

Will NAFTA Be Fixed?

WASHINGTON – It is not a bad idea to look at ways to improve NAFTA, the Free Trade Agreement linking Canada, the U.S.A. and Mexico that came into force in 1994. Back then, we had a different world. The Internet was just beginning to blossom; the on line giant Amazon did not exist, and Apple's future was uncertain. Energy production and possible new cross border investments within North America did not even remotely resemble what we have now. Think of the incredible shale oil and gas revolution in the U.S., large scale oil extracted in Canada from oil sands in Alberta, and then exported to the United States, and the recent liberalization of the energy sector decided upon by Mexico, simply because they are shipped from Mexico.

Make it better?

What is not entirely clear at this early stage in the process is the spirit animating the American negotiators. As a presidential candidate, Donald Trump argued that NAFTA is a horrible arrangement that hurt the U.S. economy and workers, a key item within a long list of fatally flawed trade agreements.

So here is the question. Is the goal here to improve NAFTA or to try to kill it? We shall soon find out.

Key issues

Among the many issues that will be addressed by the U.S., Mexican and Canadian negotiators, "rules of origin", "dispute resolution" and "government procurement" stand out.

Rules of origin

In order to qualify for the NAFTA free trade preference, (this means no customs duties within the free trade area), goods

coming into the United States –say from Mexico– must qualify as “made in Mexico”. For example, they cannot be sneakers or T-shirts made in China, exported to Mexico and then re-exported tariff free to the U.S.A., pretending that they are made in Mexico.

However, in this global economy sustained by global supply chains, how does one establish clear rules aimed at determining the origin of complex products? Think for a moment of automobiles assembled in Mexico. Almost by definition they contain many foreign made parts –parts not originating from other NAFTA countries.

Well, here is the question. What is the limit of foreign (non NAFTA) made components (in terms of value of the components, and in terms of overall percentage of parts) beyond which the car assembled in Mexico no longer qualifies as “originating in Mexico” and therefore not qualifying for the NAFTA preference?

How strict?

How high do you set the bar? Is a car with 30% non NAFTA components still qualifying for tariff-free NAFTA status? Or can the NAFTA negotiators be more lenient and set the bar at 40%? This is a big deal.

More or less stringent rules of origin will affect established trade relations with a global web of suppliers. No wonder the Japanese are following the NAFTA renegotiation issue very closely. The Japanese brands assemble cars in Mexico. Ostensibly those cars are “made in Mexico” and so they can be exported to America customs free, as they benefit from the NAFTA trade preference.

Components made in Japan

But here is the thing. Everybody knows that these cars contain a large amount of components made in Japan. If adopted by the three partners, more stringent NAFTA rules of origin will

inevitably disrupt established supply chains created by the Japanese brands to export components that end up in cars that until today met the minimum NAFTA origin criteria to be considered as “made in Mexico”.

So, here is the issue that will affect the negotiations. America wants much stricter rules of origin, because it does not want what the U.S. considers to be essentially Japanese cars, disguised as “made in Mexico”, to come into the USA tariff free, (because of the NAFTA preference),

Can a compromise be reached regarding what percentage of a finished product must be made of components made in Mexico, Canada or the U.S.A. in order to give this product “NAFTA origin”?

Dispute resolution provisions

The Americans also do not like the “dispute resolution” mechanism included in the original NAFTA Treaty. Many in the U.S. look at it as a binding arbitration process which amounts to an infringement of US sovereignty. Americans do not like to be bound by a process whereby non-U.S. judicial bodies decide the outcome of trade disputes. The other two NAFTA countries would like to preserve it this dispute resolution mechanism. Is compromise possible?

Public procurement

Public procurement is another sticky issue. The three countries would like to have free and equal access to public procurement bids (think of government contracts which may include IT services, or infrastructure projects) put out by their NAFTA partners. Except when they do not.

Especially with President Trump pushing for an “America First” general approach on all trade and non trade issues, when it comes to public procurement, Washington wants to privilege U.S. companies through “Buy American” policies.

And this would include all or most government contracts. This is obviously against the spirit of wide open procurement with a bidding process open to all firms within NAFTA.

Uncertain outcome

In the final analysis, all these are very complex and technical issues –on a good day. If the parties are willing to compromise, there is an opportunity to improve NAFTA.

But if there is a negative bias against NAFTA, it is relatively easy to tear apart this free trade area linking the 3 economies of North America.

Major Economic Reforms In Saudi Arabia?

WASHINGTON – What is going in Saudi Arabia? Probably too much. We have now an odd stew of engineered low oil prices that created huge economic and fiscal constraints, in Saudi Arabia and in other oil-producing countries, mixed with a new “Master Plan” for the country that includes extremely ambitious reforms unlikely to succeed.

Low oil prices

Let’s look at oil prices. We know that the Saudis have willfully caused the global oil prices collapse that began in

2014, and continues today, by refusing to cut their massive output (in excess of 10 million barrels a day) when crude prices became soft on account of the extra supply created (in a very short time) by US shale oil producers.

With Saudi Arabia opposed to production cuts, the OPEC cartel had no choice. They had to endure the consequences of dramatically lower prices until Riyadh will change its mind. So far, it has not.

What is the end game?

Why is Saudi Arabia doing this? Who knows really. I believe that this is an anti-Iranian move, and by extension, a move also directed against Shia dominated Iraq.

We know that for a while at least Saudi Arabia can afford to lose billions of dollars, the result of the lower prices it has imposed, because it can count on a significant financial cushion, in the neighborhood of \$ 628 billion.

A huge price

Still, it is clear that the Kingdom is already paying a huge price. The Saudi state depends almost entirely on its vast oil revenue to finance all public expenditures. Dramatically lower revenue means huge public deficits. Last year the shortfall was almost \$ 100 billion. Again, the Saudis can afford to do this, at least for a few more years. But, at some point, their reserves will be gone. And then what?

Major reforms announced

But this is not the only major development underway in Saudi Arabia. No, there is plenty more going on. Just as the Royal Family running the state is adjusting its policies to the lean years it has created, it came out with a new plan aimed at transforming the country. And this is no exaggeration.

The plan has been developed under the guidance of Prince

Mohammed bin-Salman, the 30-year-old son of King Salman and now deputy Crown Prince. The young Prince (who is also Minister of Defense) is in charge of the Council of Economic and Development Affairs. The Council is a new institution established in January 2015, and placed in charge of planning future economic policies.

Privatizations, and a lot more

Here are the highlights. There will be large-scale privatizations, including health care services. There will be a deliberate effort to move Saudi citizens away from cushy state jobs *and into a soon to be created private sector* (I am not making this up) that will not rely on the established oil economy. (Currently, two-thirds of all Saudi workers are employed by the state). There will be an end to fuel subsidies and other freebies.

In other words, the plan is to make Saudi Arabia into a modern, vibrant, innovation-driven, private sector-led economy, no longer dependent on its enormous hydrocarbon resources.

Slim chances of success

In principle, this is not at all a bad idea. In practice, it all depends on the time line and the quality of both the plans and the execution. Let's say this plainly. Usually these Grand Reform Plans do not work. And they do not work because the objectives are unrealistic, because people resist change, because sleek blueprints drawn by highly paid consultants fail to take fully into account the drag created by entrenched cultural habits and traditional mind sets. And in most cases all participants under estimate how long it takes for anything of substance to be implemented, and become eventually self-sustaining.

Abenomics failed

Look, Prime Minister Shinzo Abe has essentially failed in his noble attempt to revitalize Japan. He called it "Abenomics". And there was a lot of suggestive imagery built to support it. Abe talked about arrows in his quiver and how they would reach their targets. But it simply did not work.

And yet Japan is a highly advanced industrial democracy, with many world class companies, a modern state, and lots of highly educated people. Nonetheless, Abe's Grand Plan, did not work. There is too much inertia, there are too many political, institutional and cultural obstacles. The Japanese people are unable to get out of their complacent, (and in the end self-destructive), mind set.

Now, if modern Japan cannot quickly embrace and own a vision of vibrant change, what makes Prince Mohammed think that sleepy Saudi Arabia, a country in which most people do nothing, (large numbers of foreign workers have been hired to perform most tasks), while oil money subsidizes the entire economy and society, will do much better?

In Europe, welfare reforms almost impossible

Welfare and subsidies create dependence. Of course, in theory it is possible to wean people away from dependence on public largesse. But it is extremely difficult. Look everywhere.

In Europe all entitlement programs are essentially untouchable. Greece had to get all the way to the edge of the abyss before any political leader would accept the notion that the government had to reduce unaffordable social programs.

In other words, it took complete financial ruin before real reforms (this means cuts) could be contemplated. And even under those extreme circumstances reforms were fiercely resisted by most citizens.

Better results in Saudi Arabia?

Given these examples, one needs a truly heroic level of optimism to believe that Saudi Arabia will eagerly embrace change and quickly transform itself into some kind of Big Singapore in the Middle East.

This is a country that lives under a heavy blanket of religious conservatism. It is an absolute monarchy in which basic human rights are unknown. Women are second class citizens. It is a nation where, beyond oil and refining oil products, there is essentially no other industry. And this is the soil where the leaders want to plant the seeds of innovation and modernity? Good luck to them.

May be in 20 years

Look, assuming a perfectly modulated plan and a 20 to 30 years time horizon, some real changes may be possible. But the impression here is that Prince Mohammed is in a hurry. The perception is that we wants everybody to get busy, right now. *"Give me a private sector-led, non-oil economy, today"*.

So, here is the thing. It is good to have bold dreams of modernization. But in the case of Saudi Arabia, this new reform plan looks a lot like lunacy.

Coal Consumption On the Rise in Asia

WASHINGTON – The Paris climate talks may end up with new carbon reduction commitments made mostly by Europe and America. But the reality is that the largest developing countries (China, India, the Philippines, and Indonesia), plus Japan and South Korea rely and will continue to rely on

massive use of coal, the worst possible fossil fuel in terms of noxious emissions.

Coal is up

Data from the WSJ indicate that China uses coal for 66% of its electric power generation. In India the percentage is 56%, in South Korea it is 31%, in Japan 28%, in Indonesia 35% and in the Philippines also 35%.

In the US coal is trending down because of the competition created by cheap natural gas. Still, even with reduced consumption levels, coal is used for about 30% of American electric power generation.

Even with the best of intentions, in Asia it will be really hard to displace coal as the main electrical power generation fuel. For instance, in China renewable energy is only 2% of total power generation. There you have it. Coal 66%, wind and solar 2%. A long, long way to go before renewables will catch up.

More coal-fired plants

And, in reality, in Asia there is no plan to cut coal consumption. In fact, exactly the opposite is happening. As world leaders convened in Paris to make solemn pledges to curb carbon emissions, in Asia coal plants construction is up. Japan, a G7 member, will build several new coal-fired plants. (The Japanese claim that the new generation of coal plants they designed will be much cleaner. Still, they will produce emissions).

And this is only a part of the story. According to the WSJ, the Philippines is planning "to open 23 coal-fired plants over the next five years to meet rising electricity demand". If this construction plan will be executed, the Philippines will become the most coal dependent nation in Asia. Vietnam will also increase coal use, and so will Indonesia.

In Paris, just talk

Anyway, you get the picture. The Paris talks would like to get to a global agreement that will move the world away from carbon. In reality, large parts of the world are moving exactly in the opposite direction.

But why is that? Why so much coal use, when everybody seems to agree that it is the main source of the emissions that cause greenhouse gases at the root of global warming?

Coal is cheap

Very simple, Because coal is abundant, and very, very cheap. And what about emission free renewables? Well, they are coming along. But slowly. And this is mostly due to the fact that, while prices have come down, wind and solar are still considered too expensive in many parts of the world. (According to the WSJ, renewables make up only 2% of power generation in China, 2% in India, 3% in Japan, 1% in Indonesia, 0.5% in South Korea).

Development first

In the end, whatever their governments may be pledging in Paris, the fact is that emerging countries want economic development first. For that, they need electricity. And, so far, dirty coal is still the cheapest option.

For those who believe that global warming is a real planetary emergency, these Asian energy policies amount to reckless behavior. However, the fact is that no Western government will seriously commit to a large enough plan aimed at subsidizing green energy deployment on a global scale.

Therefore, until renewable energy becomes truly affordable, (let's hope soon), expect more coal-fired plants coming on line.

A Very Weak American Economy

WASHINGTON – The slow but steady decline of the US economy should be the main theme of this unfolding and contentious presidential election campaign. But it is not. The recent steep Wall Street drop may change all this, (the Dow Jones lost another 530 points on August 21, making it the worst day of a very bad week), but I would not bet on it. In fact, optimistic analysts are on TV telling investors that this huge Wall Street loss is in fact just another temporary glitch, and thus a wonderful opportunity to buy really cheap stocks.

“Anchor babies”

Regarding the presidential campaign, forget about the economy. The most recent headline is about Donald Trump’s proposal to repeal or modify the 14th Amendment to the US Constitution that grants citizenship to all those who were born in the US. His point is that the Constitution has been abused by armies of pregnant foreign women who slip into the US in order to deliver what are now called “*anchor babies*” on US soil. As they are now mothers of US citizens, they can try to make a case to stay in America, despite their foreign status.

Millions of babies?

So, there you go. “*Anchor babies*”. This is the burning issue. And how many “*anchor babies*” do we have? Millions? Hundreds of thousands? No, we are talking about a few thousand, at most.

Look, there is plenty of evidence of criminal enterprises that provide logistical and medical support to pregnant foreign women, so that they can come here, and give birth in the US. All this needs to be stopped. But, while real, this is hardly a crisis of catastrophic proportions.

Under performing US economy

The real issue that should be discussed by all those who aspire to be President is a consistently under performing US economy. (For a cogent, detailed and rather scary depiction of US economic decline, read the [WSJ](#) op-ed by Mortimer Zuckerman, *Who Will Get the Dreary Economy Going?* August 21, 2015).

Unfortunately, it is very difficult to fight against economic mediocrity, especially since more than half the country, including respected analysts, have gotten used to it. In fact many tell us that this mediocrity is after all quite good.

Mediocrity looks OK

In truth, the US economy is not facing imminent disaster. On the contrary, it has been chugging along for a number of years at a slow, but semi-respectable 2% a year rate of growth. Not great, but a lot better than Europe. Unemployment has gone down, and it is now back to about 5%.

Most analysts who speak on Bloomberg TV, CNBC or Fox Business say that things are more or less OK. Not great, perhaps. But alright. You see, more Americans are employed. And this means more disposable income. And this will translate into more sales, and therefore more demand for goods and services that will lead to better economic performance. As for the steep Wall Street decline, we are told not to worry. We always have corrections every now and then. The important thing is that the economy is on solid foundations.

Really?

Fragile foundations

Look, the fact is that the US economy is fundamentally fragile, notwithstanding the ZIRP, (zero per cent interest policy) decreed by the US Federal Reserve many years ago. Which is to say that, despite this extraordinarily long period

of monetary easing, economic activities have not picked up.

2% growth is well below our 3% historic average. On top of that, we have the lowest level of labor force participation in decades. This means that far fewer adult Americans are employed, compared to our historic averages. Millions of those who now are lucky enough to have a part-time job would rather have full-time employment. And most new jobs are in low pay service industries. Very little new employment is created by wealth-generating manufacturing.

The end of the energy boom

All this indicates an anemic economy. But wait. It gets worse. Much of the (modest) growth that America experienced in the last few years was due to the extraordinary shale oil boom. But now the world is awash in oil. And there is no sign that this glut will go away. This means a real recession in the oil sector that is driving down energy companies and all their suppliers. Translation: depressed energy and energy related stocks, with dramatic loss of what used to be good jobs for all the oil companies and for the vast universe of suppliers and vendors connected to them. Add to this the negative ripple effects on communities that started thriving because of the extra money brought in by the energy business, and you get a rather dark picture.

Diminished China

Last but not least, we have China on the verge of a crisis. The US may not have much direct exposure to the Chinese economy. But the rest of the world does. Japan is affected, and so are Germany, Taiwan, Thailand, and South Korea. And we do business with all of them.

Beyond that, China's slow down has already had a dramatic impact on the economic performance of all its raw materials suppliers. Brazil, Australia, South Africa and Indonesia are in big trouble. Major mining companies are looking at

disastrous numbers, because China does not buy much from them anymore.

Can anybody seriously believe that, while the world is headed towards an economic freeze, America will be miraculously unaffected?

Now, if China's woes were just a glitch, well, this problem would go away. But we have many indications that China has entered a new slow growth economic era, while it is trying to deal with monumental debt, and massive industrial over capacity. Here is one sobering statistic. The Caixin China Manufacturing Managers' Index just fell to a 77 month low. As I said, this looks like a new trend.

Therefore, forget about China growing at 7%. Forget about its ability to absorb massive amounts of iron ore, copper or whatever else.

Shaky America

So, here is the picture. The American economy has recovered since 2008, but very slowly, notwithstanding the historically unprecedented monetary stimulus. Consumption is not buoyant because most Americans are still recovering from the over spending of 10 years ago. The US oil industry, a rare bright spot, is now clearly in serious crisis, while world trade is depressed because of China's slow down.

Are we headed for a recession? Probably. (If nothing else, as we get a recession every 7 or 8 years, we are due for one anyway). Certainly there is nothing out there that inspires great confidence.

Wanted: An economic growth agenda

So, how do we get out of this? It is not difficult to identify the issues that need urgent attention in order to strengthen our foundations. We would need a skilled combination of tax

reform, public education reform, targeted training programs, regulatory reform, and a lot more. The problem is that putting all this together in an eye-catching, compelling campaign platform is really difficult.

Sadly, it is a lot easier to listen to Donald Trump and others talking about *“anchor babies”*. As for Trump’s recipe for fixing the economy, he has one, and it is very simple. *“You should elect me president, because I am the only one who has the proven experience to get things done. I know these things. The professional politicians are all talk and no action. I’ll take care of things”*. Well, this is the level of detail we are getting, so far.

I hope that someone else can do better than this.

Vertical Urban Farming Is About To Happen

WASHINGTON – Over the years farming has become much more efficient. It has been heavily mechanized. Therefore it is far less labor intensive. Good roads, (at least in the developed world), cold storage systems, modern distribution centers, computerized logistics networks, and a lot more make sure that your lettuce moves rather rapidly from the farm to the supermarket shelf.

Efficient agriculture

On account of all these positive developments, the US agricultural sector, with a minute number of people working in farms (around 2% of total workers), feeds more than 300 million Americans, while it exports a huge surplus around the

world.

So, is this good? Well, for sure agriculture production systems are better and more cost-effective than what they used to be 100 years ago. And, yes, they are far more efficient. Less time from farm to market. Far less waste due to produce rotting along the way.

Really that efficient?

However, if you think about it, these modern techniques are still terribly wasteful. First of all, you need a huge amount of land to feed billions of people. In fact, you need more and more land as the world population keeps growing; not to mention more (and increasingly scarce) water for irrigation, and colossal amounts of fertilizers.

Growing more food means means more deforestation and other environmental disruptions caused for instance by water runoff loaded with excess fertilizers eventually flowing into rivers. Not to mention all the fuel necessary to power large machines that now perform tasks that in the old days required human labor.

And then you need more energy for cold storage chains, and massive amounts of fuel for the trucks that have to deliver the produce from the farm to the distribution centers and finally the supermarkets located in cities.

If you think about it, this modern system to produce, transport and deliver food is still pretty cumbersome and expensive, while it threatens fragile ecosystems across the world.

Just think about the amount of water required for agriculture. Add to that deforestation, and the negative impact of fertilizers runoff on rivers, often leading to abnormal growth of algae and other dangerous ecosystem imbalances.

The future: vertical urban farming

Well, is there a better way to grow food? Yes, there is. According to Professor Dickson Despommier of Columbia University, after years of experimentation, we are finally getting to the point in which *vertical urban farming* is slowly but surely becoming a reality.

The idea is extremely simple. Grow vegetables and other edible plant food in vertical structures located right in the middle of cities. This way you eliminate the need to devote so much land to grow crops. Besides, you cut down the use of water in a dramatic way, because urban farms will have closed loop systems in which water is recycled and reused. You also cut down on the use of energy. No more need for cold storage systems. No more refrigerated trucks to transport perishable produce for hundreds of miles. And no more excess fertilizers getting into waterways. Not to mention the huge advantage to have a large supply of fresh produce harvested a block away from your supermarket.

Can we do this?

All this looks very nice. But is this new way to grow plant food in cities really feasible?

Well, there seem to be some technical issues that still need to be resolved if we are talking about building a skyscraper with 80 or 90 floors dedicated to growing tomatoes or lettuce. There are still challenges related to optimal design, so that adequate sun light will reach all surfaces, proper temperature controls, and more.

However, there are already examples of commercially viable vertical farming enterprises that are implementing this vision, albeit on a relatively small scale.

Sky Greens in Singapore

For instance, in Singapore, a very small country with a large population that needs to be fed, there is just not enough land for agricultural purposes. Hence the value of increasing yield by building vertical farms on the little land there is.

And this is what Jack Ng, Director of Sky Greens, has done. In this case, we are not talking about skyscrapers for growing greens. However, Sky Greens built very tall greenhouses that can accommodate 10 “floors” of vegetables. A rather ingenious, cost-effective water powered system ensures rotation of the 10 floors, so that all vegetables get the same amount of sun light.

The water powered rotating system, combined with an efficient irrigation system that allows water re-circulation, created a viable vertical farming structure with minimal operating costs.

Bigger crops

In Singapore’s context, the ability to have 10 times more produce from the same amount of (scarce) land is a major benefit. More broadly, the Sky Greens story proves that vertical farming is possible and commercially viable.

The new urban agriculture models will spread

As of today, we have yet to see the construction of really high rise structures devoted to growing plants. However, given the success of Sky Greens and other similar projects in Japan, Europe and the USA, we are probably on the verge of an urban agriculture revolution that will be good for the environment –think reforestation of land no longer used for agriculture, water and energy conservation, end of fertilizers-caused pollution– and for billions of city dwellers across the globe.

Bill Gates: Fund High Risk Energy Ventures

WASHINGTON – Here is what Bill Gates, (IT technology visionary, Microsoft founder, net worth about \$ 80 billion), said talking to The Financial Times about policies aimed at reducing carbon emissions: ***“When you say what can we do about climate change, the easiest thing to say would be: ‘Hey, let’s just take today’s technology and replace transport, electricity, industrial power with carbon-free emissions.’ Unfortunately the cost of doing that with today’s technology is beyond astronomical”***. [Emphasis added].

It will not work

Got that? This approach –deploying what we’ve got– will not work. Bad idea. A non starter. And this is because trying to replace all carbon energy based systems with currently available renewable technologies would entail costs that are *“beyond astronomical”*.

In other words, according to a recognized brilliant entrepreneur, current policies that advocate precisely that –replacing carbon based systems with imperfect, inefficient and still costly solar or wind power systems– are wrong, and they will prove to be prohibitively expensive.

This warning should invite reflection

This simple and unambiguous statement from a universally recognized smart person should be taken as a serious alarm bell. It should invite a pause and serious reflections among well-intentioned environmentalists, climate change believers and the policy-makers who follow their advice.

“While we believe in our goals aimed at reducing greenhouse gases that cause global warming, may be we are going about it the wrong way”. I suspect that Gates is right. When it comes to wind and solar, or electric vehicles, what we have developed so far is still rather primitive and inefficient.

Superior technologies do not need subsidies

Indeed, If renewable energy technologies were already cost-effective and efficient, they would have been spontaneously adopted on a massive scale. Why would you drive a car running on gasoline, if you could buy a cheap, high performance electric vehicle with batteries that can be quickly recharged at a fraction of what it costs to fill up with gasoline? Superior technologies find buyers and eventually take over simply because they are better. They do not need government mandates, subsidies, tax breaks and other artificial incentives in order to gain a modest market share.

Below the horizon

That said, what does Gates suggest? He suggests something really difficult. Our hope, he stated in the same FT interview, should be in achieving a true quantum leap when it comes to clean, affordable energy production. Therefore, we should be providing financial backing to enterprises that are pursuing real technological breakthroughs in untested sectors, with the hope of producing improvements that will not be just incremental, but truly disruptive. The steam engine was a breakthrough. The automobile was a game changer. The internet and all the software that supports it is true innovation. However, a very expensive electric vehicle (think Tesla) with limited range provided by a conventional battery, while interesting, is not a game changer.

Too risky?

The disincentive to engage in this type of investing is that most of these hoped for new technologies probably will not

work. Which is to say that a lot of capital will be invested and burnt, with zero results. And very few investors are willing to take this kind of chance.

Bill Gates of course can afford to do some of this investing. And he is doing it. He has spread about \$1 billion (this is his personal money) among a variety of enterprises. And he is planning to double this commitment. He is hopeful, but also realistic. He calls this "high risk" investing, and he says in the interview that there is may be a 10% chance of getting results. But he also believes that we have to push the envelope. If we want breakthroughs, we have to bankroll dreamers.

Here are some examples of where Gates is putting his money. He is working with a company called TerraPower that is planning to build mini nuclear reactors that will use nuclear waste as fuel. Another possibility for energy generation is some sort of "solar chemical" power that would reliably create a liquid hydrocarbon. And then there are "kite balloons" that would house turbines high up in the atmosphere.

More government-funded R&D

Anyway, you get the picture. All this looks intriguing, but most improbable; and therefore too risky. You cannot expect General Electric, Siemens or United Technologies to invest in any of these ventures.

And this is why Bill Gates is also advocating for more government-funded R&D in basic science, that is to say not tied to immediate commercial results. Unfortunately, the US Government does not support basic science in the same way as it used to decades ago.

The Manhattan Project was only a hope. Eventually it did produce the first atomic weapon. But there was no certainty that there would be any results when a group of scientists were tasked by Washington with what appeared an almost

impossible goal. But we know that they could work on their “mission impossible” because the US government provided all the backing and all the funding. No way that these people could have organized and sustained the same multi-year effort relying on some private company or university funding.

They private sector will not do this

One cannot expect that profit oriented corporations will pour billions of dollars into ventures that may never produce any results. The risks are too high. Impossible to justify these investments to shareholders and investors who normally expect immediate rewards.

But will Washington go back to supporting open-ended innovation, with the hope that some day, someone will come up with something really transformative when it comes to affordable clean energy? Or will Washington keep subsidizing solar panels that provide an inadequate, expensive alternative to gas-fired power plants?

Obama’s “Power Africa” Initiative Never Took Off

WASHINGTON – Anybody who knows sub-Saharan Africa will tell you that the main obstacle to additional economic growth is lack of electricity. More than 600 million Africans are not connected to the grid. And the impact of this is devastating. Just look at any satellite picture of Africa at night. What you see is a huge dark continent. No lights means no electricity; and this means no economic activities, at night and during the day.

Little generation

A relatively small number of mostly urban African citizens (around 25 or 30%) have electricity. But supply is unreliable. Most factories, workshops, hotels, hospitals and other businesses must have back up generators that kick in during the frequent power failures. Reliance on generators, while essential, is horribly expensive. Imagine any US small factory having to run diesel generators almost every day in order to keep its machines running and meet its production targets because the local utility would send power to customers only a few hours a day.

“Power Africa”?

Because of all this, when President Obama launched his \$ 14 billion “Power Africa” initiative during a trip to South Africa, (Capetown, June 30, 2013), everybody paid attention. At the time it seemed that the US administration had finally decided to concentrate limited foreign assistance funds for Africa on one big ticket issue that, when properly addressed, would have enormous “force multiplier” effects.

It was also of great interest that the US government would work in close partnership with major US corporations. So, this was not just foreign aid. This was presented as an American public and private effort aimed at boosting Africa’s economic growth potential.

Electricity is of course essential. The difference between having it and not having it is huge. Access to reliable and affordable energy would allow immense economic progress for hundreds of millions in Africa, while improving everything: manufacturing, business, education, health care, financial services, you name it.

A bad plan

Upon review, however, Power Africa had enormous structural

weakness. Its big budget would result from the consolidation of the grants, loans and investment activities of a variety of US federal agencies, while setting up –from scratch– cooperation mechanisms with major private sector companies (including General Electric and Symbion Power) that were expected to fork about \$ 7 billion in new power generation investments.

And this is only half the story. The multiple US partners in this huge and untested arrangement would have had to interface with a variety of African stakeholders, (central and local governments, public utilities, private companies, chambers of commerce, financial institutions, and various NGOs), in several countries.

At some point, all this would have resulted in the creation and approval of an agenda, with feasibility studies, budgets, financial arrangements, and finally allocation of resources and construction of new power plants and distribution lines.

The complexity of all this is mind-boggling. The notion that US federal bureaucracies would be able to pull this off within a reasonable time frame was a dream.

A dream

And a dream it was. So far, two years later, not much has been done. Sure enough, there have been interventions here and there. Technical assistance has been provided for this or that project.

However, almost nothing when it comes to large “greenfield” projects. Critics argue that many of the projects that Power Africa would like to list as its own in fact were already in the making when this new initiative came about, therefore Power Africa cannot take any credit for them.

Failure?

Are we talking about failure? May be not total failure. But, if there are any achievements, they are not even remotely on the scale of what was announced by President Obama back in June 2013.

Additional proof of this is that Power Africa is seldom mentioned. A recent story in The Economist (*The leapfrog continent*, June 6th, 2015), is entirely devoted to Africa's electricity needs. The article describes in some detail Africa's power generation projects, while analyzing large plans being worked on, from South Africa to Ethiopia, with a special focus on the role of renewable energy.

Irrelevance

Well, guess what, The Obama administration Power Africa initiative and its projected \$ 14 billion dollars of new investments in electrical power generation is not even mentioned in this long piece entirely devoted to Africa's energy needs. *Not even mentioned.* Talk about irrelevance.

And this was supposed to be the new grand plan for Africa coming from America. Some plan.

Oil Is King, For Now

WASHINGTON – In an interview with FORTUNE magazine, Chevron CEO John Watson argued that, whatever the oil prices wild fluctuations, carbon based fuels are here to stay. Contrary to dire predictions about producers having reached “peak oil” and consequent crude shortages, accompanied by price increases,

“those who follow the energy business in think tanks will tell you that right now about 80% of our energy is coming from fossil fuels”, argued Watson. “And if you go out 20 years, about 80% of our energy is going to be coming from fossil fuels”, he concluded.

The age of oil is far from over

Indeed, there is plenty of oil and gas around the world. Even assuming growing energy demand in emerging markets, it is going to take a long time before we experience significant price increases due to tightening supplies. Translation: the renewable energy golden era may still come, but it is not here yet.

Right now the case for renewable energy is mostly based on the desire to abandon fossil fuels on account of their likely impact on global warming and climate change. Most governments buy the renewable energy argument backed by many scientists. Therefore, they mandate the use of renewable energy, not because it makes any economic sense, but because it is the best way to stop global warming.

However, there is a steep price to be paid for being virtuous. Subsidies for renewable energy have to be budgeted. They cost money. In the meantime, all observers agree that even heroic efforts aimed at adopting renewable energy on a much larger scale would produce minimal effects on global world temperatures. Therefore, the case for renewables, (we are talking about currently available technologies), based on their ability to lower world temperatures across the globe, is inherently weak.

The US shale oil boom

In the US we are experiencing an oil renaissance. However, as Watson point out in the above referenced FORTUNE interview, shale oil wells have a relatively short life span. You have to keep drilling in order to maintain the same level of

production.

All this is expensive. Therefore some wonder, with cause, how long this US shale oil boom can last. Is there a lot more shale oil out there? Will energy companies come up with improved drilling techniques that will increase well productivity? There are promising signs indicating that all technologies related to "fracking" are getting better, very rapidly.

Still, whatever the long-term prospects of US oil production, (total US oil reserves are estimated to be at 44 billions of barrels, not a very high number), just in the Western Hemisphere there are other oil producers with enormous reserves.

Plenty of oil in the Western Hemisphere

We know that Venezuela is in a sorry state because of its silly populist regime that has mismanaged everything, starting with oil production. But at some point this may change. And Venezuela has the largest proven oil reserves in the world: 298 billions of barrels. This is more than number two Saudi Arabia, (266 billions of barrels). It is not inconceivable that at some future date Venezuela will get better political leaders who will be able to reorganize its energy industry, something that will have to include foreign investors who will bring in new technologies and know how.

And, if we go north, there is Canada, number three in the world, (after Saudi Arabia at number 2), with proven reserves at 174 billions of barrels. Add Mexico (10 billions of barrels), and Brazil (13 billions) to the mix and you have a lot of oil, and this is just in the Western Hemisphere.

Oil price changes

Oil prices are volatile. Right now we are experiencing very low prices because OPEC members, (led by Saudi

Arabia), contrary to their established policies, decided not to curb production when faced with lower prices due to added global supply, (much of it coming from US shale oil). This OPEC policy, of course, may change. And so, assuming reduced supply, at some point prices will go up again, although we do not know by how much, and for how long.

However, in order to make a solid economic case for non oil-based energy for transportation, (electric vehicles, fuel cells, and more), oil prices would have to go up, and stay up, for a very long time.

The moment of renewable energy will come

Sure enough, in a few years someone will come up with a new form of clean, zero emission energy that will cost less than gasoline.

As a former Saudi Oil Minister said long ago: *"The stone age did not end because we run out of stones"*. Yes, stones were abandoned when humans figured out how to make better utensils and weapons using bronze and then iron.

Which is to say that oil is king –for now. That is until something better comes along. Renewable energy had a "politically mandated" false start.

But we can expect that its day will come.

Impossible to Bring Back To the US Old Industries –Focus On New Technologies

WASHINGTON – An interesting story in the WSJ focused on how some US companies are looking at the prospect of bringing back to America the production of items that they outsourced to China. As the article explains, the advantage of lower Chinese labor costs is becoming less compelling. Wages for Chinese workers, while still substantially lower than prevailing US wages, are going up. Besides, the introduction of more and more automation in US manufacturing operations is making labor costs less important.

Cheap electricity

On top of that, the US natural gas revolution (thanks to shale gas) has created a new American competitive advantage when it comes to the cost of electricity. US factories now enjoy lower energy costs, thanks to relatively low electricity rates. Which is to say that America has become more competitive when it comes to establishing here at home new manufacturing operations.

We outsourced the supply chain

This being the case, why is it that most of what we buy is still made in China? Very simple. Over time, we did not just outsource to China the manufacturing of this or that item. We have outsourced all the supply chains.

Today, a Chinese manufacturer that has been entrusted with making small domestic appliances for a US brand benefits from a complex, highly sophisticated network of suppliers and vendors, quite often located in the vicinity of his factory, who will provide the electric motors or circuitry –as needed–

according to precise specifications. Furniture makers have their own networks of companies that will produce and deliver upholstery, paint or knobs. Within China, these suppliers networks operate quickly and efficiently.

Impossible to recreate sectors long gone

We do not have this in America any more. And this reality of a much diminished industrial eco-system illustrates the difficulty to bring back to America the production of specific manufactured items.

For example, if we are talking about small domestic appliances that require electric motors, well, nobody makes these motors in large quantities in the US any more. Recreating from almost zero an industrial base that could then supply new “insourced” manufacturing would be a really daunting effort. For this reason, the US brands will continue to have their blenders and hair dryers made in China, even if Chinese costs over time will keep going up.

So, here is the picture. Given low electricity costs and reduced reliance on manual labor, some outsourced manufacturing may be brought back to the US. But only some. China is now a reliable industrial products supplier, because the entire supply chain for most consumer products migrated to China long ago. It is now firmly established there; and it works. We cannot transplant it back to the US. This may be desirable; but it is impossible.

Focus on new technologies

What we can do instead, is to establish here in the US the solid foundations for brand new products that do not rely on established supply chains. New technologies, new products, a new industrial base. But let’s forget about yesterday’s consumer electronics or household appliances. They are gone –for good.

Low Oil Prices Is The Only Bit Of Good News For Most Western Countries

WASHINGTON – Western financial and business publications are now celebrating the collapse of oil prices. This unexpected Christmas gift is certainly a nice surprise. Lower oil prices mean lower gasoline prices. And in countries where people drive a lot, like the US, lower prices at the pump have the same effect of a tax cut, or of a nice bonus in your pay check.

More money to spend

And, of course, less money spent on gasoline means more disposable income that can be spent on Christmas shopping and/or other things. As our Western economies are largely fueled by consumer spending, this is good news for retailers and for anybody else producing and distributing goods and services that appeal to millions.

Thank the Saudis

So, cheer up and say thanks to Saudi Arabia, and to its “keep the taps turned on” policy that is at the root of the over-supply that has caused oil prices to collapse.

Look, there is nothing wrong in celebrating a bit of good luck. But this is what it is: luck. This relief at the pump we are enjoying now has nothing to do with improved economic policies in Europe, or in Japan. So, let's not get carried

away.

This is the only good news

Indeed, I am concerned when I see that lower oil prices is essentially all the good economic news we have got, these days. Most Western economies are not well. In fact some are doing quite poorly. The innovation drive is gone. There is no meaningful growth. Just look at the Eurozone.

If our (somewhat) improved economic outlook depends entirely on finding ourselves on the right side of an oil price war started by Saudi Arabia in order to preserve its market share, then we are in really bad shape.

Can we enjoy low gasoline prices and still plan ahead?

By all means, let's pocket the Christmas bonus. Let's enjoy the benefits of lower gasoline prices.

However, if we were smart, we would think about ways in which we could create new enterprises and new wealth, no matter what the Saudis do, or do not do, to manipulate the price of oil.

The trouble is, I doubt that we are smart enough.