# Corporate responsibility practices on 3rd world countries
# Smurfit Kappa Carton de Colombia

David Vaca Castaneda


Submitted in partial fulfillment of the requirements for the course Sustainability Policy and Practice (STS 364/H) in the Science, Technology, and Society Program at the New Jersey Institute of Technology

May 9th, 2016

TABLE OF CONTENTS


| | |
|---|---|
| Abstract | 3 |
| Introduction | 5 |
| History of paper | 7 |
| Resources and procedures | 8 |
| Waste and pollution | 12 |
| Water | 15 |
| Giving Back: Social Re-investment | 17 |
| Conclusion | 19 |
| References | 20 |

## ABSTRACT

We are living in challenging times. For centuries, industrial production has been the engine and foundation of the economy we live in. Ever since the invention of money, people's activities have mainly and ultimately been the pursuit of it. There has always been someone willing to sell a product to another who is willing to pay for it, just as someone has always been there waiting and willing to pay for those same goods he or she wants or needs to survive. This proprietary relationship, born by the common need to sell a product to make a profit and use that profit to buy a subsequent product, has forever immersed us into a vicious cycle called commerce; the only model known by society to subsist for at least the last 7,000 years. Curiously enough, prior to the eighteenth century, this economic model had been sustainable in a way. Regardless of the fact that back then people had no notion of conservation principles (needless to say sustainability or ecology), there were much fewer people on this planet. Hence, the size and negative impact of our consumption habits and way of living could be easily cushioned by nature.

Things would change radically with the arrival of the industrial revolution. Machines could manage to produce more product in a faster manner, and since population was substantially greater, the planet began showing troubles. Nature was unable to keep up with the speed of production and consequently multiple ecosystems slowly, but surely, started to decrease. Things since then have worsened at an exponential rate. As technology has improved tremendously the way we produce goods, the planet's capacity to re-generate the natural resources needed to maintain our demand for those products have, unfortunately, not been able to keep up.

The natural deficit we now have is perhaps the greatest challenge society will face, ever, as a planet. If we want to endure as a species and keep our planet alive we, as a society, need to re-think how we do business. Since this economic model we have (and have had for millennials) is unlikely to change in the near future, the least we can do is allow our planet to start healing itself. Slowing the depletion of our ecosystem will buy us time enough to mature a better economic model, and ensuring that our permanence in this planet will remain, is for the utmost importance. Recognizing the urgent need to change the way we produce our goods, and acting towards a sustainable production model, is the very definition of corporate responsibility. That is the most immediate and realistic mechanism to mitigate our current natural deficit, considering that we might have be given the last opportunity to save ourselves, as future generation who will inherit this potentially and eventually catastrophic event, may find ourselves beyond the tipping point we now are as a species.

# INTRODUCTION

The way we consume products will eventually destroy our planet and we don't not care. We are not only too many people on this planet, which by itself is already very bad, but we love to buy stuff. The fact that we need to recognize this and that the planet is barely able to support the basic resources we need to survive, is our most vivid problem to be solved. Our appetite for goods greatly surpass the carrying capacity of this planet and to make matters worst, we are accustomed to acquiring what we want by any means necessary and at whatever cost, which in this case may possibly mean our own existence. It has been our nature not to care about where things come from or how things are made. Our parents and grandparents lived in times where the environmental devastation was not the topic of the day nor the devastation was as evident as it is today, and also they were not aware of what was happening around the globe.

Today, that story is different by leaps and bounds. Environmental depletion is an undeniable issue, and the internet keeps us informed. We now know, more than ever in history that the issues regarding the environment are urgent and that this planet is in danger. Unfortunately, the fact that many people (and more everyday) are growing aware of these problems does not guarantee that we will act on them with the speed and effectiveness required to mitigate the damage. Eventually society must come to realize that we have to slow down our current path and allow this planet to heal itself. The changes we need will require social initiatives to trigger policy action, but this will take time. On paper, industrialized economies have developed laws and regulations seeking to mitigate the harm on the environment and protect the health and well-being of the people, but in reality, the activities pursued on order to carry out these activities, also remain the main cause of pollution and that same energy needed to produce this type of energy remains extremely expensive

and unsustainable. These same laws that protect you on one continent are bent and neglected on other continents (especially Third World Countries) by the weakness of their political system or by corruption.

While we wait for our leaders to act, any action made towards a more sustainable way of production is welcome, which is why corporate responsibility is so important today; it is changing the way we produce our goods and it aim to reduce, and eventually eliminate all together, whatever negative impact we have had on the planet. Smurfit Kappa is a multinational corporation that produces paper products. These products requires a lot of wood and water to be made, directly affecting the local ecosystem in which they operate. My paper analyzes the way Smurfit Kappa in Colombia has developed and implemented a package of standards for responsible production covering three important issues: 1. the allocation and use of natural resources, 2. the energy efficiency and pollution reduction and 3. The social re-investment of their product. Regardless of the location, Smurfit Kappa has maintained optimistic goals that makes a good example of proper industrial production activity.

# HISTORY OF PAPER

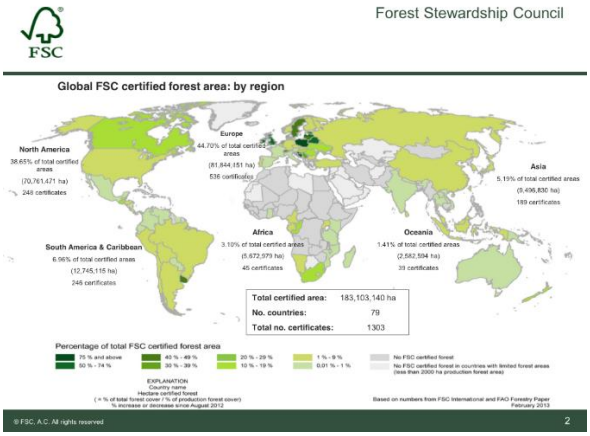
Throughout history, writing documents have been the main way to communicate throughout time and to keep records. Since the Stone Age people have communicated ideas; evidences of graphical communication were found on caverns where diverse drawings represented day-to-day activities, beliefs and costumes. Later, with the development of language, examples of writing communication on stone were wildly used by many cultures around the world. For thousands of years stone inscription was the only way known to ancient societies to keep record of their activities. Later on with the invention of ink, human-kind marked the transition from stone and pottery to elements like processed animal leather, and soon after compressed organic compounds known as papyrus would replace animal leather sheets.

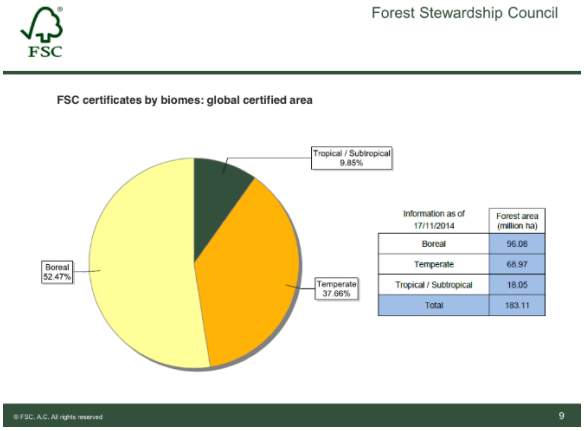
Papyrus sheets were made from a kind of grass grown by the river called by the same name. Papyrus was very common in Egypt (born along the Nile River around 2,500 BC), in fact the term paper comes from the word papyrus. Later in China (around 100 BC), another compound made of Hemp, a variety of cannabis of fast production, would be the very first version of paper as we know it. The invention of papyrus would mark the beginning of vegetable compound products used for writing, but the Chinese development of hemp wrapping paper technique, would defined the way we produce paper today.

Nowadays we use paper not only as a sheet to write on, but we put it everywhere. It is present, in one way or another, in every single product. We use paper as gross material for other products, we use it to record and manage things, we use it for storage and shipment of goods, for packaging those goods, hygienically, and we even use paper as money to pay for those goods. In conclusion, paper plays a key role in the current economic cycle.

Producing paper at industrial levels requires an important amount of natural resources. Natural fibers used in the production of paper mainly comes from wood, and considering that Colombia has a very rich and diverse ecosystem, the protection of that forest's ecosystems is very important. For this reason, the main compromise of Smurfit Kappa has been in making sure that their activities have a controlled impact on local biodiversity. According to their own projection, Smurfit Kappa claims that by 2015, more that 90% of non-recycled natural fibers will come from a sustainable origin certified by the Forest Stewardship Council (FSC)[1].

Even though Smurfit Kappa international follows FSC, PEFC and SFI standards on the allocation and use of their natural fibers, FSC is the one with direct coverage in Colombia, and the only one with a historical record of achievements[2].




[1] According to their Sustainable Development report (Spanish version) [ http://resources-acc.smurfitkappa.com/Resources/Documents/Sustainable_Development_Report_2014.pdf ]

[2] Graphs from FSC web page with the % on coverage (Colombia 10% of forest) and the diversification of such forest

FSC is a global non-profit organization dedicated to the promotion of responsibly managing of forests, worldwide. By maintaining a balanced partnership with another non-profit organizations (NGO), these other NGO members with experience on environmental, conservation and social issues, are responsible and certified to identify whether a given forest has been exploited in a sustainable and/or responsible way[3]. To do that, the NGOs that give their support at FSC are divided into three chambers of work with observers and advisers that control the compliance with FSC parameters:

1. Environmental, whose responsibility is to ensure that the mechanism, procedures and areas of exploitation comply with FSC principles and criteria by analyzing the particulars of the closed environment of a given forest's managed and proposed exploitation plan, the protection of bio cycles of the area and the potential impact of indigenes species of that area.

2. Social, making sure that surroundings communities as well as indigenous tribes that depend on the forest are not being negatively impacted.

3. Economic, since the demand for certified wood product has increased among manufacturers and ultimately costumers, FSC makes extensive efforts to ensure that a product with an FSC certification label has a strict and controlled chain of custody, from its sustainable origin to the final product acquired by the consumer.

[3] Explain the tree types of certification [ https://ic.fsc.org/en/certification/3-steps-to-certification ]

An FSC certification lasts 5 years; however, each forest manager can be inspected annually to make sure of the compliance of the FSC principles. In order for a given product made from wood to be an FSC labeled wood, the forest manager who applies to be FSC certified must comply with two main criteria also present on each of the three chambers.

FSC's Principles and Criteria, which consist of 10 points of compliance[4]:

1. *Compliance with laws and FSC principles*: additionally to the local assessment implanted by the observers from FSC at local level, forest managers must comply with local laws and regulation.

2. *Tenure and use rights and responsibilities*: Final set the rules in which the 5 years period grand will be based on.

3. *Indigenous peoples rights*: ensure no action will jeopardize autochthonous rights and guidelines from indigenous communities in terms of territory and use of their natural resources.

4. *Community relations and worker's wrights*: mitigate negative impact on local communities adjacent to or on the exportation area as well as protect the wellbeing and safety of labor involved on the process.

5. *Benefits from the forest*: sustainable exploitation practices to endure the social and economic benefit gaining from it.

[4] Base on Global FSC certification basis [ https://ic.fsc.org/preview.facts-and-figures-january-2014.a-2877.pdf ]

6. *Environmental impact*: sustainable exploitation practice to enhance the integrity of the forest's ecosystem.

7. *Management plan*: set of operational rules that can be overseen.

8. *Monitoring and assessment*: demonstrate the achievements of proposed goals.

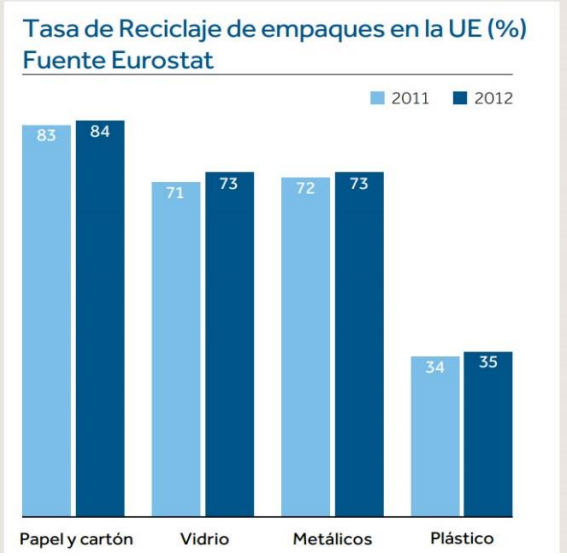
9. *Maintenance of high conservation value forest:* ensure the overall conservation of the forest integrity.

10. *Plantations:* manage plantations under FSC criteria.

2. Chain of custody certification. Perhaps as important as the Principle and criteria set of rules, the chain of custody guarantees that the wood that came from the forest under the FSC parameters is the same presently found on the final product obtained by the ultimate consumer, regardless of its industrial procedure, alteration or others changes. All this is required to close the loop for non-certified wood products and a way to expose uncertified ones. The certification of a chain of custody allows the producers, manufacturers, and consumers know that the material used on a given product effectively came from a renewable source.

## WASTE AND POLLUTION

Using the foundational concept of circular economy, which states that circular production should eliminate the concept of waste under the model of waste equals food, is the ultimate objective of Smurfit Kappa's corporate responsibility model[5]. I find it important to mention how the company's aim to, as long-term goal, perform at zero waste rate. It is admirable, but in order to justifiably do that, which Smurfit Kappa Colombia is already working on a plan to turn into a 100% recycled material company by 2020 (Sustainable Development report pg. 4), and after reading the technicalities of achieving this goal, it turns out the specifics of their laid out plan only cover the basic area of final paper products already in circulation. In other words, they claim they have made innovative changes to turn their final product into a 100% recyclable one, which plain paper product have regardless of which company produces it. Regardless of Smurfit Colombia's target to achieve production with 75% recyclables, currently it is estimated that only 45% of the paper that is produced, is recycled (Sustainable Report page 51); this is far less than 84% rates on European countries (see table below).




Neither data, nor information could be supplied directly by contacts on the company regarding the chemically contaminated water and heavy organic residues used. However, Kraft pulping, the technique used by Smurfit Kappa Colombia on their paper mills, produces a compound with heavy organic content and other stabilizer chemicals known as ***black liquor*** (BL).

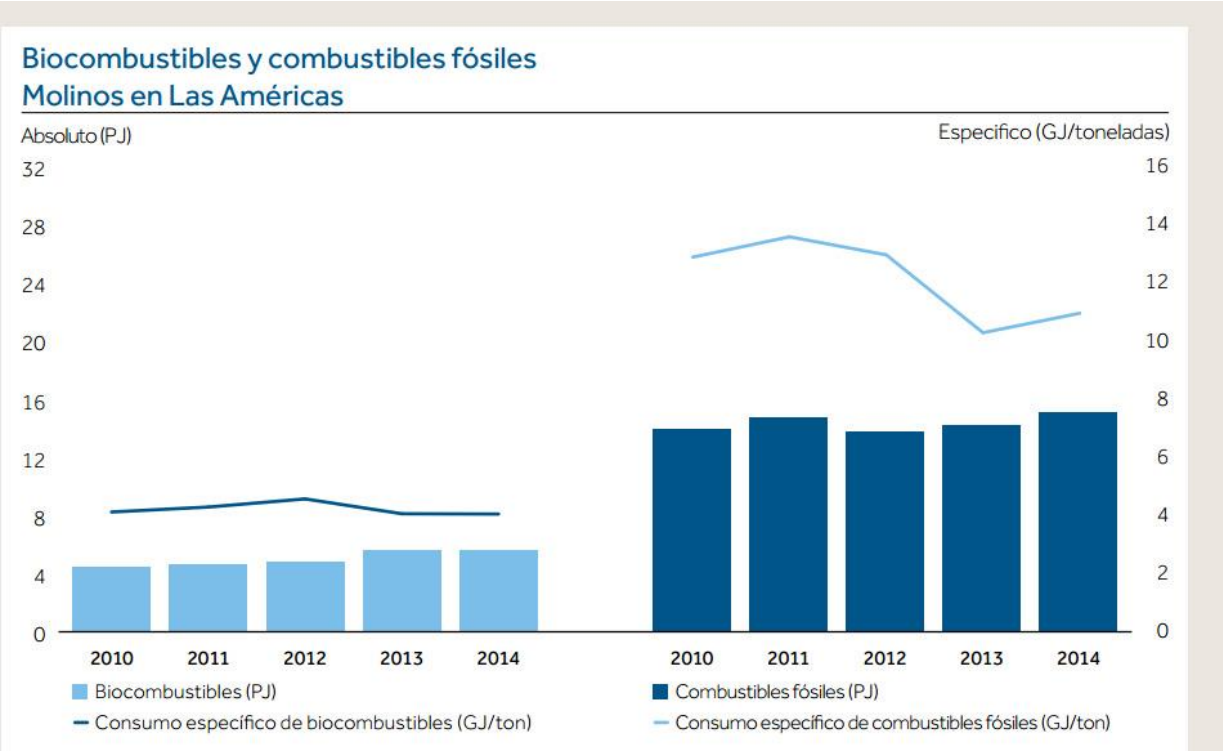
[5] From Sustainable Development report [ http://resources-acc.smurfitkappa.com/Resources/Documents/Sustainable_Development_Report_2014.pdf ]

Smurfit Kappa has made efforts to optimize the process by separating heavy organic matter from fibers or pulp compounds in order to reduce water usage. By incorporating Multiple-effect evaporator technology (machine use to extract water through evaporation) their paper mills have reduced BL waste.

The main waste element produced by Smurfit Kappa's paper mills in Colombia is BL. Numerous amounts of water waste are found as part of BL compounds, which is still a problem of new paper production. Black liquor is the lasting residual cocktail made of organic and inorganic chemicals (salt-based compounds) and the residual organic matter. Black liquor waste is the residual waste from what is called brown liquor, which is the result of the residual compound obtained from the extraction process of pulp from raw wood or Kraft Pulping. It is estimated that approximately 7 tons of brown liquor waste is produced for each ton of pulp[6]. This brown liquor is then introduced into a recovery process of skimming and salt separation that allows water evaporation. This process reduces the use of water since the recovered water can be reintroduced into the system. However, it is unclear whether this water will have harmless levels of pollution after it is eventually reintroduced into the natural system. Black liquor compound is very rich on organic matter, which makes it a perfect raw material source in the production of bio-fuel due its high levels of fermentation. Currently Smurfit Kappa is working on optimizing the use of Black liquor in the production of bio combustibles.

[6] No particulars from sources at company nor SP web. This Information from [http://www.ipst.gatech.edu/faculty/ragauskas_art/technical_reviews/Kraft%20Pulping%20and%20Recovery%20Process%20basics.pdf ]

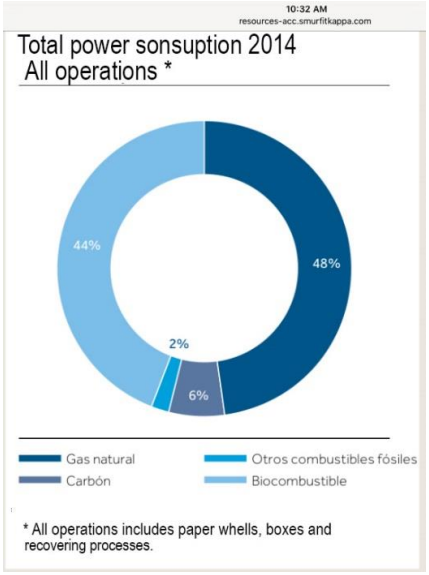
Reducing the foot print of Smurfit Kappa is also part of the company corporate responsibility package. The company is currently implementing efforts to reduce the use of fossil fuels by trucks that operate on bio-fuels and production that uses more natural gas.




Co2 emission reduction is another important part of Smurfit Kappa corporative sustainable mode:

-Their trucks are running on bio fuels, which is another important emerging agro-industry of generation of alternative energy with important momentum in Colombia.

-The high demand of power to produce heat needed for extraction and recover processes is based on Combined Heat and Power (CHP).



## WATER

Colombia was, not too long ago, cataloged as the fourth riches country on hydraulic resources; now the country has dropped to sixth[7] and the forecast it indicates is that things will only get worse if we consider the current climate anomalies, like the strongest 'niño' effect in history, or the intense drought the north eastern area of the country is suffering. Regardless of the effort made by households to reduce water consumption, industry accounts for the biggest demand of water, which then becomes urgent and any effort toward a production model where a sustainable use of water is included must be implemented.

According to their report on sustainable development from 2014, the company policy in terms of water returns involves the implementation of new technology on the recovering process of brown liquor residual compounds, and making sure the water complies with minimum standards of organic levels by implementing chemical oxygen demands (COD) tests before the water is reintroduced into the ecosystem by 2020. Currently the company has achieved a reduction on 28% on COD levels if compared with levels present on 2005[8].

New paper mills technology has optimized the pulp extraction process reducing the demand of water. If we add to the water reintroduction process (brown liquor return process) the reduction on water for refrigeration thanks to CHP technology, the convened reduction of water usage is substantial.

[7] Renewable water resources [http://www.nationmaster.com/country-info/stats/Environment/Total-renewable-water-resources ]
[8] Forest plan management resume [http://resources-acc.smurfitkappa.com/Resources/Documents/RESUMEN_PLAN_MANEJO_FORESTAL.pdf ]



This tables shows how, regardless that the demand of water seems to remain constant, the reduction of the amount of water sources to refrigeration on the production line (up left), and the overall water usage reduction (up wright), has mitigated the negative impact on the environment.

## GIVING BACK
## SOCIAL RE-INVESTMENT

Philanthropy has been around for a while; on a modern society, it is a way to give back to those in need. At a corporative level, companies use philanthropic foundations to ensure that the money they would other ways pay on taxes, will be directly and effectively invested on communities in need. As the third part of Social Corporate Responsibility model, after the environment and the economy, the social factor is essential to mitigate any potential disturbance that their industrial activity may have within the local community communities.


9

The philanthropic branch of any corporation works usually independently from the business part, but the effect of these donations (good or bad) will undoubtedly carry the name and prestige of the company. Ergo, In order to reduce liability and maximize the benefit of these donations, many corporations use local Non-Profit Organizations that specialize on the social issues their donation is intended to address.

Smurfit Kappa in Colombia has centered their donations on NGOs that carries programs related with education and house-hold income incentives (micro-credit programs). In accordance with their Sustainability report, the corporation's target is to reach 100,000 people who would benefit world-wide because of these programs by 2020[10]. Also the company make efforts to give employment to locals who live on their area of operations and ergo are more directly affected by

[9] From : https://www.unglobalcompact.org/docs/news_events/8.1/UNGC_Accenture_CEO_Study_2010.pdf
[10] Global policy involving education and scientific investments
http://www.smurfitkappa.com/vHome/co/Sustainability/SustainabilityVision/Paginas/Community-involvement.aspx

Smurfit Kappa's business. Also Smurfit Kappa leads projects of scientific investigation on biodiversity as well as conservation and reforestation initiatives at local level.

# CONCLUSION

During the process of putting together this document, I have come to realize that our current economic framework, where corporate activity can have a more direct and strong impact (positive or negative) on the environment, needs to be redesigned. We need to change the way we do business (or make things). The influence of big corporations' money can potentially overrule any independent political will, social need or any basic environmental principle, but it can also make the difference if we jointly demand those corporations to assume their business under the basic parameters of sustainability.

Social Corporate Responsibility is here to stay. The trend of environmental enlightenment is spreading and corporations depend on the trust of their consumers. It is no surprise that more and more companies are incorporating CSR as a base for their business activities. The momentum exists and their effects are yet to be seen. There will comes a time where any act related with environmental conservation will be considered urgent, independent and an autonomous action, and will make the production side of the economy, more than welcome. We need someone to lead the way; industrial activity is not only the main cause of environmental degradation, it can also be the solution. If industrial production adapts sustainable practices properly under a circular economy, the rest will follow.

Even though environmental protection laws exist in third world countries, the policy is weakness and corrupted when companies bend, break or ignore these laws. For this reason the example or SCR implemented by Smurfit Kappa in Colombia is notable. Now the ball is in the consumer's corner; we need to use the power of money to demand the implementation of SCR practices which is a basic requirement for the production of goods.

REFERENCES


1. "Global FSC certificates: Type and Distribution", November 2014, Forest Stewardship Council, A.C, web https://ic.fsc.org/preview.facts-and-figures-january-2014.a-2877.pdf
2. "Small & low Intensity Managed Forests Eligibility Criteria" (FSC Standard), 2004, FSC,A.C., web https://ca.fsc.org/preview.slimf-eligibility-criteria.a-177.pdf
3. "Forest Management Certification", FSC,A.C., web https://us.fsc.org/en-us/certification/forest-management-certification
4. "Sustainable Development Report", 2014, Smurfit Kappa, web, https://ca.fsc.org/preview.slimf-eligibility-criteria.a-177.pdf
5. "Resume: Forest Management Plan" (Spanish), 2015, web http://resources-acc.smurfitkappa.com/Resources/Documents/RESUMEN_PLAN_MANEJO_FORESTAL.pdf
6. "Combined Heat and Power (CHP)", American council for an energy efficiency economy, 2015, web http://aceee.org/topics/combined-heat-and-power-chp
7. "Kraft Pulping Objectives" , IPST.GATECH.EDU, web, http://www.ipst.gatech.edu/faculty/ragauskas_art/technical_reviews/Kraft%20Pulping%20and%20Recovery%20Process%20basics.pdf
8. " Environment-Total renewable water resources: Countries" Nation Master.com, web, http://www.nationmaster.com/country-info/stats/Environment/Total-renewable-water-resources"water Resources Management", 2014, web, http://www.gwp.org/en/The-Challenge/Water-resources-management/
9. "The Business Case for 'Ecofriendly' Corporate Social Responsibility, Huffington Pots article, VYZVoice.com, Luxembourg, 2015, web, http://www.vyzvoice.com/corporate-social-responsibility/
10. "A New Era of Sustainability": CEO reflections on progress to date, challenges ahead and the impact of the journey toward a sustainable economy, Peter Lacy, Tim Cooper, Rob Hayward, Lisa Neuberger, Jun 2010, web, https://www.unglobalcompact.org/docs/news_events/8.1/UNGC_Accenture_CEO_Study_2010.pdf
11. "The Kraft Chemcial Recovery Process" Honghi Tran, University of Toronto, web, http://www.tappi.org/content/events/08kros/manuscripts/1-1.pdf
12. " The Green and Blue Water Foot Print of Paper Products": Methodological considerations and quantifications, P.R. Van Oel and A.Y. Hoekstra, July 2010, Unesco for water education, web, http://waterfootprint.org/media/downloads/Report46-WaterFootprintPaper_1.pdf