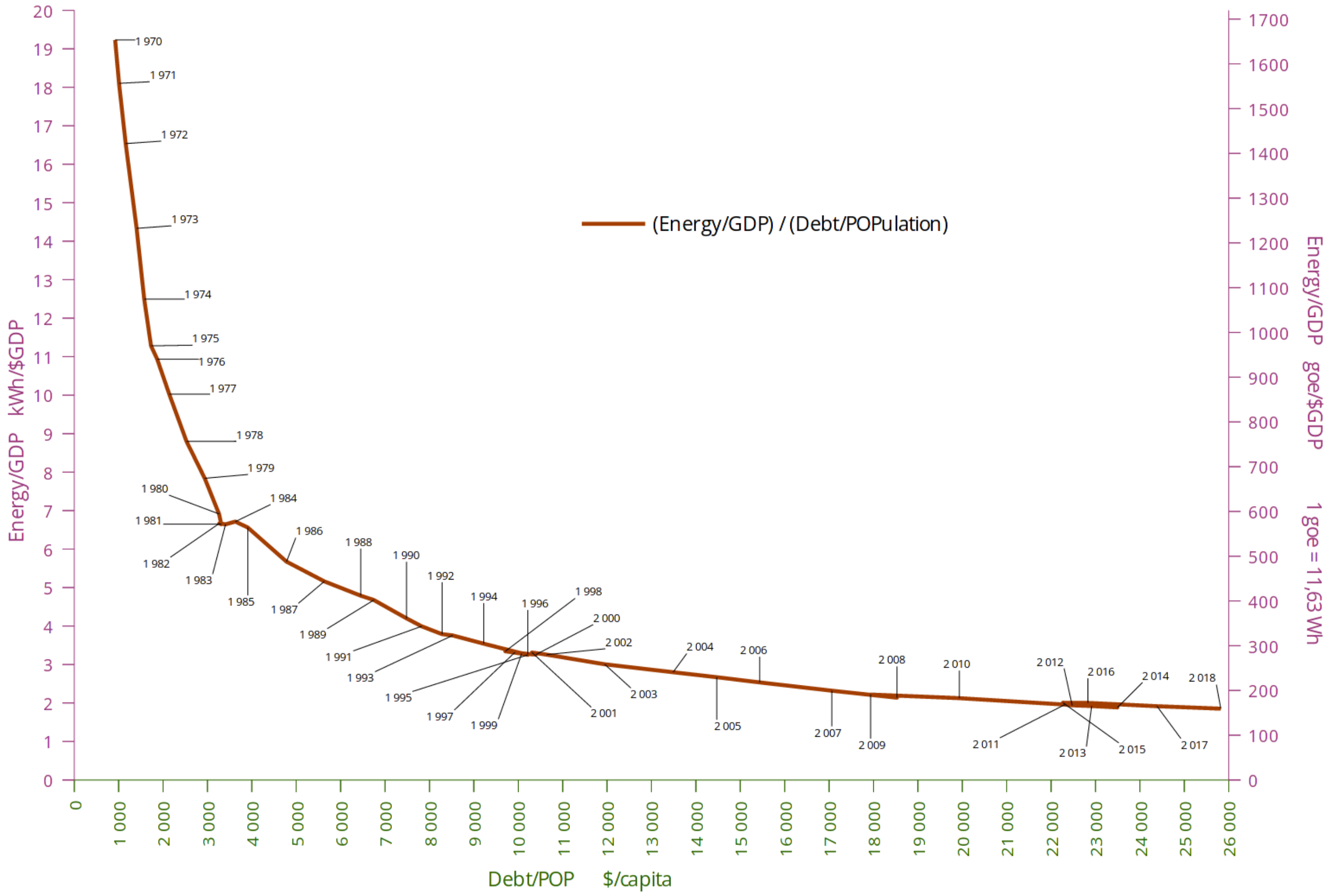
Would the increase in Debt/capita be a way to reduce the Energy needed to make GDP and therefore a way to decarbonize the economy ?

3.3 The substitution mirror effect between E/GDP and D/POP



Sources : World Bank - IMF

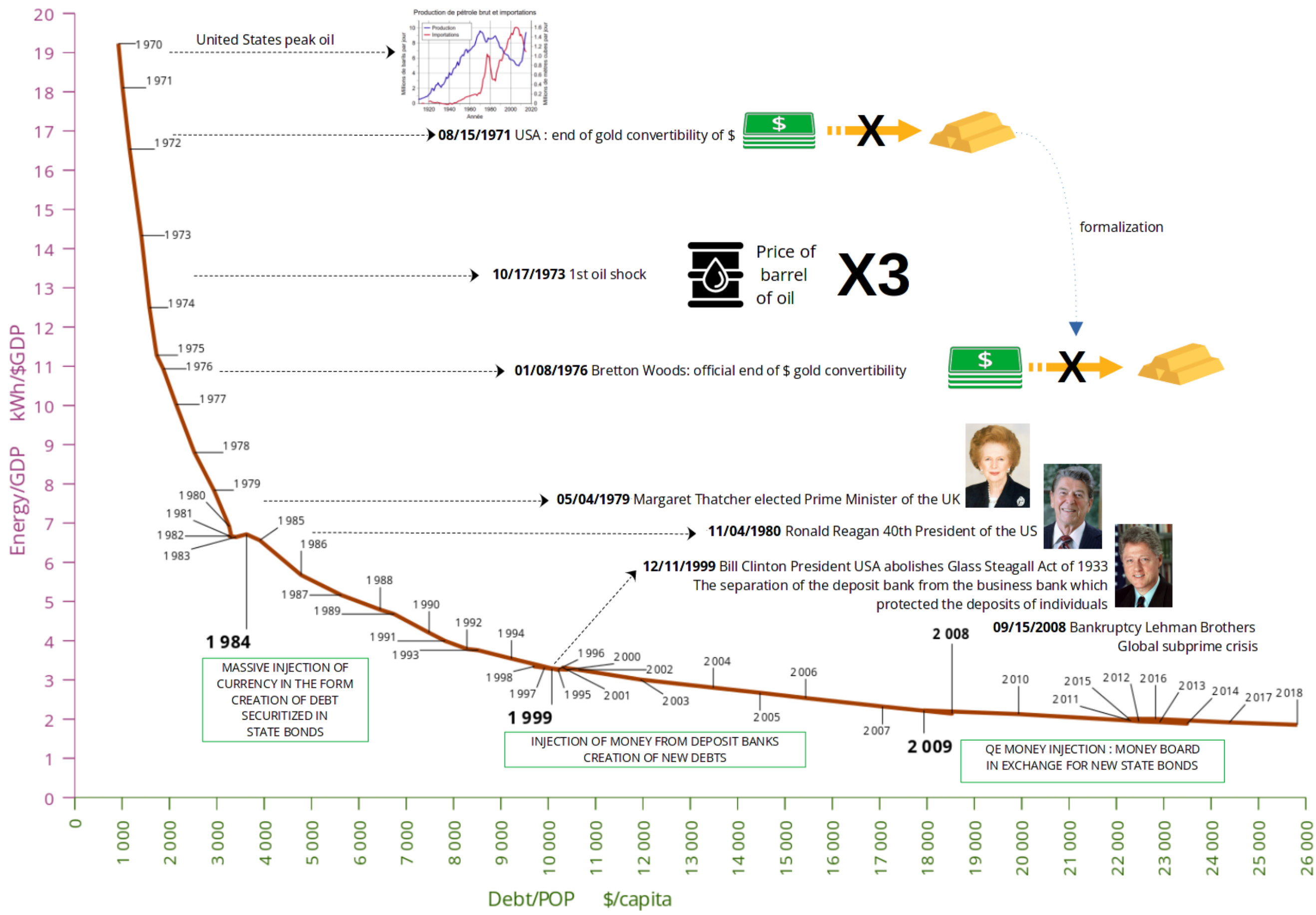
© Hubert SERRET - 2021/2022/2023



Sources : Word Bank - IMF

© Hubert SERRET - 2021/2022/2023 - NegaCarbOne

3.4 Historical analysis

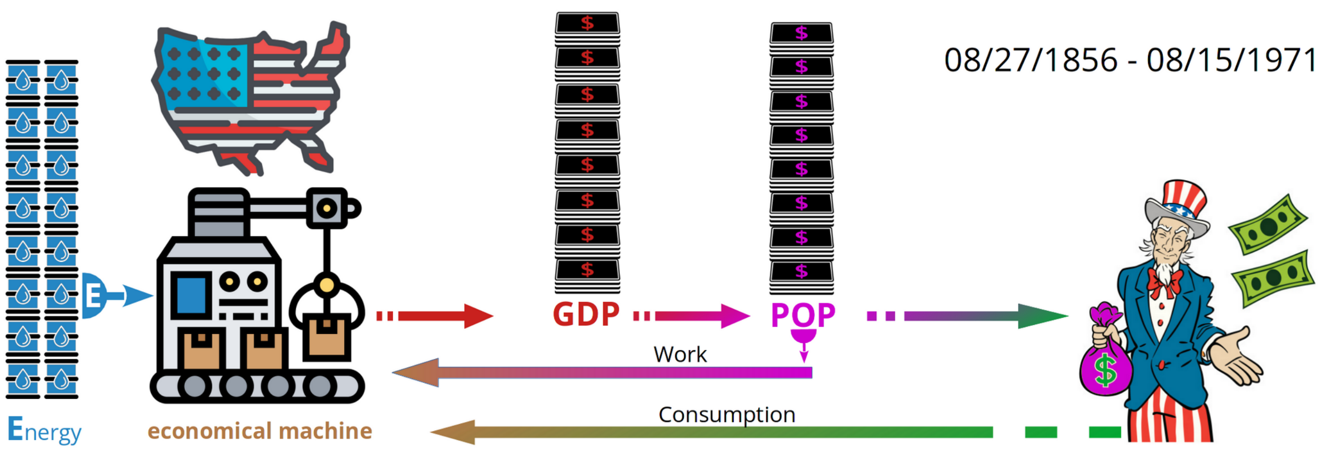


Sources : World Bank - IMF

3.4.1 Oil converted to GDP : 8/27/1856 to 8/15/1971

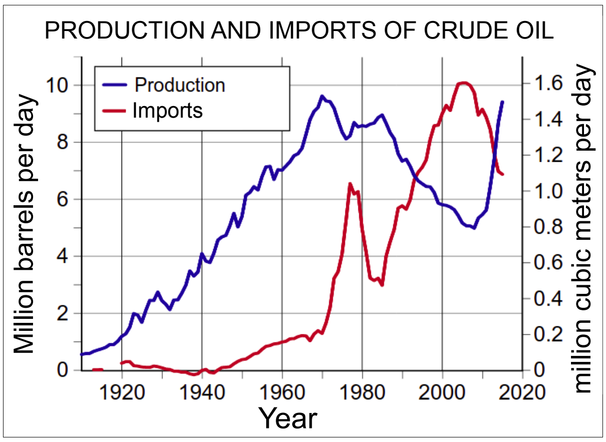
The development of the United States will be done mainly thanks to oil from the US subsoil, easy to access, cheap, abundant, with a high EROEI (Energy Return on Energy Invest = quantity of energy produced/quantity of energy used for this production), it will be the engine of the very strong growth of the US GDP until 1970, date of the conventional oil peak in the United States (oil from unconventional oil sands and shale unknown at that time).

It is important to understand that it is the United States which decides the world economic choices, the other rich and poor countries only follow by reproducing the orientations of the USA, forced.

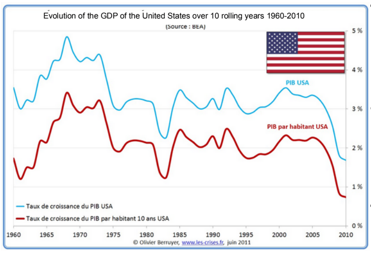


3.4.2 US Peak Oil : 1971

The USA is facing a peak in production of its conventional oil and a decrease in its EROEI (Q Energy produced/Q Energy spent to produce this energy).



To maintain their standard of living dependent on the GDP growth, itself dependent above all on abundant oil (EROEI), cheap, produced locally, the United States will have to import more and more oil from further away and more expensive.



The United States has understood that this additional cost of oil will mechanically reduce the US GDP by as much, the drop in US GDP growth leading to a mechanical drop in consumption, a period of recession and the discontent of the Americans.

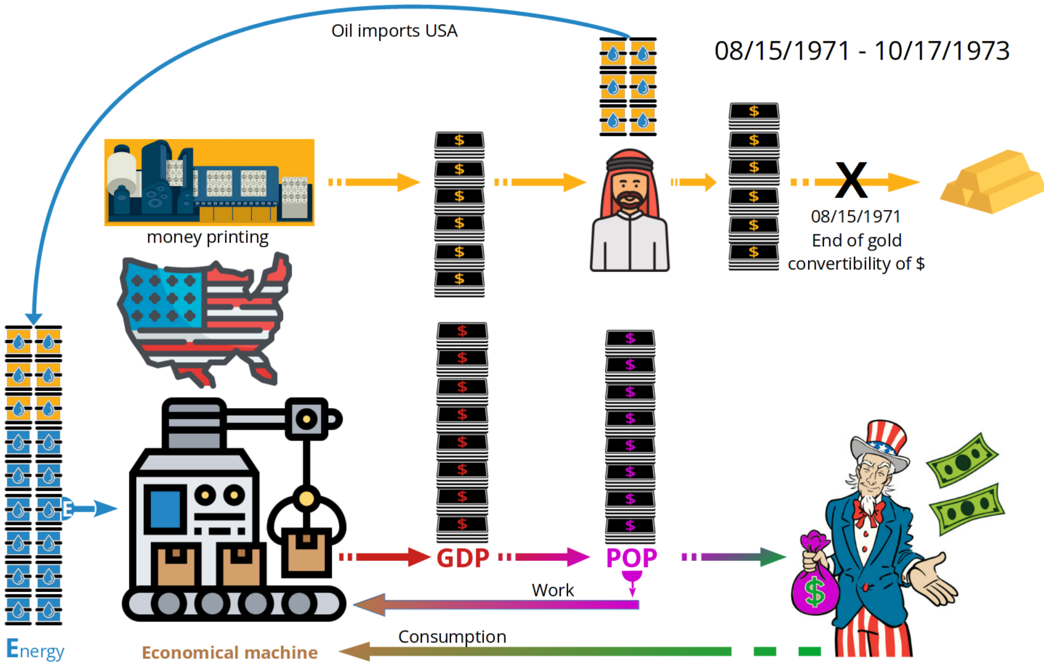
This amputated GDP ending up in the oil-exporting countries and no longer trickling down to the Americans.

The United States had the idea of printing its currency in sufficient quantity to buy and import oil.

Problem : the convertibility of the dollar into gold, introduced after the Second World War, limits the possible quantity of money printing and poses a risk to the US gold reserve because of the convertibility of the dollar into gold. The United States does not want to see their gold, a precious and rare metal, go for their paper money, which they print cheaply, abundantly, for cheap.

3.4.3 End of gold convertibility of the US$: 08/15/1971

Thus lifting the barrier to printing money (QE) to buy oil abroad at low cost, by printing dollars, to support their consumption and their GDP growth.



3.4.4 Oil crisis X3 price : 17/10/1973

The oil-producing countries (OPEC) felt cheated, as the dollar they were given was no longer convertible into gold and was no longer more than paper, and decided to sharply increase the price of oil by a factor of three, leading to the first oil crisis.

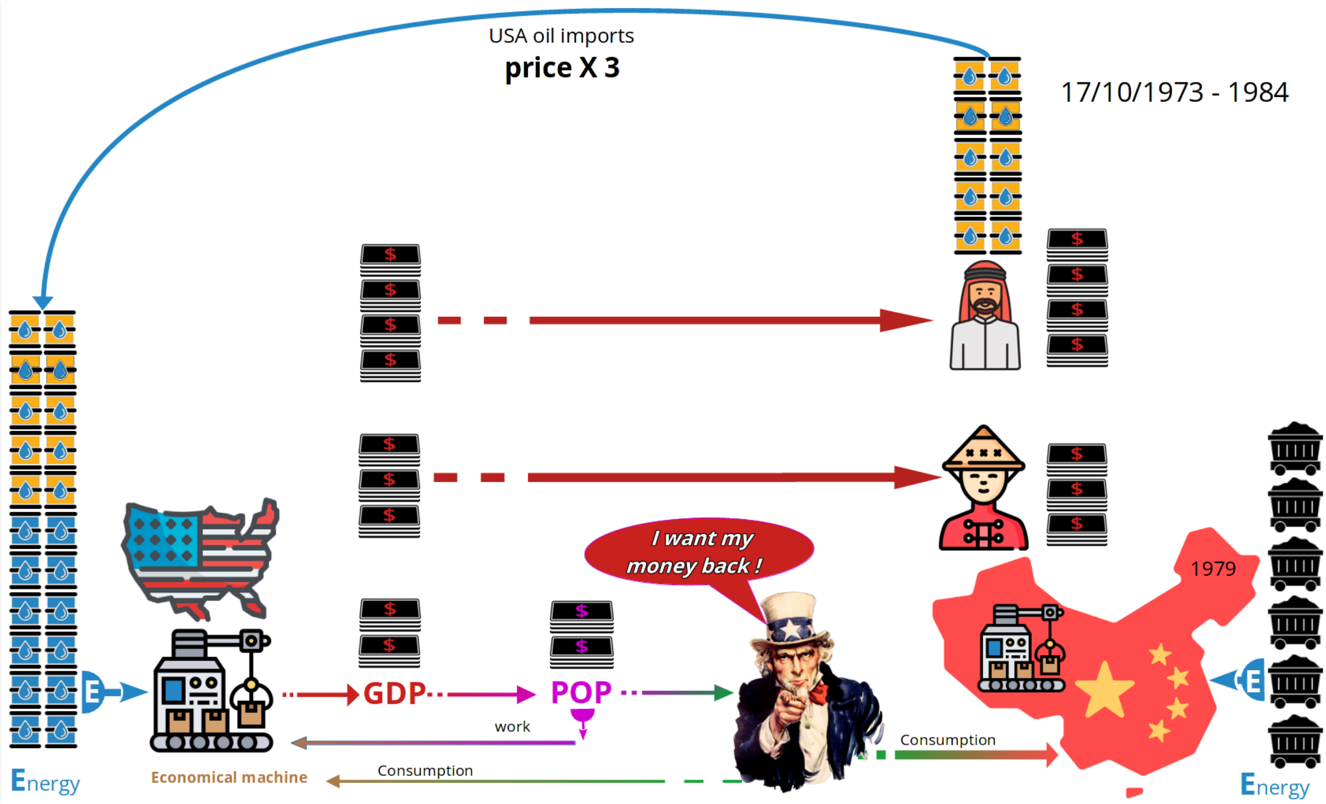
The share of GDP cut from wealthy countries as a result of the threefold rise in oil prices was transferred to OPEC producer countries.

8/1/1976 Breton Woods : the USA officially ends the convertibility of the dollar into gold.

4/5/1979 : Margaret Thatcher elected Prime Minister of the United Kingdom.

4/11/1980 : Ronald Reagan becomes the 40th President of the United States.

1971 to 1983 : years of recession or low GDP growth (compared to pre-1970 levels) due to oil imports, but also to the emergence of a new world factory in 1979, China, which is gradually destroying the Western production machine through very low prices, on which the homo-economicus will base his choices by maximizing his purchasing power, constrained by its reduction, due to rising unemployment and falling redistributed GDP. The continuing decline in purchasing power fuels the search for low-cost products, i.e. products imported from China, which further destroy the Western industrial production machine: a vicious circle of infinite recession that feeds itself.



"*I WANT MY MONEY BACK !*" Margareth Thatcher Dublin, Friday 30/11/1979 about the EU.

This is surely the best possible summary/illustration to explain the strategy of the new financial industry (massive securitization and global stock market casino) that will then be put in place to bring money back to the US, the UK, the EU, among others.

3.4.5 Creation of the financial industry : 1984 debt money

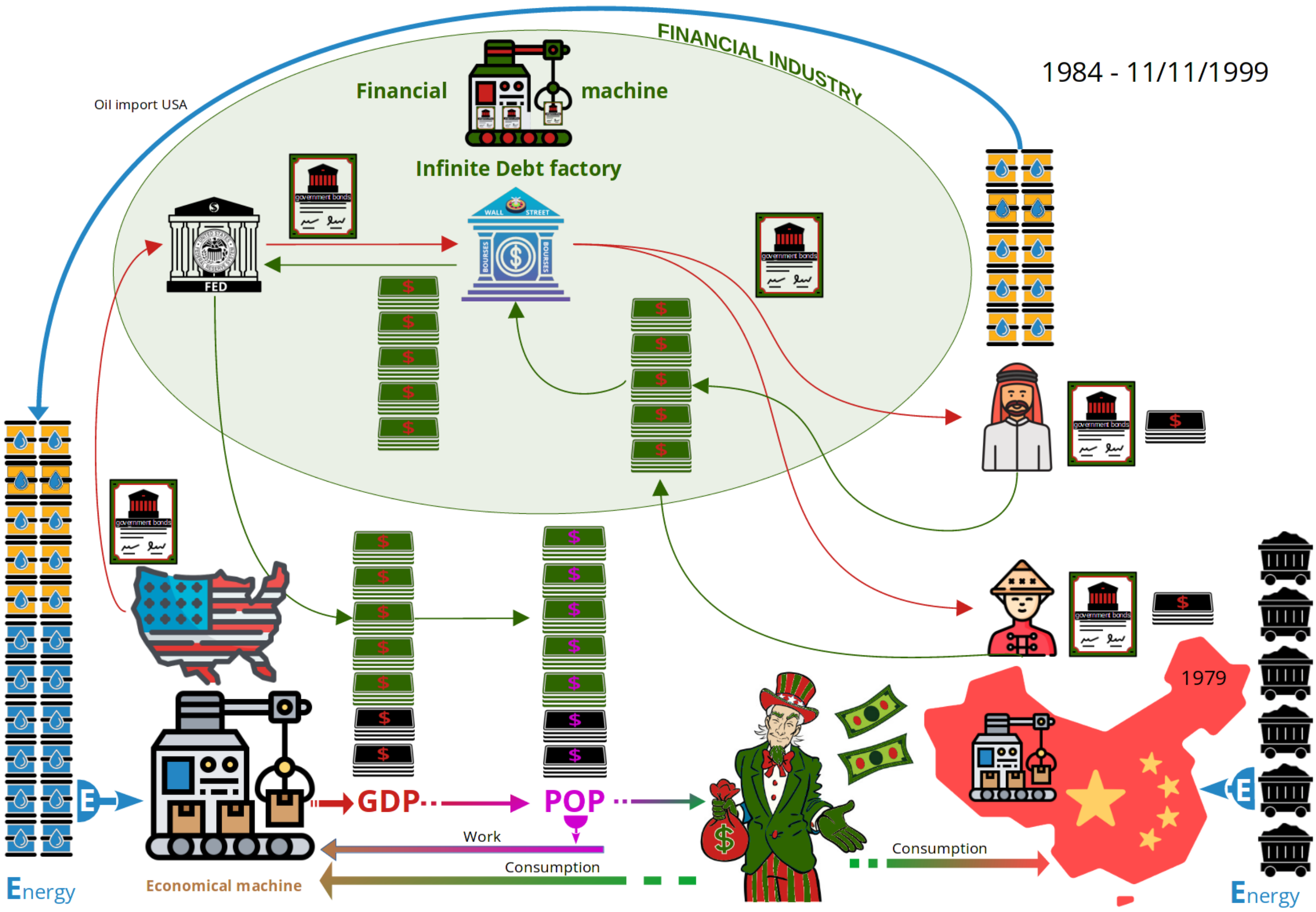
Thatcher and Reagan agreed on a "*neoliberal*" turnaround whose tool was the development of a new machine, a powerful financial industry, charged with taking care of the "*money back*", making the real economy dependent on debt creation, a new fuel injected into the economic machine to artificially boost its GDP.

Creation of huge government debts through government bond issues and the artificial development of complex new "financial tools" that will gradually replace energy in the creation of GDP : GDP becomes Debt.

Securitization, in which a government guarantees repayment of a debt at an interest rate attractive enough to motivate those who hold the missing ca$h share of GDP to buy these securities, with a potentially more attractive and faster outflow of value on the stock market where these securities can be traded and resold : this is the economy of the world's great speculative stock market casino.

The strength of this new financial machine lies in the transformation of a debt, a liability, into a new "*financial product*", an asset, tradable on the world stock market, relying on the human engine of infinite greed, the guaranteed interest rate associated with term, and the excitement provided by the game of reselling this "*asset*" on the great world stock market casino, with the hope of a capital gain before maturity.

Multiplication of t h e securitization industry, a new form of wealth creation money-debt, without the risks of inflation and devaluation associated with money printing, butwith the systemic risk of creating speculative financial bubbles.



Political objective : thanks to the creation of debt, injected massively into the economy, to increase consumption and, consequently, GDP, satisfy voters and be re-elected.

The massive injection of ca$h from massive indebtedness will boost consumption, revive the economic machine, produce GDP, emit a lot of CO2 due to the fossil fuels used to meet this growth in consumption and create this GDP.

But this is not one of politicians' concerns, since their priority is to be re-elected through consumption and growing GDP, while at the same time guaranteeing the perpetual refinancing of the debt with creditors by having the highest GDP growth required to guarantee the best debt refinancing conditions, in competition with the other states of the world for this perpetual debt refinancing.

Creation of an apparent "*virtuous*" circle of "*GDP growth*", largely virtual and fictitious, an illusion since we never take into account the debt injected or the destruction of the climate and biodiversity caused by the GHG emissions from fossil fuels used to obtain this famous "GDP growth".

At each debt repayment date, the debt is indefinitely replaced by a new debt that is always higher than the previous one, except in times of crisis.

A considerable advantage for the United States is that its currency is the international bargaining chip, enabling it to pass on the burden of its debt to others.

In so doing, this exploding indebtedness is locking the world economy into the pre-1970 economic model, which has been renewed since 1984 with each new debt repayment, and which at the time was a purely financial condition demanded by creditors, with no constraints on climate or biodiversity.

States, dependent on the perpetual refinancing of their debts to avoid chaos and immediate collapse, are in no position to demand anything of the financiers who dictate their conditions, strictly and exclusively financial, according to the old adage we owe to Napoleon Bonaparte: "*The hand that gives is always above the hand that receives*".

Year after year, these conditions are renewed at each maturity, with the new debt and, as the only variable part, the interest rate based on the rating issued by the rating agencies, according to the GDP growth achieved compared with that forecast and in relation to future commitments on GDP growth, deficit reductions and the respective final ranking of each State in this competition between States for the highest GDP growth.

For the State, "*deficits*" always come from spending on public services, quickly forgetting (too quickly?...) the very sharp drop in tax revenues from multinationals, held by their creditors, due to the tax optimization mechanisms set up by the financial industry in tax havens, a mechanism imposed by the financial industry on States under the threat of systemic financial collapse in the event of non-refinancing of perpetual debt and sovereign default on repayment.

The financial industry is also the biggest shareholder in multinationals, collecting tax-free dividends in tax havens, pumping them out of impoverished countries, whose only leverage for reducing deficits is to cut spending to compensate for lost revenue, thus destroying public services that do not generate GDP in the short term (hospitals, healthcare, schools, justice, etc.).

From 1984 onwards, debt-driven consumption gradually became the main driving force behind GDP growth, with energy becoming no more than a consequence of debt-driven consumption-driven production, thus locking the economic model into a bygone era (the thirty glorious years), but constraining it and destroying the climate and biodiversity.

The state has only two levers of action left :

- sell off the family jewels to multinationals (freeways, the French gaming industry, etc.) and lose the corresponding tax revenues by deepening these deficits, which will necessitate new debts, creating a vicious circle of increasing debt and interest charges, which in turn will lead to a further rise in debt charges and their perpetual increase.

- use the deficits caused by the drop in tax revenues resulting from tax optimization mechanisms in the tax havens used by multinationals, to progressively eliminate everything that doesn't produce or hinders GDP growth by slashing state spending and the general interest relegated to second place by the chains of perpetual indebtedness conditioning the existence of states on a drip-feed of debt money to avoid the chaos and immediate collapse that would result from sovereign default on debt repayment at every due date

State macro-economic debt at the outset, which was to spread throughout the micro-economy, businesses and households, locking in the economic model for good during the "*30 glorious years*" (1944-1974).

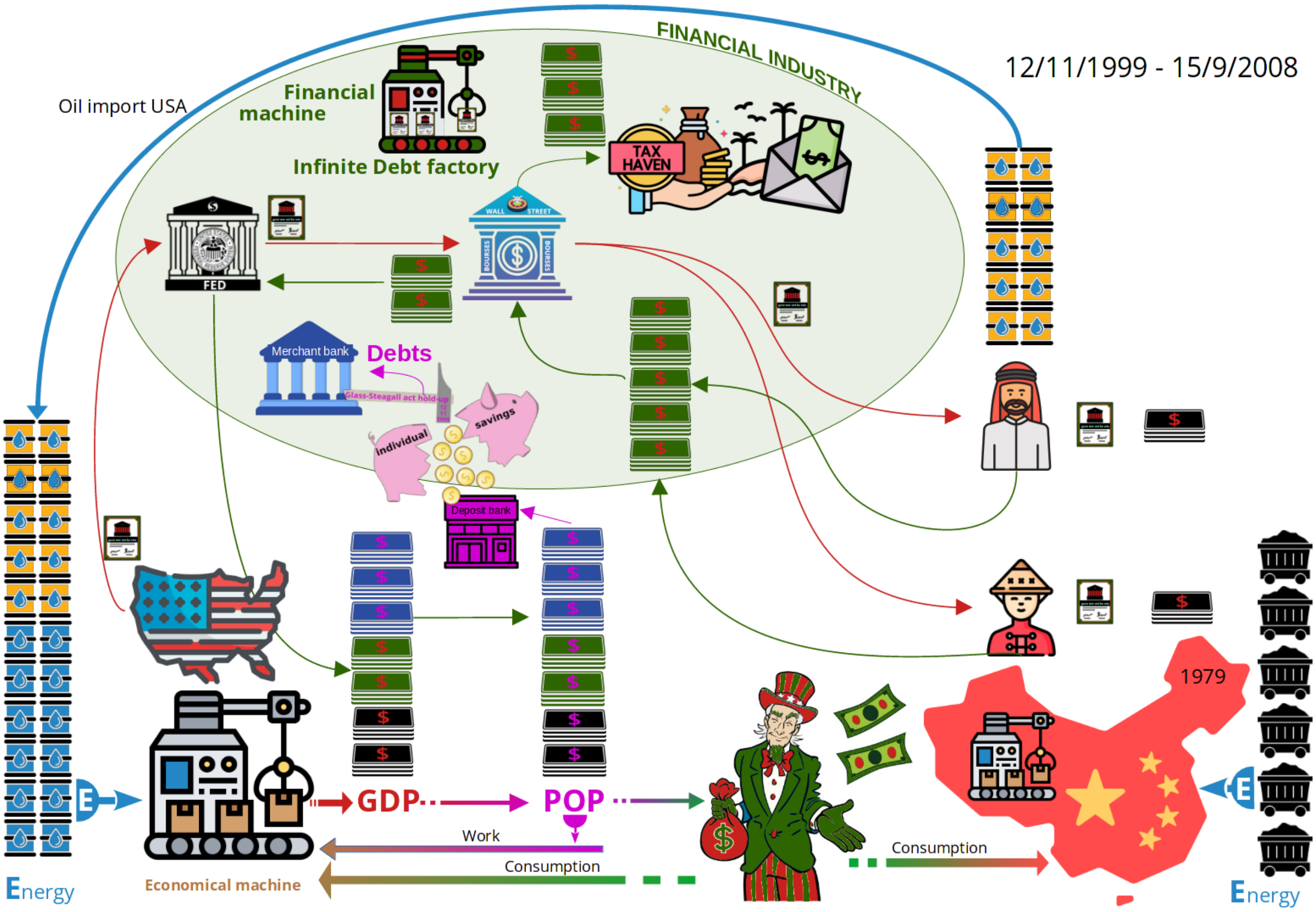
A transfer of state debt to the debt of individuals and companies, who in exchange undertake to work more and more to produce more and more, in order to repay more and more debt and the associated interest in tax havens, leading to a sharp rise in fossil fuel consumption, GDP growth and a forced increase in greenhouse gas emissions.

Debt will then gradually replace energy as the engine of GDP growth, artificially maintaining a high level of consumption, pushing fossil fuel consumption up to 85%, and GHG emissions accelerating global warming and destroying biodiversity.

The transformation of debt into GDP each year will enable the financial industry to multiply the GDP thus created by a factor of 10, thanks to money creation in the hands of the financial industry, through the multiplication of debt and increasingly sophisticated financial tools of banks and other investment companies.

3.4.6 The financial coup d'état 11/12/1999

Bill Clinton, 42 ème President of the United States, makes a serious mistake by abolishing the Glass Steagall Act of 1933, a consequence of the 1929 crisis, which separated and protected deposit banks from investment banks.



Bill Clinton's objective is to revive his economy and win re-election, thanks to consumption and "GDP growth", by offering investment bankers the enormous ca$h reserve of individual savings in the deposit bank, ca$h which the investment bankers will transform into new debt injected into the economy via "new financial products" (subprimes...) "*risk-free*" (...) for the rating agencies (AAA-rated...), accelerating consumption, the engine of GDP growth, while using securitization tools to pass on the risk to the entire planet, accelerating consumption, the engine of GDP growth, while using securitization tools to pass on the risk to the whole planet, thus creating new financial bubbles.

The savings of private individuals are thus held hostage by the investment banks, which have become untouchable through the "*too big to fail*" rule, forcing governments to bail them out in order to prevent the collapse of the deposit banks of private individuals, thus reproducing the crisis of 1929, chaos, collapse and civil war.

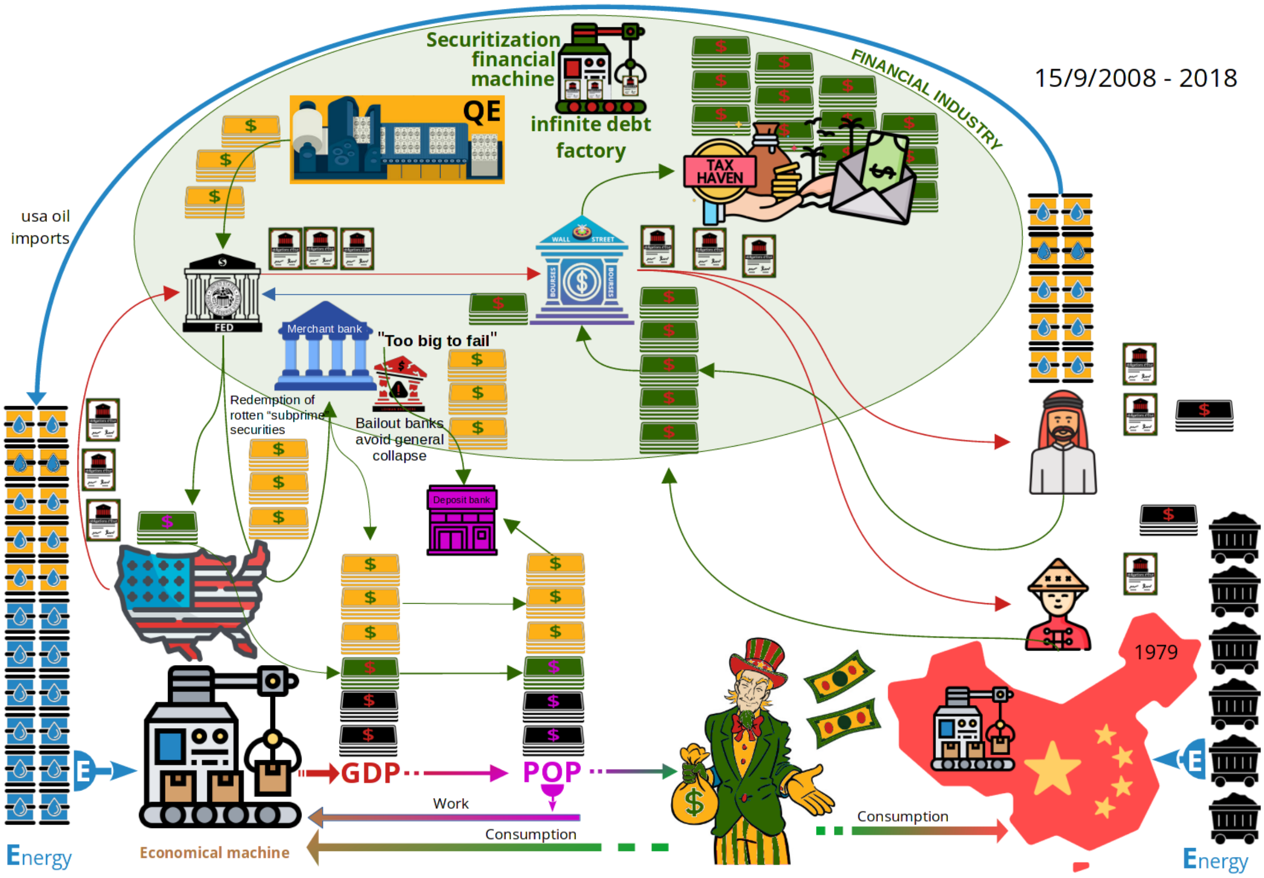
States are now under the permanent threat of immediate chaos if they do not obey the injunctions of competition on GDP growth organized between indebted States by financiers from tax havens, conditioning the perpetual refinancing of their debts which they cannot repay, risking sovereign default synonymous with collapse and immediate chaos.

The world is locked in, subject to the dictates of the global finance industry in the shelter of tax havens, a global financial coup d'état, through double blackmail:

- the blackmail of sovereign default by states unable to repay their debts at every due date in the event of perpetual non-refinancing of the debt, a sovereign default that would provoke chaos, collapse and civil war
- blackmail to bankrupt the deposit banks, forcing governments to refinance the financial industry (investment banks, insurance companies, etc.) in any case, with new government debt, in order to avoid the bankruptcy of the deposit banks and the washing away of private deposits, which would also cause chaos, collapse and civil war.

3.4.7 The crisis of 2008 and the bankruptcy of Lheman Brothers on 15/9/2008

Global subprime crisis: confirmation that investment banks were being held hostage by the "*too big to fail*" rule, forcing governments to bail out banks to avoid the 1929 crisis.



2009 : in response to the sub-prime crisis, governments use QE (Quantitative Easing) to bail out banks and avert a global financial meltdown by buying up rotten sub-prime debt in special financial vehicles that will store it in the same way as you put something you no longer want to see on the top shelf.

This QE is given to the banks in return for a massive increase in government debt, government bonds to buy up the rotten debt of the investment banks and thus prevent the collapse of the deposit banks and the washout of private individuals.

An ever-increasing chain of debt whose only means of repayment, at each due date, is to create even more new debt, with the terms of this new debt set by the ratings of the 3 main rating agencies (Fitch, Standard & Poor's, Moody's) based essentially on achieved GDP growth and future GDP growth commitments, supposed to guarantee (...) the ability to repay future debt and the respective ranking of States in the competition between States for this highest GDP growth.

Deadly competition.

For the financial industry, it' s confirmation of its global coup d'état : *"heads I win, tails you lose".*

As a result, t h e massive and perpetual indebtedness of governments keeps us in the illusory model of the "*30 glorious year before 1974*", by artificially reproducing ad infinitum, via debt, the contractual conditions of that era through the renewal of a past debt, whose permanent growth is a sign of dependence and the impossibility of renegotiating the conditions to reduce CO_2 emissions and preserve the climate and biodiversity.

The promise of GDP growth is illusory, since it is boosted by the growing debt that is never deducted from GDP, all locked up by permanent financial blackmail of systemic collapse on the part of investment banks that have become more powerful than governments (holding deposit bank savings hostage: "*too big to fail*").

The money from GDP and its growth is sucked up by the multinationals in which the financial industry is a shareholder, and the profits are then spat out in the form of dividends paid to the financial industry, tax-free, in tax havens, impoverishing the States.

States are thus increasingly deprived of the means to repay their debts, forcing them to take on more and more debt and hand over their family jewels (French freeways and gaming) to multinationals owned by the financial industry, which will further reduce tax revenues and increase public deficits.

States will therefore have to take on more and more debt, while complying with the financial industry's demands to "*reduce public deficits*", which will result in the elimination and degradation of everything that does not produce GDP in the short term, starting with public services (schools, justice, hospitals, healthcare, etc.), thus confirming that the interests of the financial industry have become more important than the general interests of States, whose survival now depends on the perpetual refinancing of debt on the best possible terms, while being permanently threatened with immediate collapse by the washout of banks if States do not bail them out with new debt in the event that their risky securitizations and speculations cause them to go bankrupt.

Political power has no power left, except to manage the situation of states forced by the financial industry, i.e. to give ever more public money to multinationals to satisfy the financial industry, in the form of subsidies, while reducing so-called public "*deficits*" whose origin lies in t h e loss of GDP ca$h extracted from states by multinationals in the hands of thefinancial industry and paid back in dividends to t h e financial industry in tax havens.

The famous "*public deficit*" refers only to expenditure, while always concealing the missing revenue from GDP and its growth, diverted to tax havens by multinational monopolies in the hands of the financial industry, creating ever-greater budgetary imbalances for States which then have no choice but to :

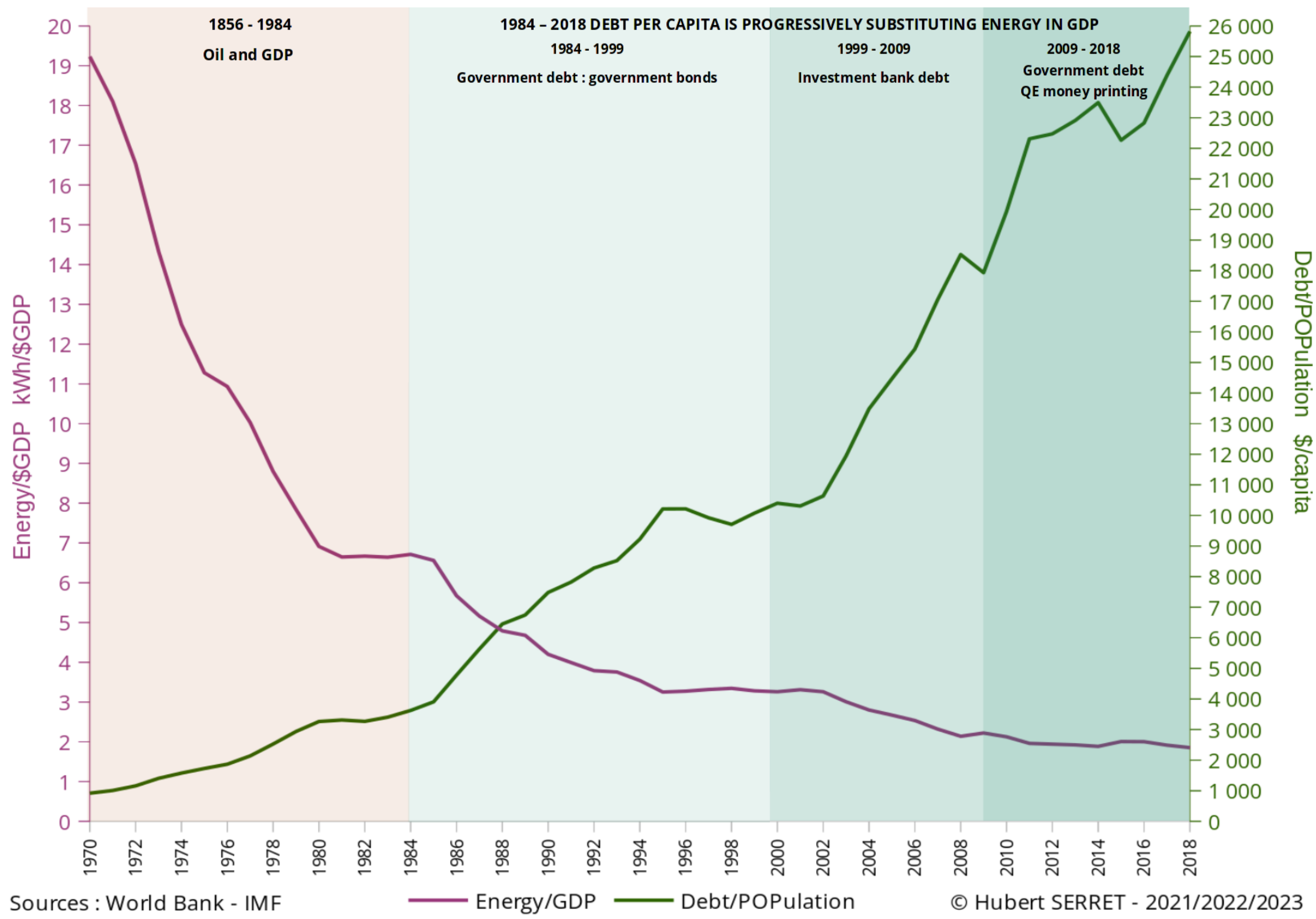
- sell off the family jewels (Française des Jeux, freeways, etc.) to multinationals, held by financiers in tax havens, accelerating the impoverishment of States, since the revenues will end up in tax havens and will be missed by the State, while enriching those who will refinance the growing perpetual debt.
- cuts in spending on health, education, security, justice, police, the army, etc., in the name of a budget deficit that in reality stems from the evaporation of taxes that multinationals would normally have had to pay had tax optimization mechanisms in tax havens not been "*legalized*" by politicians forced to do so by the need to perpetually refinance their debts, among others...
- continue the carbon-based business model of this growth in Debt-GDP, under threat of immediate collapse in the event of a change of strategy through non-refinancing of the growing perpetual debt and a sovereign (state) default on repayment causing the deposit banks to be wiped out, the population to revolt, chaos, civil war and the end of "democracy"...

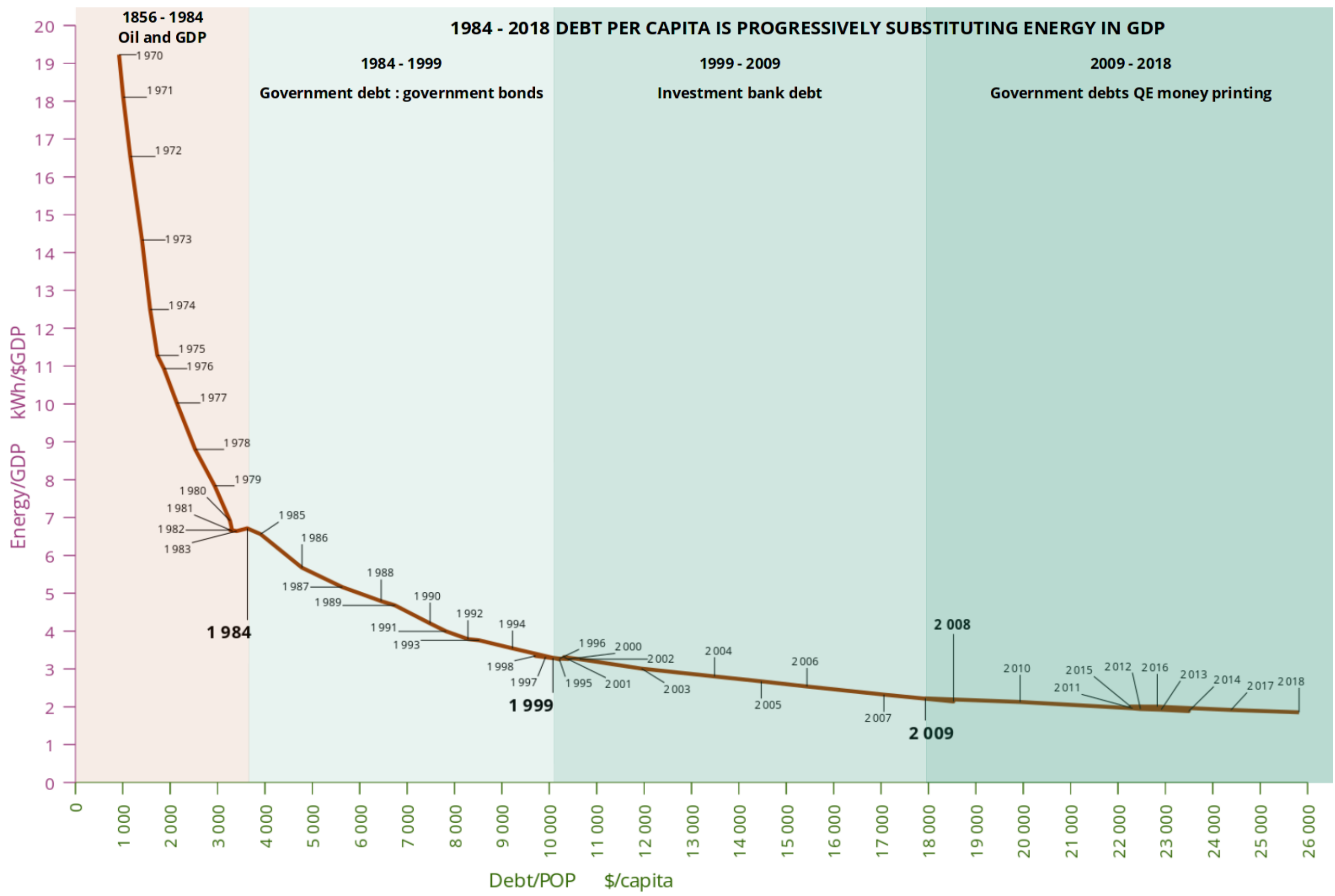
The continuation of this carbon-based economic model that destroys biodiversity is based on :

- perpetual increasing indebtedness under the condition of perpetuating a carbon-based model that destroys the climate and biodiversity and dates back to the period of the 30 glorious years 1945 - 1974
- perpetual refinancing of the debt on the best terms according to the ratings of the rating agencies, based on the position in the world competition for the highest GDP growth and on promises of future GDP g r o w t h as a guarantee of repayment of the new debt enabling the previous one to be repaid
- the permanent threat o f immediate financial collapse if the debt is not repaid by the due date, resulting in sovereign default
- the obligation to refinance banks with new government debt, banks that have become "*too big to fail*" by abolishing the separation between deposit banks and investment banks : banks have taken power over governments and the general interest, which hs been relegated to second place after the strictly financial interest of GDP growth, GDP captured by multinationals to become new debt.

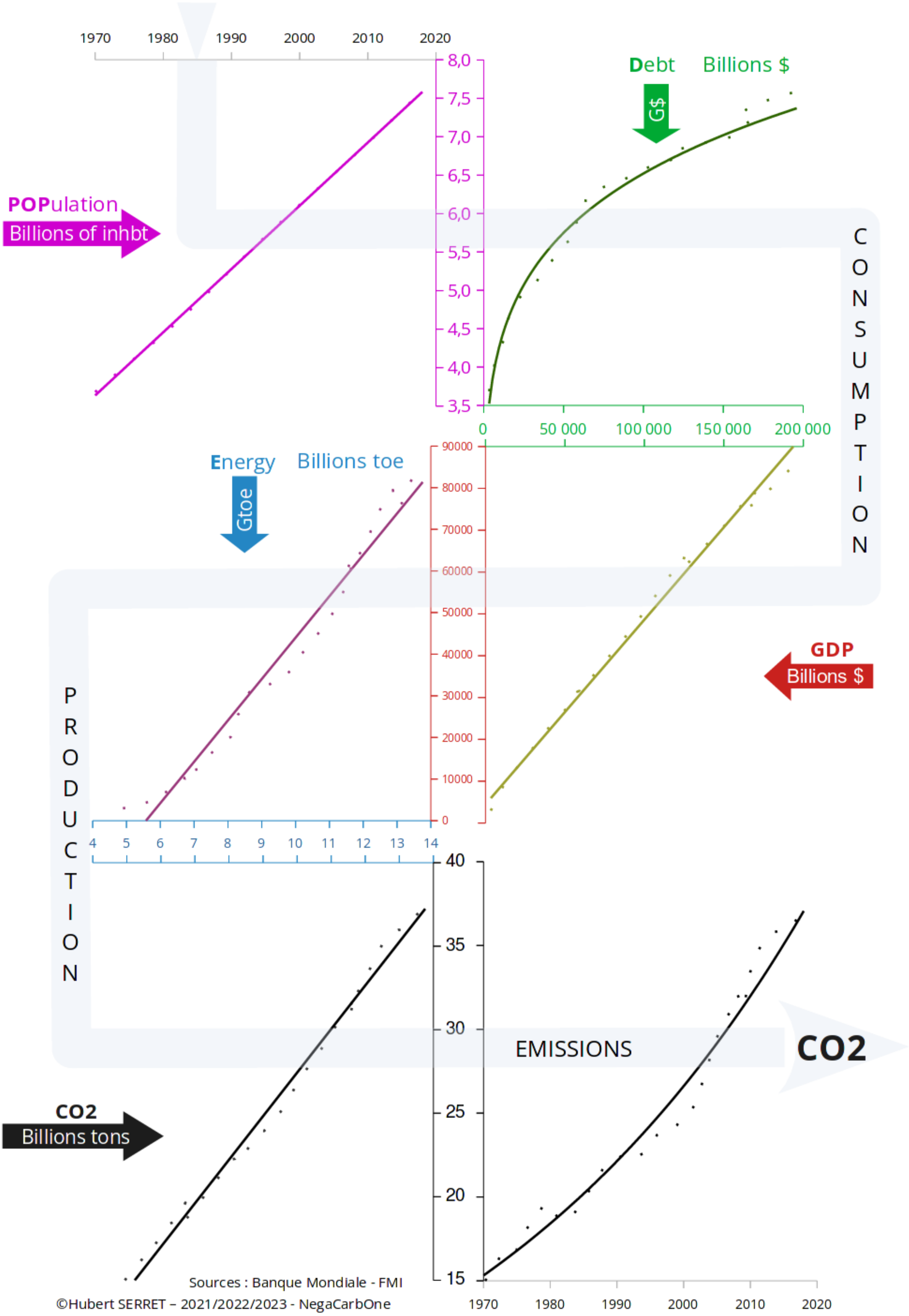
The power of states is now limited to "*managing the local sandbox* ", with the main objective of ranking well in the competition for infinite GDP growth imposed by the financial industry, reducing deficits by selling off the family jewels and gradually phasing out everything that doesn't produce GDP in the short term, a vicious circle of ever-increasing indebtedness, resulting in the imposition of greenhouse gas emissions, the destruction of the climate and biodiversity, and financial social Darwinism leading to the uninhabitability of the Earth for the human species.

3.5 Period summary

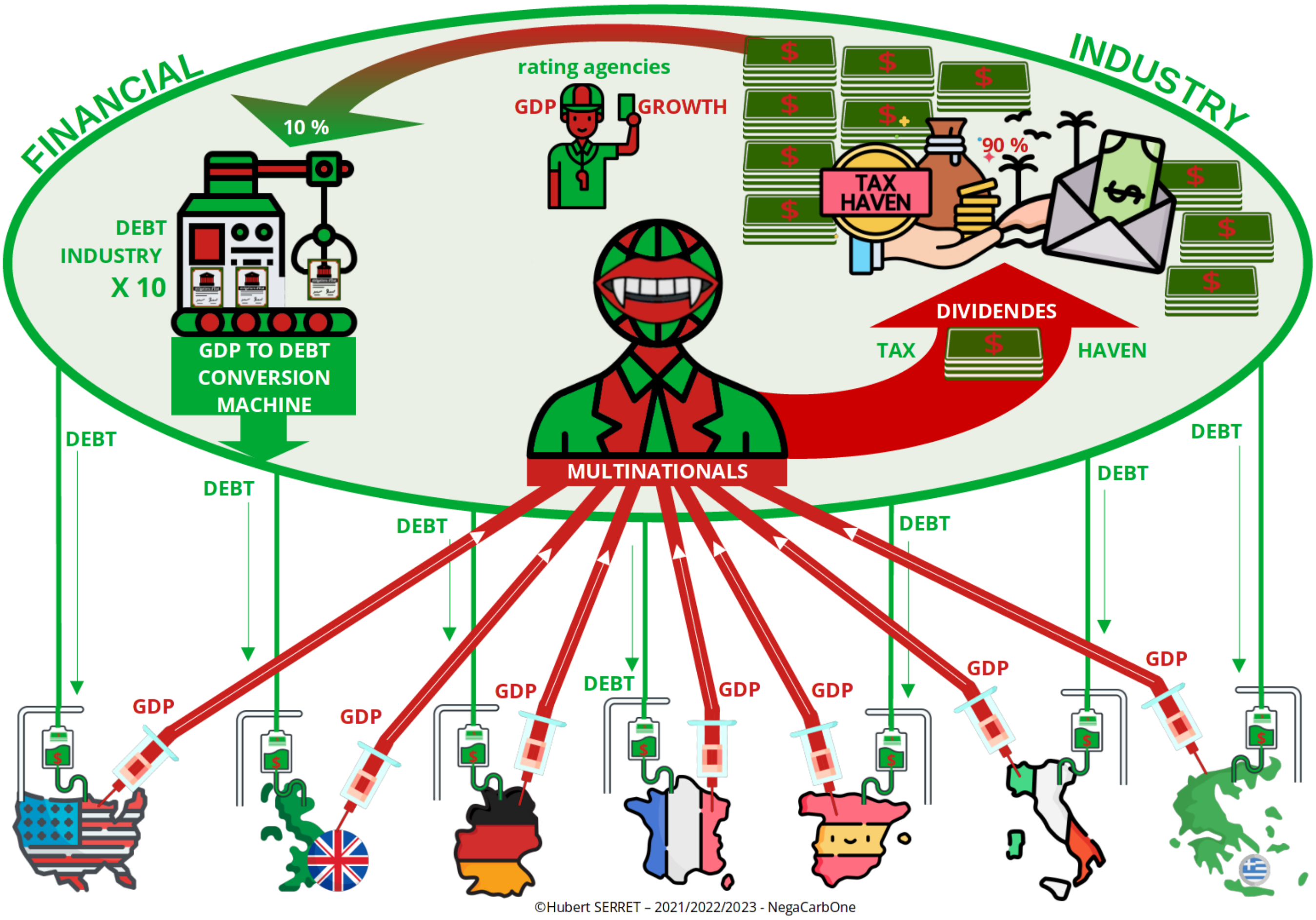




3.6 The CO2 road



3.7 Summary of the current model imposed by the financial industry



An infinite model of capital concentration that is destroying the climate and biodiversity through the infinite greed of 0.1% of human beings and the unwitting complicity of others in a financial system deliberately made complex, opaque, illegible and incomprehensible, blocking all change and forcing us to see only the end of the month so as not to see the end of humanity.

It's worth pointing out that governments can also be "*legally*" shareholders in multinationals and benefit from the dividends paid out each year, without this being considered corruption or a conflict of interest, yet aren't we entitled to wonder ?

Thanks to the permanent threat o f systemic collapse posed by the financial industry to governments, the financial interest of GDP growth has taken precedence over the general interest of the climate and biodiversity, condemning humanity to extinction as a result of an Earth rendered uninhabitable.

Doesn't the State's elimination of everything that doesn't produce GDP in the short t e r m , forced by the debt held by creditors, lead to a more or less hypocritically "*accepted*" or suffered financial social Darwinism, consisting of the progressive elimination of all those who don't produce GDP growth – the weak, the frail, the elderly, the sick, the poor above all, an acceptance based on the risk of the middle classes immediately losing (sovereign default on debt in the event ofrefusal) the savings of a lifetime that would lead them, too, to downgrade into poverty, condemning them to be, in their turn, the new victims of this financial social Darwinism imposed by debt ?

4 CONCLUSION

The concentration of capital in tax havens tends to deprive states of the means to finance themselves, subjecting them to perpetual, conditional indebtedness, based on GDP growth achieved. This indebtedness is de facto placed above their constitutions and the general interest, calling into question the survival of democracy, public services, the climate, biodiversity and the habitability of the Earth for humanity, our children and future generations.

Global debt, and the competition between states for its perpetual refinancing, is the main reason why states are not acting with the urgency required by the sudden acceleration in anthropogenic global warming and the destruction of biodiversity.

The conventional human financial system is blocked by the short-termist headlong rush o f a perpetual DEBT that has become impossible to repay.

Global debt is the lock that secures the destruction of climate and biodiversity, leading to the uninhabitability of the Earth for the human species and its extinction.

The problem of global warming and the destruction of biodiversity is a worldwide one.

To solve this global problem, we need a form of global governance (UN ?...) that truly serves the general interest of the inhabitants of planet Earth, rather than a strictly financial form of global governance, imposed by debt and held by 0.1% of the world's financial population, working mainly and essentially to concentrate capital in tax havens, in the service of its holders.

Global debt has imposed itself above the constitutions of states and the general interests of peoples.

Only a global authority can restore people's general interest in climate and biodiversity to its rightful place, above the strictly financial destructive interests of a tiny minority, 0.1% of the world's population.

5 SOLUTIONS (draft)

It would be very pretentious to try and propose THE solution, especially at the macro-economic level, which is nothing more than the sum of strategic decisions made by States and micro-economic decisions made by individuals, households and businesses. I'd settle for a few ideas and an outline.

Of course, the definitive elimination of tax havens would be ideal, as would identical taxation and social rules worldwide, but states would have to accept global governance with real weight at the UN, which is far from obvious.

As far as the speculative financial threat of collapse is concerned, with the abolition of the GlassSteagall Act of 1933, an example of a solution would be, in the event of bankruptcy, to make the CEO, the directors, all the managers, including the shareholders of banks and other financial organizations, jointly and s e v e r a l l y liable for all liabilities, out of their personal assets ; which would only be fair, given the destructive power they have imposed on the world and the Earth.

As far as debt is concerned, it's time to position a world bank, a public world bank, under the aegis of the UN, alongside the private banks and the IMF, with the creation of a world currency run solely by the World Bank, at parity with the dollar.

A substantial financial penalty mechanism must be imposed by the UN on countries failing to comply with the COP's agreements.

This mechanism would enable non-virtuous countries to assume all or part of the debt owed by a country that is virtuous in terms of climate and biodiversity, if they fail to meet their COP commitments.

Countries exceeding their COP's commitments would be granted a bonus in the form of monetary creation in this new global currency, enabling them to accelerate their decarbonization efforts.

This new monetary creation would be borne by the least virtuous countries in the form of new debt on top of existing debt.

A carbon rating agency, under the supervision of the UN and the IPCC, will draw up the annual carbon. balances of each country, and a rating will be established. This will be used to determine an additional interest rate to be added to any new debt contracted by a state.

This rating would make it possible to determine an additional interest rate that would be added to or subtracted from any new debt contracted by a state.

This is just the first step, and further work is needed.

In the style of Salvador DALI, a symbolic painting that sums up our world and our times... climate, desert, rising waters, finance, energy... almost everything is there...

"*American dream ...*"

listen to this music by Erik SATIE, "Gnosian N°1", which illustrates the "dynamics" of this painting...

short version https://www.youtube.com/watch?v=oOTpQpoHHaw

long version https://www.youtube.com/watch?v=F1dTv_WsMRI

Sources :

CO2 : https://donnees.banquemondiale.org/indicator/EN.ATM.CO2E.KT

E : https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html

GDP : https://donnees.banquemondiale.org/indicator/NY.GDP.MKTP.KD

D : https://www.worldbank.org/en/research/publication/waves-of-debt

POP : https://donnees.banquemondiale.org/indicator/SP.POP.TOTL