



Fecha de presentación: 17/11/2020 Fecha de aceptación: 5/12/2020 Fecha de publicación: 17/02/2021

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Rachid, S., Romero Romero, O., & Hartmann, M. (enero-abril, 2021). Profit or sustainability. Conflict between oil & gas economy and a sustainable future. Revista *Márgenes*, 9(1), 29-41. Recuperado de <http://revistas.uniss.edu.cu/index.php/margenes/issue/view/1188>

TITLE: PROFIT OR SUSTAINABILITY. CONFLICT BETWEEN OIL & GAS ECONOMY AND A SUSTAINABLE FUTURE.

TÍTULO: GANANCIAS O SOSTENIBILIDAD. CONFLICTO ENTRE LA ECONOMÍA DEL PETRÓLEO & GAS Y UN FUTURO SOSTENIBLE.

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ABSTRACT

This article presents the results of theoretical reflections on the relationship between sustainability and profit in the energy sector. The research was carried out among professors and students of the international Master's degree program in Engineering and International Business, Focused on Renewable Energies and Waste and Water Management; which is offered by the School of Technology of the SRH Berlin University of Applied Science.

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For the development of this article, the notes and results of debates between over 150 students from multiple countries and their professors in conferences and seminars on various subjects, were utilized. In addition, theoretical contributions from texts that the students had developed on multiple subjects were included.

The paper arrives at multiple important results. First, the concept of sustainable development, although it pursues intragenerational justice, has not achieved intragenerational justice. Second, the development of renewable energies will stir up the debate on the relationship between sustainability and profits. Also, continuing promoting the oil and gas industry may produce negative long-term effects. Finally, the development of renewable energy sources will require a new type of company less profit-oriented with new development policies.

Keywords: renewable energy; sustainability; profit; company.

RESUMEN

El presente artículo presenta los resultados de reflexiones teóricas sobre la relación entre sostenibilidad y ganancias en el sector energético, realizadas entre profesores y estudiantes del programa de estudios de Maestría en Ingeniería y Negocios Internacionales, Enfocado a las Energías Renovables y la Gestión de Residuos y Agua; que se desarrolla por la Universidad SRH de Ciencias Aplicadas de Berlín.

Para el desarrollo del artículo se utilizan los apuntes y resultados de los debates desarrollados por los estudiantes, más de 150 provenientes de diversos países, y sus profesores en conferencias y seminarios de varias asignaturas, así como contribuciones teóricas de estudiantes en los textos que han desarrollado para la evaluación de las asignaturas.

Se presentan como resultados más importantes que el concepto de desarrollo sostenible, aunque persigue justicia intrageneracional, no la ha logrado, que el desarrollo de las energías renovables pondrá sobre el debate la relación entre sustentabilidad y ganancias, que seguir promoviendo la industria del petróleo y el gas podrá producir efectos negativos a largo plazo, que el desarrollo de las fuentes

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renovables de energía exigirá un nuevo tipo de empresa menos orientada a las ganancias con nuevas políticas de desarrollo.

Palabras clave: energía renovable; sostenibilidad; ganancias; empresa.

INTRODUCTION

Discussions on the balance between a sustainable world and economic growth and profit have been gaining more attention lately. There is no doubt that with the rising needs for us to create an energy switch, stakeholders and even the general public shall dwell on whether such a switch will have a positive or negative impact on the economy. Many tend to believe that the switch into a renewable dominated energy sector would phase out many jobs provided by the gigantic oil and gas economic sector. Others believe that this sector with its large percentage stake in the global economy is responsible of delaying the green energy switch. Why? With the purpose of maintaining its large profit margins and hegemony over the global energy markets. Thus, the need of a balance between profit and sustainability is evidently a main and necessary topic of discussion.

Gurnani sheds light on the debate of the possible coexistence between profit and sustainability, “As part of my routine interactions with colleagues, industry peers, and people on the shop floor, I am often asked the question: ‘Can sustainability & business profitability co-exist?’ Before I can reply, I am reminded of some unpleasant first-hand experiences – the dangerous pollution levels in the city I live in hitting a three-year high and undoubtedly shortening our life expectancy” (Gurnani, 2020).

In recent decades, the idea of corporate sustainability has gained more and more importance and has become part of mainstream business discourse. Companies, across most industries, try to demonstrate their sustainability or corporate-social-responsibility strategies while executives everywhere pledge allegiance to the idea. In a report issued by the UN Global Compact, 84 percent of 1,000 global CEOs surveyed, agreed that business “should lead efforts to define and deliver new goals on global priority issues.”

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However, only a third stated “that business is doing enough to address global sustainability challenges” (Bonini & Swartz, 2014).

According to research by the Deutsche Bank, which evaluated 56 academic studies, companies with high ratings for environmental, social, and governance (ESG) factors have a lower cost of debt and equity. 89 percent of the studies reviewed show that companies with high ESG ratings outperform the market in the medium (three to five years) and long (five to ten years) term (Bonini & Swartz, 2014).

Despite these international trends and visible results in the business economy of companies most committed to the environment and society, the current results of global development show in many aspects an absolute decoupling between the interests in sustainable development and the interests in maximizing profits in companies.

This decoupling leads to the deepening of current impacts of the productive and service spheres on the environment and society, and it accentuates the high differences between rich and poor also negatively impacting the ecosystem and society.

For this reason, the **main objective** of this article is to present some theoretical reflections, developed among students and professors of the international Master's degree program in Engineering and International Business, Focused on Renewable Energies and Waste and Water Management, at the School of Technology of the SRH Berlin University of Applied Science.

Limitations. The main limitation of the article is that it refers to theoretical debates encompassing only three years of the program, 2017-2020. However, this paper strengthens the value of these reflections that each year, two groups of students totaling to around 200 conducted. Moreover, the participation of students from all continents gives a global approach to the theoretical reflections that are presented.

METHODOLOGY

The results of this article have been obtained from theoretical contributions of students of the international Master's degree program in Engineering and International Business, Focused on Renewable Energies and Waste and Water Management as part of their

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evaluation projects, as well as the debates between students and professors during the development of theoretical and practical seminars.

The study program, developed by the School of Technology of the SRH Berlin University of Applied Science since 2017, included till the time of writing this paper, 174 students from different countries of the world, mainly, India, Nigeria, Lebanon, Oman, Bangladesh, Pakistan, Egypt, Australia, Colombia, Mexico and Venezuela.

As part of the curriculum of the program, theoretical aspects related to the contradiction between profit and sustainability presented by this article, have appeared as a permanent debate in the subjects of renewable power - heating and cooling, environmental analytic, waste management, and life cycle assessment.

This article summarizes these theoretical reflections on the need of counterpointing sustainability against profit in the development of the energy sector as the only way to solve important problems provoked by the current global development trends.

RESULTS AND DISCUSSION

Results: theoretical reflections exposed by students and professors about the current oil and gas-based economy and a sustainable future.

The concept of sustainable development

One of the first elements included in the debate among students and professors has been precisely the concept of sustainable development. This concept proposed by the Brundtland Commission in 1987 and widely accepted by the international community states: Sustainable development tries to meet the needs of the present generation without jeopardizing the capability of the future generation to meet their own needs.

In the discussion, it is clear that the concept aims at achieving intergenerational justice, but the current development approaches do not consider the intragenerational justice, demonstrated in the following facts: less than a quarter of the current world population consumes three quarters of the energy produced; a quarter of the world's population is lacking electricity for lighting and other domestic uses, and 11% of the world population suffers from hunger. This type of development adopted so far worldwide will be the first

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obstacle to change if we are to shift from an energy mix based on fossil fuel to a new one based on renewable resources.

Sustainability and profit issues brought up for debate

The sustainability debate is present throughout the curricular program of the master's degree in engineering and international business, however some issues have been more debated as an initiative of the professors or as contributions from the students themselves, who have participated very actively, demonstrating a high commitment with the social and environmental challenges of sustainability, as well as a high capacity to analyze the issues in a multifactorial and complex perspective. Some of the main issues discussed between students and professors, and which should be part of the current agenda at all levels, are set out and discussed below.

Oil and Gas Economy

The size of the oil and gas economy cannot be easily comprehended. An average person cannot process the economical magnitude of this sector, let alone be able to make the connections between the oil and gas sector and all the others directly and indirectly thriving off of the fossil fuel economy. Thus, when trying to figure out the real size of this economy, we are faced with an enormous and almost unquantifiable size.

To start with, by 2014 there existed 1,469 oil and gas firms that were worth over 4.6 trillion dollars combined. In addition, the 275 listed coal firms amounted to 233 billion dollars. To put that into comparison, the 106 “clean energy” firms listed amounted to no more than 220 billion dollars (CarbonBrief, 2020). In addition, the oil and gas drilling sector alone, made up between 2% and 3% of the global economy (CarbonBrief, 2020).



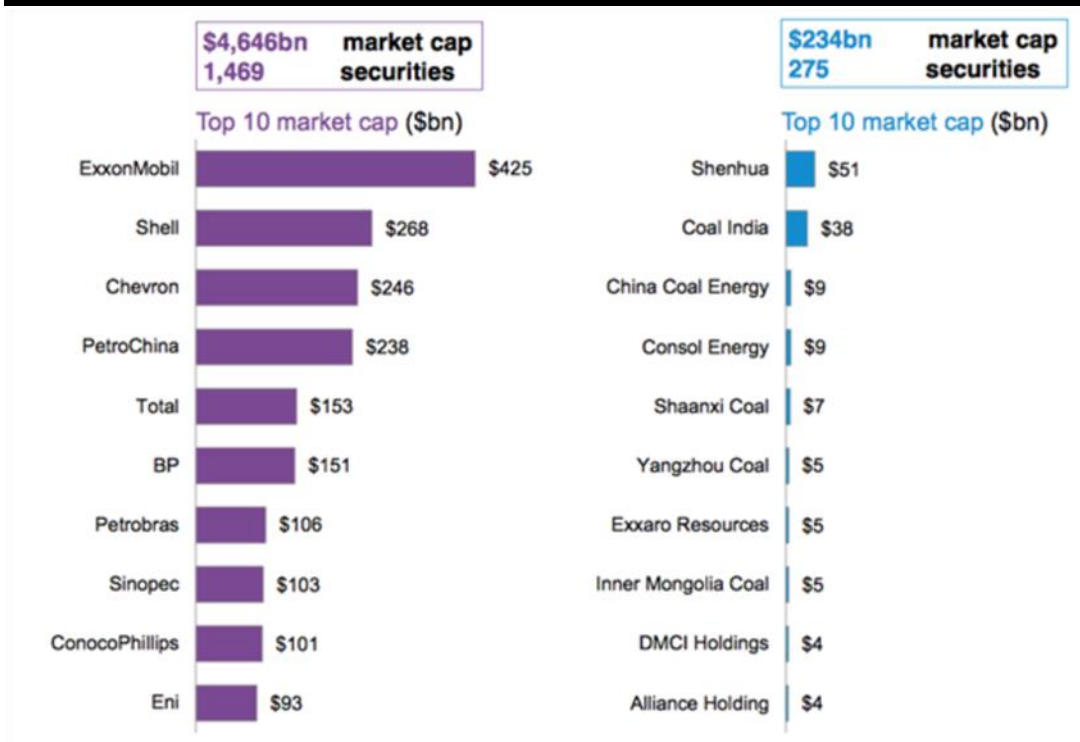


Figure 1. Oil & Gas and Coal Equities of top 10 largest companies (2014)

Source: (CarbonBrief, 2020)

We have not even begun to scratch the surface on all the sectors that thrive off oil and gas such as exploration, transportation, refining and all the different industries that depend directly and indirectly on fossil fuels such as the plastics industry that currently produces approximately 400 million tons of products yearly. This industry is responsible on average for 6% of the global oil consumption (Ritchie, 2018).

In all the debates, it is clearly exposed that if the world is to come anywhere near to meeting its climate-change goals, the oil and gas (O&G) industry will have to be changed for a strong industry of renewable energies. The current oil and gas industry's operations account for 9% of all human-made greenhouse-gas (GHG) emissions. In addition, it produces the fuels that create another 33% percent of global emissions.

In this regard, professors and students agree regularly that while enough potential to power a strong renewable energy industry and to generate a big part or 100% of the

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energy demand using renewable energies exists, changing the energy pricing that favor oil and gas over renewable sources is required. Moreover, reducing the subsidies to the oil and gas industry is imperative, since it is reducing the opportunities of renewable energies to be established in the energy market.

All of this not only creates a big limitation for a real sustainable development at least in the energy sector, but it also impacts the waste management sector, the sanitation strategies, water contamination and therefore, water availability. At the same time, it affects the water-energy-food nexus, food availability, poverty reduction and the balance in the access to basic resources.

Changing from Oil and Gas Economy

After attempting to show just how large and entrenched the oil and gas economy is in our lives, we cannot assume the divesting from this economy to a greener one can be done smoothly and quickly. The large chunk of the global economy estimated between \$1tn and \$4tn of the oil and gas economy, along with all the investments and companies built on this sector, is being referred to as the “carbon bubble”. The “carbon bubble” naming is linked to the fact that this economy is about to burst. It is believed that this burst would be sudden rather than gradually deflating over decades due to the policies that are followed by the stakeholder companies and countries. These major nations need to divest from an over-reliance on fossil fuels and funding a shift by utilizing a large amount of tax-payer money in order to avoid such a burst (CarbonBrief, 2020).

With the rise of green and renewable energy technologies, the demand for fossil fuels is expected to plummet. However, experts expect that this pop would happen even if the world does not adopt new energy and climate policies. The pop of the “carbon bubble” is estimated to have a magnitude 16 times bigger than that of the 2008 financial crisis. This is a projected result of companies abandoning trillions of dollars’ worth of reserves by the year 2035 (CarbonBrief, 2020).

What will happen after the “pop”?

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Of course, investors that have heavily invested in fossil fuels will be damaged the most. In addition, probably millions of jobs in the oil and gas sector and related sectors will be lost. Countries with highly reliant economies on fossil fuels such as Middle-Eastern states would need to diversify their economies to avoid high damage. Other countries such as Russia, U.S.A and Canada could also be badly damaged. However, other countries such as China and the EU would benefit due to their investments in renewables (CarbonBrief, 2020).

For changing the old fossil fuel energy mix for other based on renewable energy resources, it is very important to develop competences in the human resources to create awareness about the importance of a sustainable development for the present and future generations. These competences must also make possible the development of new types of company and governmental management strategies for an innovative development and improvement of the technologies to make them accessible for the whole world.

For doing this, rethinking the ways of technology transfers we are using at present is essential in order to look for new ways in which the sustainable development can be prioritized over profit.

Profit or Sustainability?

The purpose of posing the question “profit or sustainability” is to induce the discussion on the necessary economic changes and sacrifices that must be underwent in order to build a more sustainable socioeconomic structure. The discussion of the role that fossil fuel plays in our society and economy, the effects it has on the environment, the challenges that face economies in shifting towards a smaller carbon-footprint one, and many other points is a very large discussion indeed. With many aspects to be considered and the amount of change being unimaginable, that is normal (Beck, Rashidbeigi, Roelofsen, & O. Speelman, 2020).

However, the dependency on fossil fuels is being challenged on multiple levels. The need to act has led to what is known as “fossil fuel divestment”. The fossil fuel

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divestment is a worldwide political and social organization that aims at creating pressure to freeze any new investments in the fossil fuel sector, get stockholders to withdraw their equities and eventually completely end the sponsorship of the sector. The organization is inspired by many successful divestment campaigns that were successful in history such as the one targeting apartheid in South Africa. That campaign resulted for instance in 155 campuses to divest from companies doing business with South Africa. The South African divestment campaign helped in pressuring the South African government and ending apartheid. The same is hoped to happen with a Fossil Fuel Divestment campaign (CarbonBrief, 2020; Beck, Rashidbeigi, Roelofsen, & Speelman, 2020).

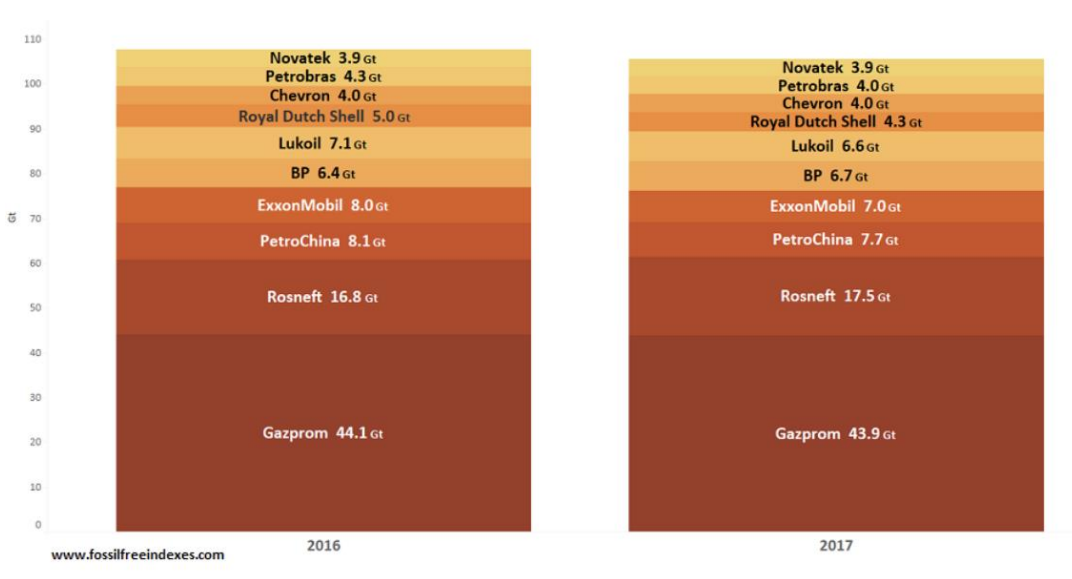


Figure 2. Companies by Gigaton of CO2 emissions of reserves (2016 & 2017)

Source: (Beck, Rashidbeigi, Roelofsen, & O. Speelman, 2020)

The decisions to target certain companies and industries are based upon their carbon footprint with data like the figure above. This movement is not just a call for action anymore. It has actually been very active with reaping effects. An estimated \$6 trillion worth of investments coming from over 850 institutions have chosen different commitments than the fossil fuel sector. Many important divestment stances can also be

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highlighted. For example, New York City will be divesting from fossil fuels when it comes to its \$200 billion dollar pension fund (CarbonBrief, 2020).

Many similar stories around the world can be found and are making headlines daily. Accompanied by the constant calls in all fields concerned with the environment and our sustainable future, economical pressure is becoming a tool to shape a greener society.

So, what does this tells us?

It is clear that building a sustainable greener future is clashing with the profits and funds of the fossil fuel sector. It seems inevitable that humanity is going to have to make a choice of either trying to salvage and preserve the huge oil and gas sector and maintain its profits, or building a sustainable energy and economical structure that would pop the carbon bubble once and for all.

A sustainable energy future will require new thinking and new systems – essentially a transformation in the way we produce, deliver, and consume energy. If our goal is to raise living standards, provide access to modern energy services, use energy more efficiently, protect the global environment and ensure reliable energy supplies, green growth must play a key role (OECD, 2011).

In these regards were the discussions centered on the need to develop a new type of energy technologies companies, in which a modern technology transfer model based on sustainability more than on profitability could be implemented. These companies have to be prepared for making concessional investment from the industrialized countries to the developing ones to assure a sustainable development worldwide and through that achieving the intragenerational justice absence till now in the development strategies.

The objective of development must be to ensure high living standards, provide access to modern energy services, use energy more efficiently globally, minimize environmental effects of the energy sector, while empowering the local population to develop and utilize efficiently renewable energy technologies.

By doing so, these companies would contribute to mitigating climate change, reducing global inequities, and increasing political stability in the world. It is possible that these

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companies witness a reduction in profit, but the same time, they could be reducing their costs associated with climate change, natural catastrophes, migration flows and unnecessary wars.

This could be summarized in the concept of corporate sustainability, expressed as the integration of financial benefit, environmental protection, and social responsibility into business operations and management (Almaleeh & NM., 2019).

For that, it is important that governments and decision makers take part in the development of new policies oriented to create awareness and responsibilities, as well as control and regulate strategies that promote such types of companies.

CONCLUSIONS

- There is a deep awareness among the teachers and students of the program about the need to favor sustainability over profit in the renewable energy sector.
- It is more than probable that enforcing a wide structural change in the energy infrastructure will cause profit losses, bankruptcy, economic crises and many more.
- Sustainability is without a doubt in conflict with the huge profits of the oil and gas companies.
- Divesting from oil and gas would however create some economic imbalances that may end up affecting millions of people negatively.
- One can only speculate on the best strategies to follow; however, it seems that there are certain responsibilities that need to be taken.
- Governments around the world must take part actively in ensuring the green switch takes place, while ensuring that all sectors, not just oil and gas that are affected by this switch would be phased out gradually and the losses and damages reduced as much as possible.
- One thing can be said for sure, the profits and economical magnitude of the oil, gas and coal sectors cannot be placed above of the need for a sustainable future

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that would secure a harmonic existence between humans and the surrounding environment.

- A new type of company that promotes sustainability over profit will be required in the future.
- Presumably, these companies will not be able to aspire to large profits, but they will contribute to reducing the enormous costs associated with the problems caused by the current development model and its companies.

BIBLIOGRAPHIC REFERENCES

Almaleeh, & N. M. (2019). Are Sustainable Firms More Profitable? Evidence From. *International Journal of Accounting and Financial Reporting*, 122 - 134.

Beck Rashidbeigi, C., Roelofsen, S., & O. Speelman, E. (2020, January 7). *The future is now: How oil and gas companies can decarbonize*. Retrieved from mckinsey.com: <https://www.mckinsey.com/industries/oil-and-gas/our-insights/the-future-is-now-how-oil-and-gas-companies-can-decarbonize>

Bonini, S., & Swartz, S. (2014, July 5). *Profits with purpose: How organizing for sustainability can benefit the bottom line*. Retrieved from www.mckinsey.com: <https://www.mckinsey.com/~media/McKinsey/Business%20Functions/Sustainability/Our%20Insights/Profits%20with%20purpose/Profits%20with%20Purpose.ashx>

CarbonBrief. (2020). *Why fossil fuel divestment won't be easy*. Retrieved from <https://www.carbonbrief.org/why-fossil-fuel-divestment-wont-be-easy>

Gurnani, C. (2020). *Sustainability and profitability can co-exist. Here's how*. Retrieved from World Economic Forum: <https://www.weforum.org/agenda/2020/01/sustainability-profitability-co-exist/>

OECD. (2011). *Green growth studies: energy*. French: OECD.

Ritchie, H. (2018). *FAQs on Plastics*. Retrieved from World in data: <https://ourworldindata.org/faq-on-plastics>

