

# MARKET BASED SYSTEM, ECONOMIC AND POLITICAL REALITIES AND SUSTAINABLE DEVELOPMENT REVISITED

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## **ABSTRACT**

*The market based economic system has proven once again since the Great Recession that it is not capable of solving major economic challenges on its own and it has no built in mechanisms to incorporate and even recognize the value of physical environment. In particular, market forces lack a proper valuation of goods and services that we obtain from the environment every day.*

*When markets fail in our economy, the government is expected to come to the rescue. During the U.S. presidential elections there was very little discussion of sustainable development as the main attention was focused almost exclusively on economic growth and employment. It seemed like the voices of environmentalists and progressive economists have been effectively silenced for the time being by the political pressures of the day.*

*Does it mean that sustainability no longer matters?*

*Whether we want it or not sustainable development is not going away any time soon. It is the only option that we have if we want to secure and preserve our well being and that of future generations. We all live and work in geographic space, which needs to be valued and properly addressed in business and economic decision making together with many urgent social issues. Social concerns appear to be taken more seriously today, especially in developing countries, and need to be part of the equation when it comes to designing economic development strategies. Rio+20 was a reflection of those new trends and major challenges ahead of us.*

*If we accept the fact that sustainable development is crucial to our future, the good news is that there does not need to be a conflict between economic goals and sustainability as, for example, green economy is capable of generating many new and well paying jobs. The bad news is that we cannot trust the market forces alone to do the job and therefore we must have an outside intervention to steer economic and business development in the desired direction.*

*In the absence of a clear leadership from governments there is a need to search for alternative ways and steps that could be taken to advance the cause of sustainability and serve some political and economic interests as well. Despite the prevailing political climates in the U.S. and many other countries, which on surface have been hostile to sustainable development, there are bright spots as well that offer new hopes and potential solutions. In addition to the rapid growth of green industries often led by the renewable energy sector, we've also witnessed continued public support in some countries which may encourage other nations to follow those best practices one day. Finally, there are innovative sustainability initiatives by major corporations and public-private partnerships, and even free trade agreements with much stronger consideration of environmental and social issues may prove to be helpful as well.*

## INTRODUCTION

When markets fail, governments are expected to come to the rescue. In recent years even the stern believers in the free market system have turned around and blamed the U.S. federal government for economic troubles of the day and insisted on holding the administration responsible for not creating enough jobs. Unfortunately, there is no agreement on what economic policies should work best and it has been demonstrated time and time again that the short term political and party interests combined with often conflicting philosophies and assumptions take precedence over sound decisions and in the end relatively little can be accomplished to help the economy move forward. It also has been apparent since the start of the Great Recession that the Federal Reserve should not be an institution in charge of the country's economic development. The Fed has proven to be basically incapable of fixing the economy during a major crisis and it may have contributed to making the situation even worse. In addition, the Federal Reserve has traditionally mostly cared about the money supply, consumption and prices and it has absolutely no interest in sustainable development and the value and the essential role that the physical environment plays in our economic development.

In general, it looks like recent economic challenges seem to have been harmful to the main causes of sustainable development in the U.S. and many other countries as jobs became the number one concern, and many sustainability ideas and initiatives have been simply put on hold. The dysfunctional political system has been of no help at all either to any of the goals of sustainable development. However, not everything has been lost during these difficult economic times as green industries have been relatively successful in recent years supporting the new green economy. There is a number of good initiatives at the international level combined with new creative partnerships and we also seem to have made some progress in promoting free trade that is more attentive to physical environment and social needs. These new developments have proven once again that sustainable development can support economic growth and job creation as well.

## MARKET BASED SYSTEMS AND POLITICAL REALITY

The Great Recession and a relatively weak recovery have shown that market forces are unable on their own to solve major economic challenges and also they have no built in mechanisms to protect and even recognize the value of physical environment. Our market based systems rely mostly on an abstract economic space based exclusively on business costs and profits with little or no regard to geographic space and social issues. In particular, markets lack a proper valuation of goods and services that we obtain from the physical environment every day and there is no price mechanism that recognizes the vital role of our eco systems. (Walecki, 2010) Speth warns that our prosperity and economic progress have been acquired at an enormous environmental cost. (Speth, 2008) Brown adds a powerful argument against the current reliance on the free markets' valuation and allocation of our scarce resources "one of the best example of this massive market failure can be seen in the U.S. ... this price (*i.e. gasoline price of about \$3 per gallon*) reflects only the cost of discovering the oil, pumping it to the surface, refining it into gasoline, and delivering the gas to service stations. It overlooks the cost of climate change as well as the cost of tax subsidies to the oil industry (such as the oil depletion allowance), the burgeoning military costs of protecting access to oil..., and the health care costs for treating respiratory illnesses from breathing polluted air. Based on the study by the International Center for Technology Assessment, these (*additional*) costs now total nearly \$12 per gallon", which should be added to the \$3 for a total of \$15 per gallon. (Brown, 2008, p.7) Henzelmann et al remind us that "business ... cannot solve the world's problems by itself. It needs supportive government policies at a national and global level to tackle this mammoth task. Government can accelerate the transition to the green world, by supporting business with incentives and favorable conditions, rewarding companies by investing in the ideas and technologies that lead to ...innovative

products and services.” (Henzelmann, 2011) Finally, markets are unable to deal with important social issues and social injustice, which is particularly evident in the developing countries.

Most nations today have economic systems that rely on both market forces and governments, yet the very role of government and the extent of its intervention continue to be debated and still remain controversial, especially in the U.S. and Europe. China is the only exception with the state run capitalism and a dominant role of the government in the country’s economy. China’s economic progress has been admired by other countries, yet the environmental and social costs of that huge expansion, including a substantial increase in income inequalities have attracted relatively less attention and are still not well known. The new UNCTAD report points out that “in China, rising income inequality has also taken the form of growing regional income disparities and a widening urban-rural income gap.” (UNCTAD, 2012)

In the U.S. the role of the federal government has been traditionally under a close scrutiny and often subject to certain mistrust. At the same time, the Federal Reserve as an independent government agency has been allowed a lot of power over the economy and almost unlimited financial resources and no accountability at all. It is interesting to note that the Fed has finally admitted that even with their resources they could not control the economy. In 2012 the argument was made by the Fed’s Chairman on several occasions that it was up to other government branches to take more actions and support economic growth. The Federal Reserve is really an exception in the U.S. as there is a strong trend toward further curtailing of the power of public authorities at all government levels. The strong advocates against government spending and any economic stimuli may have long forgotten the lessons from the Great Depression and the importance of the government intervention in times of serious economic troubles, as advocated by Keynes. Some of the Keynes’ calls for intervention when the economy is stalled are perhaps as valid today as they were back in the 1930s. Those policies may actually have been understood better in Asia, including even China, than in the U.S. and the European Union. Keynes also advocated a need for certain order in international trade to make it more fair to all countries, which is far less known. (Aaronson, 2009)

The dominating philosophy within the Republican Party and the Tea Party is to continue to reduce the government’s intervention in the economy at any cost. The main goal is to cut most government spending and eliminate as many public agencies as possible. In particular, some recent attacks on the U.S. Department of Commerce, the only government agency that directly supports economic growth and works closely with private businesses including the U.S. exporters, have been unprecedented. The basic questionable assumption in this new war against government role in the economy is that once we eliminate government intervention and cut government deficits everything would be back to ‘normal’ again. The proponents of that bold policy tend to make one major mistake which is ignoring developments in the rest of the world, including the European Union and Asia. On the other side of the spectrum is the core of the Democratic Party, which has been often accused of wasteful spending and expanding social programs that the country cannot afford. The Democrats remain divided on many important issues, but because of the political pressures, the so called fiscal cliff, and the results of the tough campaigns, both sides seem to be more open today to a compromise which would cut the government spending and raise some additional revenues as well. The persisting government deficits at all government levels and the growing national debt, which stands at over \$15trillion, has been a strong reminder of the need for change and more accountable new policies.

During the presidential elections the major political parties have proven time and time again that they place interests of their parties well ahead of the interests of the country, which is destructive in itself. None of the presidential candidates was really eager to discuss sustainability and the

country's long term economic development strategies that are badly needed to bring stable jobs and guarantee a more prosperous future. The stalemate in Washington has been a reflection of the basic ideological divide, but the good news is that there are some signs of new hope with more conciliatory statements by our political leaders from both parties after the presidential elections. Economic policies and business decisions are never risk free, yet most politicians are not known for being risk takers and are usually caught in a vicious cycle of the next elections, but this time we seem to have at least few more years for more open discussions and perhaps new initiatives as well.

One of the main problems with holding on to the excessive reliance on the market system for the use of scarce resources is that the U.S. lacks an institutional framework capable of correcting market imperfections and supporting sustainable development for current and future generations. There has been a lot of talk about a consumer protection agency within the current administration after the financial crisis and following the collapse of the housing and mortgage markets. It seems that we haven't accomplished much in that area so far. However, what is even more important is that the U.S. does not have a central agency, which would monitor and oversee economic development of the country. Again, the Federal Reserve is simply not designed to fulfill that crucial role. President Obama has been reported to consider a reorganization of some of the federal agencies, but it does not look like the country's sustainable development will take center stage in those plans and we'll have to wait for the outcome. In his victory speech in November the President also mentioned energy independence as one his priorities, which is a sign of a renewed aspiration for the nation's energy policy which should also be friendlier to the environment.

Unfortunately, the political and economic realities in the U.S. and many other countries, and some failed past attempts, do not seem to offer a lot of optimism to our sustainable future and a long term economic prosperity, so with or without new initiatives from the top there's a need to consider alternative solutions and actions that can be taken today to support sustainable development.

## **SUSTAINABLE DEVELOPMENT**

*"We are not running out of economically relevant natural resources, we are running out of environment" (J.G. Speth)*

Twenty years have already passed since the United Nations Conference of the Environment and Development (UNCED), or the initial Rio-92, held in Rio de Janeiro, Brazil in 1992 and it may seem like not only the same environmental problems exist today, but also new challenges have surfaced in recent years, including aggravated biodiversity loss, air and water pollution, degradation of the oceans, etc. (de Oliveira, 2012)

Munasinghe reminds us that there have always been strong linkages between our economy and the environment as reflected in many important works throughout the ages "economic activities require natural resources. The key role of land scarcities in limiting growth was shown by Malthus (1798), who stressed impoverishment due to agricultural constraints and exponential population growth. Ricardo (1817) explained how diminishing returns to land would check wealth and population growth. Hotelling (1937) further developed the theory of exhaustible resources... Daly and Cobb (1989) point out that getting macroeconomic policies right may ensure optimal resource allocation, but this work does not address the scale issues as economies grow beyond the environmental growing capacity". (Munasinghe, 2009, p. 212) A concern for physical environment may even be traced back to Aristotle's pronouncements about the needs of future generations.

What's important to understand is that economic growth cannot be separated from the use of resources, but we need to be much smarter in how we treat our physical environment. Even despite a lack of more substantive progress in recent years, sustainable development is the only option that we have if we want to preserve our well being and that of future generations, which would be in harmony with the geographic space, the demands of our physical environment and social concerns. Since the market system is incapable of accomplishing those basic sustainability goals, we need an outside intervention to steer economic and business development in the right direction. We can try to delay the implementation of the sustainability's principles and initiatives as we have been doing for many years, but we must be aware that the future environmental and social costs will be much higher, so all we're doing is passing those enormous costs to future generations.

Brown notes that our main challenge today is to build a new economy "one that is powered largely by renewable sources of energy, that has a much more diversified transport system, and that reuses and recycles everything. We have the technology to build this new economy, an economy that will allow us to sustain economic progress". (Brown, 2008, p.14) Speth adds that "in (*our*)... world it should be very expensive to do environmental harm and relatively inexpensive to do things that are environmentally harmless or restorative. It has been noted that the planned Soviet economy failed because prices did not reflect economic realities. Today we live in a market economy that risks failing because prices do not reflect environmental realities." (Speth, 2008)

Sustainable development calls for a careful balance and coordination between economic, environmental and social interests. It is a very difficult and complicated task since we currently do not seem to have the political will nor even institutional frameworks to implement those basic principles of sustainability. Puppim de Oliveira recognizes the importance of integrating the main three pillars of sustainability and warns that in spite of some progress in environmental awareness in recent years "the planet has become dangerously more unsustainable in several aspects, such as additional loss of biodiversity and climate change". He identifies one of the key issues and challenges as "the difficulty of achieving sustainable development owing to the lack of institutions capable of translating the concept of sustainable development into practice". (de Oliveira, 2012)

Buckley et al emphasize the importance of social aspects of sustainable development which include "a commitment to promote social integration by fostering societies that are stable, safe and just and which are based on the promotion and protection of all human rights and on non-discrimination, tolerance, respect for diversity, equality of opportunity, security and participation of all people including the disadvantage and vulnerable groups and persons". (Buckley et al, 2012) Indeed, these social concerns and a substantial growth in income inequality in many countries seem to attract more attention especially in developing countries. (UNCTAD, 2012; PEP 2012) Rio+20 reminded us of the growing importance of the social dimension of sustainable development, with the main focus on poverty eradication.

Sustainable development requires a major restructuring of the economy and a phase out of industries that are harmful to the physical environment. The market forces cannot do that job as they do not follow the basic principles of sustainability and do not care much about the well being of future generations and/ or the physical environment. The market system has failed in its principal role as resource allocator as it is unable to generate proper prices for goods and services that we obtain from the environment. As a result, economic development led by the market forces alone contributes to the destruction of the physical environment and in a long term threatens life itself and our very existence. Unfortunately, many traditional government policies have been

working against sustainable development as well. In particular government subsidies for special industries have been proven to be harmful to the physical environment, including often controversial agricultural subsidies in developed countries. Jones adds that removing those subsidies and reforming fiscal policies should create more opportunities for sustainable growth. (Jones, 2011) Speth supports additional government involvement and suggests that first “governments must undo the damage they have done in creating environmentally perverse subsidies, and they must intervene in the economy to implement the ‘polluter pays’ principle, broadly conceived” (Speth, 2008, p. 100)

Sadly, based on the political climate that has prevailed in the U.S. and some other countries since the Great Recession, and even after the presidential elections, there’s little hope for having a solid economic development strategy based on the principles of sustainability any time soon. This is why there is a need to look for alternative ways and steps that could be taken, which should still lead us in the direction of sustainable development and perhaps serve some short term political and economic interests too. Since our governments and elected politicians do not seem to represent long term national interests, as they are driven by their own agendas and the next elections, the main hope seems to be in other major economic actors, i.e. public private partnerships, firms and, of course, households who should demand necessary changes and help us move closer to sustainable future.

In spite of relatively little progress in sustainable development, there are some encouraging signs at the international arena and even within global institutions, such as the United Nations and the World Bank, which have adopted many principles of sustainability to guide their current and future projects. (UNDSD, 2008)

Unfortunately, the much anticipated by the proponents of sustainable development Rio+20, which took place in Brazil in 2012, failed to produce concrete results and “binding targets with specific deadlines”. The main Rio+20 document is seen by critics as mainly a victory for the free markets’ supporters and those who advocate a rather limited role of governments. At the same time, developing countries have managed to make some inroads pushing their own agenda, including the goal of poverty eradication, to the top of the priority list of sustainability goals. Rio+20 has not been successful in many other areas and it may have been upstaged by other international events. The conference has produced a somewhat weak support of green industries and any more serious transition to green economy has not been addressed properly. On a positive note, certain progress has been achieved at the international level as the new commitments in support of sustainable development were estimated at \$500 billion. Loans and grants benefiting the transportation sector alone in developing countries were estimated at \$175 billion over the next ten years. (Clemencon, 2012)

It looks like without a strong leadership from governments and a major shift in current economic policies sustainable development will have to continue to rely increasingly on other economic actors. Public-private partnerships seem to represent a growing trend in our current environment and a substantial expansion has been reported by those partnerships or multi-stake holders. According to Pattberg “as of August 2011, 348 partnerships for sustainable development have been registered with the United Nations Commission on Sustainable Development (UNCSD). In addition, many similar agreements are in place across the globe but not formally registered” (Pattberg et al, 2012)

A weaker government support of sustainable development has been contrasted with a much stronger interest and response from the private sector and other institutions. We have witnessed many positive developments in the area of sustainable development on the part of the private

businesses and some of the major corporations, including Wal-Mart, Alcoa, and Dow Chemicals (Mincer, 2008; Senge et al, 2008; Walecki, 2010). Those companies clearly demonstrate the benefits of incorporating sustainability in their business strategies. The International Institute for Sustainable Development points out that “for the business community, sustainability is more than mere window-dressing. By adopting sustainable practices, companies can gain competitive edge, increase their market share, and boost shareholder value.” (IISD, 2012)

The World Business Council on Sustainable Development has also played a very important role in promoting a better understanding of responsible business practices that are advancing the important role of the physical environment and are respectful of social issues as well. WBCSD’s advocacy has been growing in strength for many years and it is based on a philosophy of shared values and responsibilities: “We are at a critical time - both in our journey toward a more sustainable world and in the history of the World Business Council for Sustainable Development (WBCSD). Although the world is starting to understand that our planet can only support about four billion people, we have already hit seven billion and are on our way to an estimated nine billion by 2050... You can run a deficit for a while and be successful. But we’ve now reached a point where we need urgent and radical transformation. In order to tackle our most pressing challenges, we need to scale up and accelerate solutions - and this requires a truly collaborative process among policy makers, business leaders, governments and citizens.” (WBCSD, 2012)

Peter Bakker, the President of WBCSD outlines the future mission of the organization: “we’re at the stage where it becomes really urgent to drive action, to bring solutions. The WBCSD will start driving solutions together with our members, and we will be advocates for policy makers to give us policies that will incentivize businesses to do more. That’s the only way to get to the scale that the world needs. As a business leader who has been bitten by the sustainability bug, it’s clear that radical transformation is required. It’s not good enough to do CSR from a philanthropic point of view; it must be really integrated into the core of your business... The question is not ‘where do we start?’ It’s ‘how do we scale up?’ All the initiatives are out there, and there are many business leaders who recognize that sustainability is important. However, if you add it all up together, we’re not making a dent in making this world truly sustainable.” (WBCSD, 2012a)

There are many new businesses created every day which strive to follow sustainability principles and pay more attention to the protection of the physical environment, especially in the field of renewable energy, but unfortunately that pace of transformation is too slow and for many other firms ‘green’ is still more often associated with the color of money rather than with the basic characteristics of sustainability.

Finally, changing the minds of households has been a slow work in progress and more changes of attitudes are needed urgently. Consumers are often unaware of many alternatives, and the perception that many environmentally friendly products may not be as reliable and as good as ‘regular’ items and are often more costly has not been helpful either.

### **GREEN ECONOMY AND NEW INDUSTRIES**

Rio+20 has shown a growing power of developing nations when it comes to shaping the future international agenda and promoting our transition to green economy. Many of those countries faced with enormous economic challenges and poverty may still not be ready for a full support of green industries and protection of the physical environment, but the rest of the world needs to listen to their concerns more seriously as we all share the same planet.

At the same time, there is a concern that developing nations may already be missing on important benefits that green economy offers if they continue to resist necessary changes and delay restructuring of their current systems. According to the findings of a new collaborative report ‘Building an Inclusive Green Economy for All’, presented at Rio+20 conference: “A transition to a green economy could lift millions of people out of poverty and transform the livelihoods of many of the 1.3 billion people earning just a US\$1.25 a day around the world, but only when supported by strong policies and public- and private-sector investments. Scaling up current examples of the green economy in action – particularly in developing countries – has the potential to deliver a ‘triple bottom line’ of job-creating economic growth, environmental sustainability and social inclusion. But targeted investments and governance reforms are needed to overcome current barriers that are preventing many poor communities from fully benefiting from a green economy”. (PEP, 2012) The above work of the Poverty-Environment Partnership (PEP) and their final report also represent an excellent example of a serious cooperation effort between different agencies, including the Asian Development Bank, Australian Government Agency (AusAid); Finland’s Ministry of Foreign Affairs; Germany’s GIZ; the International Institute for Environment and Development; the International Union for the Conservation of Nature; the Organization for Economic Cooperation and Development (OECD); the UN Development Program; the UN Environment Program; the World Bank; the World Business Council for Sustainable Development and the World Resources Institute.

The green economy provides an important link between economic development needs and physical environment. (Jones, 2011) Green industries have the power to transform our economic environments and support sustainable development, but those industries often need a nurturing environment, an outside help, and a clear direction. Countries which are leaders in green industries today have accomplished this through strong government support, direct subsidies, growing consumer demand and expanding exports. While today’s leaders such as Germany, Spain, Japan and China have made a significant progress in renewable energy, including solar energy, the U.S. has still been lagging behind. (Gordon et al, 2010)

In recent years, and especially since the Great Recession, many green industries have been making important contribution to the national and regional economies, including the U.S., the fact which has been often underestimated by many skeptics who do not want to recognize the importance of this growing sector. According to Muro: “the clean economy, which employs some 2.7 million workers, encompasses a significant number of jobs in establishments spread across a diverse group of industries.” (Muro et al., 2011) Some of the fastest growing green jobs in the U.S. in recent years were actually in solar, wind and biofuels sectors. The fact is that green jobs also pay more on average compared with the rest of the economy and at the time when we’re struggling with maintaining our manufacturing jobs, these developments deserve to be supported and publicized more broadly. DiPasquale points out that “the clean energy sector is growing at a rate of 8.3 percent. Solar thermal energy expanded by 18.4 percent annually from 2003 to 2010, along with solar photovoltaic power by 10.7 percent, and biofuels by 8.9 percent over the same period.” (DiPasquale, 2011) As summarized by Gordon: “there’s one thing we know for certain about green jobs: They are real, well-paid, and growing. The jobs that make up the clean energy economy are on the rise when jobs in many other sectors are slipping away or moving overseas.” (Gordon et al, 2011a)

Germany, which is not known for the abundance of sunny days throughout the year, appears to be the world leader when it comes to the solar industry. In 2009 Germany installed close to 4K megawatts (MW) of PV solar capacity, which was more than Spain’s total capacity. “The combination of a proven feed-in-tariff (FiT) scheme, good financing opportunities, a large availability of skilled PV companies, and a good public awareness of the PV technology, largely

contributed to this success,” according to the European Photovoltaic Industry Association (EPIA) reports. Zachary points out that “Spain was the world leader in newly installed PV solar energy (2,605 MW) in 2008 due to the government’s focus on creating a national solar energy industry, but its new installed capacity decreased tremendously (to just 69 MW) in 2009. The reasons for this drop are attributed to complexity and delays related to a new government subsidy program and a decrease in energy demand due to the economic crisis. With expectations that both of these will improve . . . , and considering its excellent sun irradiation and PV potential, Spain is expected to bump up its solar energy capacity again.” (Zachary, 2010)

According to a report by the Alpha Board: “Both Germany and Spain are on target to have 20% of their energy needs met by renewable sources by 2020, putting them way ahead of the U.S. and it is already a E235 billion (Euros) industry in Germany creating a large number of jobs.” (Admin, 2011) These types of goals cannot be achieved without a strong national energy policy. Henzelmann et al stress that “almost all green business markets are heavily influenced by government policies. In a recent study on behalf of the German Federal Environment Agency, companies from six environmental lead markets – environmentally friendly power generation and storage, energy efficiency, material efficiency, waste management and recycling, sustainable water management, and sustainable mobility – were asked which external factors were the most important for their success. Across all selected technological fields, government policy was named first”. (Henzelmann, 2011, p.16)

At the same time, China has emerged as a number one producer and exporter of PV panels following a calculated targeting and a strong government support of the solar industry. The Chinese government intends to make the renewable energy one of the top economic priorities for the country. However, the Chinese aggressive approach has not been without an international controversy either and China’s economic and industrial policies are often questioned by other countries, which feel that their businesses are disadvantaged compared with the Chinese counterparts. This is especially the case when it comes to a vast range of green industries. US Treasury Secretary Timothy Geithner has made strong comments about China’s unfair policies in the past and particularly ‘its continued insistence on tying technology transfers to market access’ following the move by GM not to manufacture electric cars in China. It was reported that the “US-based automobile company General Motors announced on 20 September (2011) that it would no longer seek to manufacture its newest electric car in China, rejecting a massive subsidy offer that would have forced the automaker to divulge technology secrets. GM has chosen instead to work with its Chinese joint venture partner to develop new electric technologies there.” (ICTSD, 2011) There have been numerous complaints on the part of U.S. businesses and even labor against China, as for example “the United Steelworkers union in the US has filed a trade case against China accusing it of unfairly subsidizing its clean energy industry.” (ICTSD, 2011a)

There seems to be an urgent need for better monitoring and more effective response to the Chinese industrial policies, which continue to be overlooked by the market based systems in developed countries and there is usually very little or no action on the respective government side as well. In the U.S., any complaints usually come from the private sector in the absence of an active government leadership, a lack of appropriate economic and industrial policies and a non-existent institutional framework.

Brazil is another recognized world leader when it comes to renewable energy and that country’s growing green economy despite serious environmental challenges in many other areas. Kunz and Schultz show that “Renewable sources account for 43 percent of the country’s generation mix today, largely thanks to its robust hydropower, biomass, and ethanol industries. While the total energy supply is expected to double by 2030, renewables are expected to account for 46

percent...The role of government is critical for developing green businesses in Brazil... The public investment plans ... play a vital role for public investments in green industries.” (Kunz & Schulz, 2011, p. 166) At the same time, Brazilian economic interests and development plans are often known for being on a collision track with the basic environmental interests, which are of enormous importance to the health of the entire planet.

Green economy has also its critics who claim that green industries have had little effect on reversing the environmental degradation. They add that those industries benefit mostly large corporations and have not been much helpful to the poor and often contribute to growing income inequalities (de Oliveira, 2012) The only answer to the above criticism is that without those initiatives the situation would have been much worse and there is even a more urgent need to expand the green economy to all sectors, including small businesses.

Finally, green industries could not grow without an increased public awareness of the importance of sustainable development and a substantial rise in consumer demand for green products. The growing consumer support is crucial to businesses which incorporate environment and social concerns in their decision making. There is an enormous potential here for an increased role of education which could provide some key answers to many challenges. However, a word of caution is needed as well as some ‘thought to be green products’ have proven to be controversial and they actually have been harmful to the physical environment. We had quite a number of cases already when well intended rush to green economy and subsequent new products had to be removed from the market place. One of those examples was the case of gasoline additives, which were intended to clean up the air but in the process those chemicals have polluted our underground water wells.

### **THE CASE OF SOLYNDRA AND DOE PROGRAM**

Solyndra made major headlines in the U.S. couple years ago and, unfortunately, most the debate was used for political purposes. (Solomon, 2011) There was a lot of misinformation as well and irresponsible statements on the part of some politicians.

Plumer exposes some misconceptions and myths about Solyndra, such as ‘Solyndra proves that energy-loan guarantees are a flop’. Plumer’s response is “Not exactly. The Energy Department’s loan-guarantee program, enacted in 2005 with bipartisan support, has backed nearly \$38 billion in loans for 40 projects around the country. Solyndra represents just 1.3 percent of that portfolio — and, as yet, it’s the only loan that has soured. Other solar beneficiaries, such as SunPower and First Solar, are still going strong. Meanwhile, just a small fraction of loan guarantees go toward solar. The program’s biggest bet to date is an \$8.33 billion loan guarantee for a nuclear plant down in Georgia. Improper political influence in the process is disturbing, but, at least so far, Solyndra appears an exception, not a rule. (That said, the GAO and others have pointed out potential pitfalls and the need for stricter oversight in the loan program.)” (Plumer, 2011)

Another contention was that ‘the government should leave energy R&D to the private sector’. Plumer argues the opposite and reminds us of the failures of the market system: “Actually, there’s reason to think the private market is drastically under-investing in new energy technology. As a new report from the American Energy Innovation Council lays out, the utility sector spends just 0.1 percent of its revenues on R&D — the average for U.S. industries is 3.5 percent. The electricity sector is heavily regulated and capital-intensive — power plants last for decades and turn over slowly — and hence tends to focus less on innovation. What’s more, many objectives that may be in the public interest, such as reducing carbon emissions, aren’t fully valued in the marketplace right now.” (Plumer, 2011)

In a bigger picture, Solyndra truly represents a cry for help and for more attention to our economic and energy needs in the future, rather than simply another case, or evidence, of the government failure or wastefulness.

The Department of Energy has been supporting different projects in renewable energy and more efficient technologies, as noted above, before those issues were politicized during the last elections. Some of those programs have been expanded in 2009 under the much debated stimulus program. In addition to support for a nuclear power plant in Georgia, and prior to the rescue of the automotive industry, Ford Motor Co. received almost \$6 billion for upgrading of its manufacturing plants and for more efficient models. (Valdes-Dapena & Hargreaves, 2012) Other recipients include electric cars producers such as Fisker and Tesla, and manufacturers of electric batteries. Most of the loans are expected to be repaid without any loss to taxpayers.

The DOE program is often criticized by more conservative thinkers who are opposed to the U.S. government's involvement in the private sector as they want the market system to make all important decisions on who can survive and prosper. The staunch critics may be missing one important point here as they don't seem to pay much attention to what is going on in other countries, including our main competitors, such as China, Japan and EU. In reality, the U.S. programs are relatively weak compared to a strong government support offered to foreign companies by their respective governments. The fact is that without any government support many of the new green industries and businesses would most likely have little chance to grow at all, as was the case with Solyndra.

#### **ROLE OF INTERNATIONAL TRADE**

There has been a strong connection established between international trade and sustainable development for many years now. The critics are known to argue that international trade continues to be harmful to the physical environment while an opposite argument is made by the proponents of free trade pointing out to substantial potential benefits. (Halle, 2009)

According to the United Nations Conference on Trade and Development (UNCTAD) "International trade represents a powerful channel for spreading green economy gains among countries at the global level. By transmitting growing environmental and social preferences of firms and consumers in world markets, trade plays a central role in the diffusion of green goods, services, technologies and production methods among countries". The UNCTAD's document reminds us that "the 1992 Rio Declaration and Chapter 2 of Agenda 21 acknowledge that trade can have a positive environmental impact and therefore make an important contribution towards sustainable development. Twenty years on, the fundamental message remains that mutually supportive trade, environment and development policies are needed to promote sustainable development". (UNCTAD, 2011)

In 2010 in response to tough economic conditions at home the Obama administration came up with a new initiative named National Export Initiative (NEI) with the main goal to double U.S. exports within 5 years and create more export jobs at home. However, there was hardly anything new in the NEI which has been 'creatively' stretched to cover even previously signed free trade agreements. (Office of the U.S. Trade Rep., 2011) There is also no mention of the important connection between trade and sustainable development in the official documents, but the newly ratified FTAs, now being part of the NEI, should indeed prove to be more friendly to the causes of sustainability.

Free trade agreements are primarily supposed to play an important economic role and the new FTAs with South Korea, Colombia and Panama are expected to help create more export based jobs in the U.S. according to many estimates. The International Trade Administration (ITA) claims that each \$1 billion in exports supports over 5,500 jobs in the U.S. (ITA, 2011) Liberto notices that “the White House, Republicans and big business groups call the deals job creators, and say they will spur \$13 billion in new exports each year.” (Liberto, 2011) The U.S. Department of Commerce states that “the agreement with Korea is estimated to boost U.S. goods exports to that country by more than \$10 billion, supporting 70,000 American jobs, while the Colombia and Panama agreements will immediately eliminate trade barriers for more than 80 percent of merchandise exports to those countries.” (U.S. Dept. of Commerce, 2011; Office of the U.S. Trade Representative, 2011) The current administration has new ambitious plans to expand international trade and cooperation mostly because of the potential job creation impact and for important political reasons as well. Clyde Prestowitz notes that: “his (*Obama*’s) administration is aggressively pushing ahead with negotiation of the Trans Pacific Partnership Free Trade Agreement that would include the US, Australia and nine other Asia-Pacific countries in what the President is calling a 21st century free-trade deal.” (Prestowitz, 2012)

Free trade seems to be an idea that both major U.S. political parties can agree on as it promises to create new employment. Indeed, free trade agreements have a potential in theory to have a positive impact on the U.S. economy and create more jobs, but from our previous experience with FTAs it looks like a lot more will need to be done to encourage and help U.S. producers to export more and take full advantage of export opportunities. The equally important question remains about the role of FTAs in promoting sustainable development at the international level. We’ll need to wait and see what results new agreements can produce, but there are certain indications that they could be helpful to the sustainability causes as long as those agreements include stronger and enforceable environmental regulations and address social issues as well in all partner countries.

International trade at a global level also offers hope as almost any new trade liberalization negotiations and new initiatives at the WTO and other global institutions increasingly include physical environment and social concerns as part of the global discussions and new solutions. (Tandon, 2011) Rio+20 conference referred to a “meaningful trade liberalization” which can support the cause of sustainable development, but not much new was offered in terms of new ideas and the major task appeared to be delegated back to the WTO and the unfinished and still struggling Doha round of multilateral trade negotiations. (Clemencon, 2012)

## **CONCLUSION**

One of the most important lessons from the recent economic history should not only be that the market systems are unable to correct themselves during serious economic crises, but that they also have no built in mechanisms to support sustainable development. Free markets do not recognize the true value of physical environment and they often lead to income and wealth inequalities, which have increased substantially in recent years, and therefore we need a renewed call for stronger outside intervention to guarantee prosperous and sustainable economic future for all nations.

Unfortunately, in the U.S. the short sighted political system has not been effective in supporting economic goals based on the principles of sustainability as our political leaders are usually caught in a vicious cycle of next elections. The U.S. continues to struggle with the role the government should play in the economy and it lacks basic institutional structure and a central agency that would oversee the country’s economic development, correct market imperfections and lead us

toward sustainable future. Even after the last presidential elections there's little hope for having a comprehensive sustainable economic development strategy any time soon. However, President Obama confirmed his support for renewable energy during his victory speech which could translate into some new initiatives.

Despite many disappointments and enormous political and economic challenges, there are signs that appear to offer some hope for the future. Green industries continue to grow at high rates and offer new opportunities and most of those industries are not only good for the environment, but also create relatively well paying new jobs. Green economy is instrumental to our future and it will be mostly up to the private sector to take on new challenges, but this will not be sufficient by itself to uphold the basic social and environmental values and guarantee sustainable development. No matter what economic and business circumstances, green industries will still need additional public and private support, including increased international cooperation. Social issues deserve more attention as well as they are equally important, especially to many developing nations. Developing countries need to be an integral part of global sustainability plans and initiatives, as demonstrated by Rio+20.

There is enough evidence which shows that countries which have been most successful in promoting their green sectors have accomplished that with a strong government support. The main implication for the U.S. is that the country cannot isolate itself and ignore growing international competition in new industries. Sadly, some of the U.S. government backed initiatives, such as the case of Solyndra, have not been helpful in rallying more public support for even basic government assistance to green businesses. Solyndra made major negative headlines in the U.S. political arena, but Solyndra was truly a call for more attention and help. At the same time, many other businesses related to the renewable energy field and the green economy have continued to grow significantly even during tough economic times. Free trade should also offer support to green industries and sustainable development as environmental and social concerns are increasingly becoming part of FTAs.

The word of caution is necessary here as it's true that not all green industries are good for the environment as we continue to learn more about the side effects of some of those 'green products' that initially were assumed to be friendly to the physical environment.

Finally, there are many opportunities for building public awareness and expanding the role of education, including universities and business schools. If not only economic/ business leaders but also consumers learn more about the benefits of green economy and show that they care about our physical environment and social issues by continuing to demand more green products, producers will no doubt have no choice but make important changes and adjustments in their business strategies and offer better products and new innovative solutions supporting sustainable development.

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