

THE RELEVANCE LEGAL DISCUSSIONS AND LAW ON ISSUES CONCERNING BIOENERGY

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The Society and the Law are mutually and continually influencing each other. Law here is referred to as a legal statute formally issued by a competent authority, no matter if *strictu sensu*, Law or any other kind of regulation emanated from a Democratic State of Law, enforced, subordinating, systematized in an ordinance capable to govern people's social life. Society is constantly transformed by Law and, at the same time, the Law is transformed by the Society from which it emanates.

As long as relations between people exist and exactly because of these relations, rises the legal issue of legal rule which, ultimately, we could consider as a socially qualified normative. Accordingly, the Law is a set of disciplines or systems that requires and imposes certain ways of conduct. They are guidelines, conditioning the limitations imposed on social behavior raised from the social behavior itself. To condition here is meant to interfere, to influence, to cause the action in a certain way.

Every time a set of standards is institutionalized or some Law is issued, this Law or this set of rules is intended to orchestrate the life in Society, interfering on people's behavior. That is the reality in any organized Society or so-called civilized Society, and everyday we have the opportunity to verify this vision embodied.

Examples of Law influencing social life, interfering on Society's and individual's behaviors are unlimited. In Brazil, in the Bioenergy area, such examples are not as common, but we could mention the approval of the final guidelines for the Government Auction to buy Reserve of Power, specifically from Small Hydroelectric Centrals (PCH)

and from private small ventures generating energy from biomass and wind sources, approved by the Ministry of Mines and Energy (MME) of Brazil.

The Ordinance Act n. 407, published in the Official Journal of the Union on 05/04/2010, considered the guidelines of energy reserve auctions held in 2008 and 2009, improving the model quite a bit, so it could correspond to the provisions of article 2 of Ordinance Act n. 55/MME of 2010. From now on, in the government auctions, Reserve Power Contracts of Energy (CER) generated from wind sources and from PCHs will be negotiated, supplying from September 1st, of 2013 on, and also Reserve Power Contracts of Energy for three new products, generated from biomass, with initial supplying hired respectively for 2011, 2012 and 2013, in the months as declared by the entrepreneur in the Technical Project sent and approved through Habilitation Process of Energy Supply, because the regulation did consider the specificities of this type of energy generation, like the harvest period. These guidelines provide a series of complimentary "commands" that will rule the energy production from these sources, from now on and for many coming years.

For instance, the above mentioned Ordinance Acts extend the deadline for registration and filing projects to supply Reserve Energy in 2010, defines its process and procedures, and extend to enterprises generating energy from biomass and PCHs, instruments that were provided only for wind sources.

On February 4th, the MME published another Ordinance Act, establishing two auctions

to purchase power from new venture mills, called “Leilões A-5 de Energia Nova”.

There is no doubt that such regulations can be considered an important signal for the ethanol or sugarcane energy industry, demonstrating that the Government considered bioelectricity’s relevance, which includes all kinds of biomass but whose most important raw material in Brazil, is the cane sugar waste, primarily bagasse, tops and leaves.

Bioelectricity in 2009, even with the world financial crisis, outperformed the other energy sources, as far as its system’s capacity is concerned. With these regulations defined, there will be more regularity in the buying of bioelectricity in specific auctions and undoubtedly this situation will improve certain aspects of the sector as for e.g. the difficulty of connection of these sources to the system, and certainly will lead the development of differentiated funding lines for these renewable and higher quality energy sources. I’m certain it configures an important step forward for the ethanol industry, and will determine improvements on production technologies, new neuralgic connections linking those sources to the national energy system, and why not (?), a new *modus operandi* of this industry.

It is the Law interfering, influencing, delineating, and determining, that a particular industry goes in a particular way. It is the Law ruling Society’s life, as in the ethanol industry.

And this happens not only in Brazil. On February 1st, 2009, President Obama passed the *American Recovery and Reinvestment Act of 2009*. The referred legal note is about an economic stimulus package that contains numerous provisions related to biomass and other renewable energy projects. This Act provides real incentives to investors of the segment. And these “incentives” will lead investors lives and biomass project developers in the USA until far ahead the year of 2013. The regulation removed a significant uncertainty over long term biomass projects, for the investors. Thus, we see another clear example of Law interfering in social life and leveraging an entire segment within the territory it has effectiveness. Similarly, in Europe, a change in the legal position of the *European Environmental Commission* alarmed many environment sector stakeholders and many representatives of various entities such as FERN,

Finish Association for Nature Conservation, Forest Monitor, The Woodland League, Friends of the Earth Europe etc... that sent a letter to the General Director of the Environment European Commission of the European Community declaring they were alarmed with the “change in the Commission’s position in no longer consider the criteria for the production of solid biomass legally Biding”, i.e. legally due. According to those entities:

The need for binding sustainability criteria for biomass used in heat and electricity production came out clearly in the public consultation in July – September 2008, with a large majority of stakeholders advocating for legally binding criteria. By adopting legally binding sustainability criteria for bio-fuels and bio-liquids and not requesting legally binding criteria for solid biomass, the European Commission will create perverse incentives as well as unfair competition between different biomass sources.

This example also demonstrates how the Law can intervene directly in social life, and negatively in some cases, if it is not well “shaped”, thought through, or if the legal provisions are not maturely “born” or discussed in great detail, flaw less, free of gaps, and ment not to create injustices.

In contrast to the conditioning of social reality by Law, this same social reality determines the Law, and it’s precisely the behavior of the people who ultimately leads to the creation of new rules, new Law, new rights.

When we establish a Law into Society and show that such Society must follow that Law, we provide the path, we indicate the expected behavior from people, from that Society, and at that particular time. When there is social development, the establishment of new technologies, new discussions, new trends, new forms of relationship within the Society and a new social organization, this new reality requires to be disciplined, to be regulated, to be tutored and tailored, under penalty of not being covered up or orchestrated by a single command, raising chaos and conflict. Just as new musicians, when they begin to play in an old orchestra, they need to amalgamate to the team already pre-set and to be governed by the same conductor who rules it all; the new social factors

also need to be ruled by the same spirit of Law that governs that Society. It's the new social reality demanding a "new" Law, or new area of Law, or a new regulation by the Law.

Today, companies around the world are implementing energy efficiency programs. They are viciously fighting to reduce costs and to increase competitiveness. We live in a time when companies seek far more efficient management of the entire production cost, struggle for new forms to produce more using less raw material, less energy and less water. Germany, Japan, Korea, China, USA and other countries have set as a strategic priority the efficient use of energy. This political command forces companies to develop more sustainable ways of production, not only for the economic benefits that efficiency brings, but also for environmental reasons. The search for efficiency, however, goes through the development of technological knowledge and management skills.

These technological developments and new management ways require regulation and "call" the Law. Since the beginning of the researches, the Law is necessary and "called to act". The funding of research projects, for example, forces the Law to reinvent itself. To raise millions of dollars in funding for bio-energy projects is a complex matter and presents many challenges. One is the design of the financing operation "debt" and "equity" that everyday acquires new facets. From the need of special contracts, we see legal institutions rising all the time. Some examples are the contracts for insurance to cover adverse events in research, contracts for private equity, institutional and individual, contracts of vendor etc.

Whenever there is social evolution, the requirement of its social discipline comes along, which is given by Law only, in a non-subjective way, imposed, and previewing penalties in the case of non binding of the Law.

We can mention as another example of Society evolution determining "new" Law, the issue of sugarcane straw burning.

The use of fire in agriculture is millennial. The burning to remove forests and fields, seeking the establishment of pastures, crops, building of towns and cities has been practiced by explorers and settlers since the old ages. In colonial Brazil

the fires were intensively used to prepare areas for plantation of a variety of crops and pastures, including the plantation of sugarcane. Gilberto Freire has said that "the sugarcane plantation destroyed all that thick bush in the most crude way, by the burning. ... The culture of sugarcane (...) valued the plantation and the forest became despicable."¹ For centuries, to plant the sugarcane, the forest was first chopped down or burned up. And at some point we suffered the absence of these forests as firewood in the production process of sugar, or to build the mills. Nowadays we suffer it's environmental consequences.

Burning made possible to produce sugarcane and, at the same time, put it at risk, because the burning of forests removed firewood and the production of sugar suffered. The reckless use of fire for "deforestation" of farmlands, pastures, housing etc, causes effects that are felt today, mostly because this practice remains still widespread. And yet, we continue the burning of sugarcane itself, in order to facilitate cutting.

In the 1970s we had the launch of "Proálcool" (1975). The government subsidized the cultivation of sugarcane, lending money at negative interest rates and with gracious periods for payments – that were extremely long. The sugarcane crop has advanced greatly and, with it, has grown the practice of burning down forests for the "cleansing" of the land and the burning the sugarcane plantation for cutting. The intensive burning sparked off social movements and NGO groups opposed to the interests of sugarcane industry, in favor of the environment and quality of the air we breathe. This social situation moved people, groups and institutions, especially the State Judges and Prosecutors, who were forced to take a stand.

Numerous studies have been carried out to determine, and in most cases proved, that sugarcane burning causes injury to the environment and to the population.

In total dissonance with the movement for the eradication of sugarcane burnt, it began to spring movements in which workers demanded their rights in the field. The workers of sugarcane industry did not want the end of burning. Rather, there

¹ FREIRE, Gilberto. Nordeste. Rio de Janeiro, 1985.

was demanding for justice in their payment for the manual harvesting of sugarcane, better working conditions and maintenance of their jobs. There are numerous reports of disagreements between workers and industries precisely on the basis of this demand for cane cutters. In 1986 there was an outbreak of strikes, which began in the city of Leme, within the State of São Paulo, and spread to other sugarcane areas of the country. It was not the first time. It was the third major strike held by workers, the first being the infamous “Guariba strike of 1984”. In all of them workers required the maintenance of their jobs, they fought against unemployment and demanded greater fairness in their remuneration system.

Industrialists, in turn, wanted to increase productivity, wanted the subordination of workers and the work of the system already established. The end of the strike in 1986 was achieved only when they all came to an agreement for a significant change in the methodology of cutters’ payments and in the supervision system to which the workers in production were submitted. That is, the strike only ended with the promise of maintenance of working relationship and better remuneration and control. It was the Society demanding regulation accordingly.

The environmental groups, on the other hand, went in the opposite way to all that.

In Ribeirão Preto, from 1988, Ecological and Cultural Association “Pau Brazil” was created, becoming the most resilient entity against the burning of sugarcane; with the campaign slogan “Enough of Burning! We want to Breathe” they were able to collect over 50,000 signatures on a document against the fires, reported in the media and subsequently sent to the Governor of São Paulo. The end of sugarcane burning, as we all know, means the end of sugarcane manual cutters work.

How come, two areas of Law specifically call for such contradictory attitudes from the same business? Despite this, and even disregarding the collective labor agreements signed for the maintenance of the sugarcane cutters jobs, the Governor of the State of São Paulo, on August 30th 1988, issued Decree n. 28848, prohibiting any form of use of fire for cleaning and preparing the ground or crops, including burning as a preparation for the harvesting of sugarcane.

This was the first piece of legislation that dealt specifically with the subject of sugarcane burning, a shining example of Society pressuring government to “make Law” or, in other words, an example of Society “making Law”, since the rule of Law is always produced by people’s representatives.

The new rule, however, elaborated because of social pressures from NGOs and other institutions, created, within Society, problems of a different nature. For example, mechanization led to the release of a great number of workers that had no qualification for other kind of jobs and thus became unemployed resulting, nearby to their old work places, a substantial increase in crime, marginalization and social poverty. We saw and suffered because the labor legislation did not follow the evolution of environmental legislation. The environment was being protected but nothing was created in terms of protective legislation for the labor force released by the mechanization of sugarcane cutting, which was forced by the prohibition to burn the cane. Likewise, no efficient public policy was put in place, towards retraining of the unemployed workforce the mechanical cutting of raw and unburned sugarcane generated.

Again we have the Society and its new reality requiring do be disciplined, ruled, organized, under the risk of not being “covered up” by a one way legal command. The prohibition of sugarcane burning had social gaps because it didn’t take care of the hole problem, looking at it from only one particular angle. The legislation proved to be inadequate and it created problems instead of solving them, not only economic ones for the companies that were unable to mechanize their sugarcane harvest, but several other social problems, of different nature. That situation forced the government to review the rule and it was again allowed the use of fire under certain conditions. After only twenty days, under pressure from the business sector and the people, the State Government of São Paulo edited a new Decree (Decree n. 28895/88) that, attending the political circumstances of the moment, allowed the burning of sugarcane fields beyond a radius of two kilometers from town limits.

In 1991, with broad popular participation, a referendum took place which resulted in 95% of the population voting against the burning of

sugarcane fields. Numerous Lawsuits against sugarcane burning and sugar and ethanol industry have also become reality. Even today there are still court cases discussing the matter. An example is the decision in the Regimental Appeal within the Special Appeal n. 2008/0053216-3, summarized by Minister Mauro Campbell Marques, ruled within the Second Chamber of Superior Court of Justice and published in the Official Paper on 10/09/2009, which specifically says:

First, within this Superior Court, the understanding that the burning of sugarcane causes damage to the environment was pacified, and that is why its implementation depends on the approval from the competent environmental agencies, becoming perfectly possible, therefore, the trial of this Law suit based on art. 557 of the CPC. As example, see REsp 439456/SP, Rel Min João Otávio de Noronha, Second Chamber, DJU 3/26/2007.

This case is still ongoing today. All this and the many studies showing the harmful effects of burning on agricultural sustainability and its impacts on flora, fauna, and also the negative social impacts and the social pressure on the public spheres forced the change of environmental legislation that forces the ethanol sector to face, since long ago, a big challenge: to enforce the Law and to continue generating employment, income and development.

At the federal level, Decree n. 2661, issued on July 8th 1998 established, among other things, the gradual elimination of sugarcane burning fields where the mechanization harvest is possible, and such reduction shall be at least 25% of the mechanizable area, each five years. So it is expected that in 2018, 100% of fires in mechanizable areas of the country would be eliminated.

In the State of São Paulo the discussions concerning the use of fire to harvest the sugarcane resulted in Law n. 10547/00, which established “a plan of fire” in the State.

Also, the Decree n. 48869/01 regulates the dispositions of that State Law and treats certain aspects of the fire use in the sugarcane industry, as well as other existing statutes. This legislation makes it impossible manual harvesting because the non burned cane straw is an obstacle to the human

manual labor. Again we see the Law determining the social and technological advancement in the same way that the social and technological developments determined the Law itself: it created an irreversible process of mechanization of sugarcane harvesting where it's possible, or harvesting of green cane, removing large number of workers in the industry, perhaps increasing the exodus to the cities and worsening the situation of that labor force released from the fields.

It is inevitable to recognize that the Law n. 10547/00, and the Decree that regulated it (Decree n. 48869/01), transformed the sugarcane agriculture and the use of fire in the State of São Paulo. It is now predicting the elimination of fire to burn the sugarcane before harvest, which should be completed by 2020, already gradually occurring. But what about the right to work of the sugarcane cutters? How is that? This guideline should necessarily be accompanied by policies for recycling and using human labor force released from sugarcane industry that, without a former occupation, will swell the cities around the sugarcane fields, starting to live on inhuman conditions, disorderly, dedicating to informal services and marginal activities.

We all know that in the sugarcane industry, the dominant trend was the use of large numbers of temporary human labor force.

Studies have shown that mechanization will decrease by 53% in total the human labor force used in the cultivation of sugarcane, since the productivity of a machine to harvest sugarcane is 100 times greater than the productivity of human.

A book organized by BNDES and the Management and Strategic Studies Centre, a social organization supervised by the Ministry of Science and Technology of Brazil, entitled *Bio-ethanol from sugarcane – energy for sustainable development*², we can read as follows:

The important relationship between bio-ethanol production from sugarcane and the demand for labour is a central issue on bio-energy in Brazil and certainly crucial to social viability.

² *Bioetanol de cana-de-açúcar: energia para o desenvolvimento sustentável*. Organização BNDES e CGEE. Rio de Janeiro: BNDES, 2008.

Sugarcane agribusiness is a major generator of jobs: based on the Social Information Annual Report (Rais) of Labor and Employment Ministry of Brazil and the National Survey through Domestic Sampling (PNAD), held periodically by IBGE, it is estimated that in 2005 there were 982,000 workers directly and formally involved with the production of sugar and ethanol, [Moraes (2005)]. Accordingly to a study based on the Matriz Insumo-Produto of Brazilian industry, in 1997, for each direct job in this industry, there were further 1.43 indirect employment and 2.75 induced jobs [Guilhoto (2001)], which allows to estimate for 2005 a total of 4.1 million people in some way dependent on the sugarcane agribusiness activity, if these number relations have been maintained. These jobs are distributed widely in the Brazilian territory and cover a range of skills and training, but for the most part, are jobs with low qualification.

With the evolution of the technologies employed, we see a slower growth of staff requirements, followed by an increase of training required and increase of work quality. This dynamic has motivated many studies within the framework of the rural economy and sociology, which provides a comprehensive view of the ongoing processes and their implications.

The generation of employment and income in the production of bioethanol, the recent social evolution in the area of labor relations to meet the necessity for better prepared workers and all this associated with the expansion of mechanized harvesting of sugarcane are therefore topics on the agenda, as are the working conditions of workers of bioethanol production from sugarcane. This relationship between production and demand for workers will determine the viability of our social model.

And we cannot take the risk that Labor Law goes against or conflicts with the Environmental Law.

Besides the social impact caused by mechanization, it is important to bear in mind that mechanization, or green cane harvesting, is only feasible in areas with no steep slopes, and the machines work with a maximum slope of 12% of inclination. This undermines the mechanization, considering only the state of São Paulo, in approximately 45%

of the sugarcane planted area. And its cost is high, making it infeasible for the small producer. And yet, mechanization also causes damage to the soil, gradually decreasing its productivity, for the compaction it causes. The weight of the cane harvester reduces the life of the sugarcane plantation.

We cannot deny that agricultural mechanization brought positive contributions to agriculture, with gains in harvesting productivity, less crops' losses etc. According to studies by CGEE³, mechanization is a growing trend and more than 400 harvesters are sold each year, each performing the work 80-100 cane cutters. During the period 2000-2005, compared to a 28.8% increase in cane production, expansion in the number of jobs was 18%. The higher productivity is a proven fact and the most positive aspects of mechanization. But it also brought negative contributions that can not be ignored. We already mentioned the social issue but we must also mention the soil compaction and increased emissions of pollutants by the use of fossil fuel.

The traffic of heavy machinery imposes burdens on the sustainability of sugarcane's cultivation since increases its cost, both in production and in the conservation of soil. The weight of the equipment and the intensity of land use change the physical properties of soil with the increased density and decreased of the water and fertilizer penetration. This, in its turn, requires additional expenditures or investments in machinery, operators of machinery and fuel for soil preparation (re-composing of the soil) for the next crops, since the soil needs to be treated for the new harvest. As for emissions, it is certain that the use of fossil fuels, particularly diesel, during the preparation of the land, has becoming more intense without burning. This is precisely why, after harvest, it is necessary to plough the soil and return it to the ideal planting density which requires the use of machinery powered by fossil fuels. And the burning of fossil fuels undoubtedly generates environmental pollution.

Despite the negative aspects, however, if the legislation now in force, in the State of São Paulo,

³ CGEE – Centro de Gestão de Estudos Estratégicos. Estudo prospectivo de solo, clima e impacto ambiental para o cultivo da cana-de-açúcar e análise técnica/econômica para o uso do etanol combustível – Etanol fase 3. Campinas: Nipe/Unicamp e CGEE, 2007.

prevails, this activity will be impracticable in many areas, whether for social, economic or technical reasons. Thus, inevitable to watch, in a short period of time, a new law being introduced to treat and balance all these issues. This will happen because the legislation we have so far does not “cover” all social, economic and technical aspects.

In economic terms, our Law cannot, for example, prevent tax evasion. The evasion is bad for all those who are involved in the production chain. Everyone loses with the unfair competition. And the States and the Union also loose as there will be less revenues in government coffers from taxes. With evasion, the Government invests less and there is a loss to Society in general. It would be desirable to have a more repressive legislation, more effective, to avoid the practice of tax evasion within the production chain of bioethanol, as it is visceral element to the national growth in the world stage.

But does the law need to be like that for ever? Could Society, when creating its own rules, do it in a more integral way, in order to address and cover all the social issues that currently comes up? Will the legislation developed from a social reality always fail and will there be always gaps or conflict with legislation of other areas of Law? Will the Law require to be amended continuously to cover other aspects of the same social reality that was not covered in the first place?

If these Laws have gaps, such gaps must be addressed quickly with the establishment of new rules, new guidelines dedicated to these social facts, to ensure that Society follows its course in peace. Could not it be possible that such legislation arises without such deficiencies, and without such conflicts?

After its establishment, the guidelines shape life in Society, in a cogently way. The rules laid down as rules of Law dictate how people should behave, and constitutes an expression of a scientific-legal nature, with a rather peculiar way of seeing reality. Such rules are the pathway to determining the solution of conflicts. Therefore, we can say without fear of making mistakes, that the Law is an adjustment mechanism of human relationships and seeks to achieve and ensure concrete social goals, being one of such goals, without doubt, to preserve peace and order in Society. It is important

to bear in mind, however, that such guidelines or adjustment mechanism cannot be divorced from the social reality that aims to regulate, otherwise there is a risk of not being “recognized” or respected and it cannot be produced to “firefight” situations when it fails to address, in a “holistic” way, the social issues it aims.

This adjustment mechanism of human relationships does not exist in isolation from other phenomena. For example, Law and Sociology – as the study of social phenomena – have a close relationship since the Law itself is a social fact, resulting from the impact of various social factors (religious, moral, demographic, scientific etc.). Similarly, Law and History go together, being a cause and consequence of each other. Understanding the human past is of great importance to the Law and justice, for there is the embryo of Law as a historical phenomenon – it has its own story linked to other facts and historical events. Law has also a strict affinity to Economics as a science, which aims to achieve and use material conditions, artificial or not, to meet the needs of human welfare. The same is true for other areas of knowledge and other phenomena of everyday life. We can illustrate this by mentioning measures to regulate the market, and business requirements that are established in compliance to policies and rules, especially imposed by U.S. and E.U., in order to “control the sale of” bio-fuels, to meet the standards recently established.

According to the Theory of Minimum Ethical of the German juris-philosopher Georg Jellinek, Law is a minimum set of moral rules binding on the Society’s survival, since not every individual is willing to accept all the moral precepts basic to social stability, spontaneously. Thus the Law as a cogent element in Society, the tool we have to ensure compliance with this minimum ethical required by individuals for the survival of Society.

But how is the Law created as a behavior standard and social organization rule? In democratic regimes, as is the case of Brazil, the Law is drafted and dictated by the representatives of the people within the Legislative Power that, after the discussions enrolled and pacified the disagreements between those representatives of different political forces, dictate and enforce rules of Law. Those are

already born as the ordering command, the bilateral standard for social relations, as the common good, positively valued or positively brought and imposed on the Society. And this is exactly where the danger lies. To address very complex issues in a simplistic way, or based only in a political approach, just to “appease social niches”, taken by social and economic lobbies, doing so divorced from the technical, organizational research etc., creates rules that do not subsist in time, full of gaps and inconsistencies and, in short, that will need to be amended, altered, otherwise they will not serve.

The proposal is precisely to produce a Law consonant with the technology and the technical research. To advance legally concomitantly with the scientific advancement of the segments, avoiding a Law that “runs behind the social fact” in areas as relevant as the area of Bioenergy.

What we propose is a discussion that involves everyone, as to expedite new projects and new technologies but also streamlining modern legislation, comprehensive, covering as many aspects of daily life as possible. That would be only possible if the Law and technology were born together, grew up together and matured together.

It is true that the word “Law” can have several meanings, which must be carefully stated. It may mean, therefore, both the legal system, i.e., the system of norms or rules of Law which draws men to certain forms of behavior, giving them opportunities to act, as a kind of science that studies its behavior or as the decisions from Court. Many misunderstandings arise from not making a clear distinction between one meaning and the other. But in any sense, the fact is that without the Law there is no Society and without Society would not Law. The Law and Society do not depart, they are inextricably linked.

If the Law is a social product and intrinsically linked to the Society, how does Society influence the Law? The answer is: through the common behavior, which belong to the sphere of informal rules, not cogent, not assertive. Common behavior is the expression of personal and social culture and is configured within the bosom of the Society itself, through repeated attitudes, but informal. From the moment it is turned into a legal rule, or into Law, no longer belong to an informal level, losing the pure

cultural characteristic and becoming socially and legally binding. They will now be part of Society as a positive rule, valued, in the category of what is essentially legal. Thus, any movement that exists within Society and that has wide representation, has direct or indirect influence on a legal status.

So it is, precisely because the Society influences the Law and the Law affects Society. And that is precisely why we shall not aim to apply a particular Law relevant to a certain social environment to a different Society from which that Law was created. For instance, we may compare the French Law – or others – to Brazilian Law, but we can not apply French Law to Brazilian Society, or change the French Law into a Brazilian Law without the necessary adaptations, since each country has a specific Society, specific movements and the Law emanating from that Society shall follow that Society. Try to transfer to Brazil a legal system that is bid and concerns to another Society corresponds to an attempt to transplant to the Brazilian soil, values, characteristics, culture, movements and common senses that do not belong there. Transplanting values that do not reflect our reality means taking the chance of imposing to the national Society values that are not appropriate to us.

Studies, development, discussions and advancements in Bioenergy in our country are already social reality, particularly regarding bioethanol. There are countless examples demonstrating that in this subject there are indeed relevant social facts and it is in full a swing.

The ongoing research, the Institutions nowadays dedicated to the subject, whether governmental or private, the financial figures involved in the development of this segment, the names of researchers, administrators, businessmen, politicians etc. that are involved in Bioenergy and the relevance of the subject to the national and international scenarios show clearly that the sector represents, not only to Brazil, but also to the world, a strategic opportunity to meet increasingly global demand for clean renewable energy. That’s social development. Internationally, countries have set ambitious goals to access biofuels, reducing their dependency on imported fossil fuels and thus meet the requirements of Kyoto Protocol. Governments today already have official agencies that are

dedicated specifically to this subject; international institutions have created sectors intended to deal exclusively with Bioenergy and its impact in the world today. In Brazil, it is still the National Agency of Petroleum, Natural Gas and Bio-energy who regulates the bioenergy industry, but when we read on their electronic site⁴ about their publications, we see the following:

The National Agency of Petroleum, Natural Gas and Biofuels has as a central point of its performance to accomplish the task of regulating the oil and natural gas industry with as much transparency as possible. In this sense, the ANP promotes, encourages and monitors various studies and analysis on oil and natural gas activities in Brazil. Many of these studies were transformed into books, articles, speeches and other publications – that are accessible to the population...

And worse, when they mention the segments of ANP, only once of the biofuels are mentioned:

Fuel prices are based on free market in the country since January 2002. The ANP accompany, through a weekly research, the common gasoline, ethanol, hydrated fuel, diesel oil, non-aditivated NGV (NGV) and gas liquid petroleum (GLP) prices charged by retailers and resellers of 555 municipalities of all States.

We are looking at a social development of the sector, but how are we in terms of regulation? How is the Law in relation to biofuels, a clear, relevant and irreversible social development? The answer is simple: We are staring at the opportunity to “make Law”, or to create a new legal framework, that provides the Society the guidelines required for the progress of this branch of science.

This “new” field of Law, still embryonic in the national scene, is imperative and we must dedicate ourselves to consider it, to discuss it, to manage it and to create and adapt it to our social reality and the concomitant technological research in the segment.

And it will inevitable to do so, unless we take the chance to run across conflictive situations

without the corresponding rules – like the control of the sugarcane burning issue.

Society is boiling over the issue Bioenergy. Routinely, there are many congresses related to Bioenergy, Biothech fairs, workshops, surveys, studies, seminars, technological advances and innovations in the field of Bioenergy. For example, the Bioenergy Workshop on Integrated Sustainability Assessment for Ethanol Context, of the School of Engineering of São Carlos (EESC), University of São Paulo, which aims to stimulate discussion and debate on the feasibility of systemic tools for integrated assessment of sustainability within the context of ethanol production from sugarcane. Protocols are signed for Bioenergy, such as the Environmental Protocol of the Sugar-energy Sector, signed in 2007 between the Government of the State of São Paulo and the *União da Indústria de Cana-de-Açúcar* (UNICA). The Inter-American Development Bank (IDB), that so far has devoted only 30% of its loans to the energy area and to projects of renewable energy, has announced that in the next three years, this percentage will increase to 80%. According to the IDB, improvements in the regulatory process and the lower cost in equipment boosted and will continue to boost demand for investment in renewable energy projects in Latin America and the Caribbean. “Several countries in the region wish to diversify its energy sources and are changing its regulatory framework to attract more investments in clean energy,” said Hans Schulz, General Manager of the Department of Structured and Corporate Finance at the IDB⁵. It may already be considered a *cliche* phrase, so repeated it is, but the fact remains: research development and acquisition of renewable sources of energy are the priority of the twenty-first century. On March 30, 2010, at the International Forum for Strategic Studies in Agricultural Development and Respect to Climate (FEED 2010), an event sponsored by the Confederação da Agricultura e Pecuária do Brasil (CNA), which aims to discuss the relationship between climate change and agricultural activity, the economist and former Finance Minister Antonio Delfim Netto, told the audience

⁴ Available at: <<http://www.anp.gov.br/?pg=15557&m=&t1=&t2=&t3=&t4=&ar=&ps=&cachebust=1273026201826>>.

⁵ J. Santos – Agência Ambiente Energia – Available at: <<http://www.eventobioenergia.com.br/congresso/br/noticia32.php>>.

that the energy agenda is already focused on energy research and development of clean energy sources. “Man does not want to go back to the Stone Age. Any solution on energy has to include an appropriate level of growth” warned the economist. Delfim Netto said that relatively to energy self sufficiency, the U.S. president, Barack Obama, has given clear signs that it will invest in clean energy sources and alternatives, prioritizing biofuels. “The energy revolution is already happening in the labs. Energy is the program for the XXI century,” he said. Brazil has large advantages within this challenge because it already uses renewable arrays to generate 45% of the energy it consumes. “Moreover, in Brazil, there is no conflict in the use of land for food production and renewable energy sources” he affirmed⁶. Even the ISO – International Organization for Standardization – has created a Joint Technical Committee, called the Energy Efficiency and Renewable Energy Sources – Common Terminology, whose goal is to promote standardization in the field of energy efficiency and renewable energy sources in which 20 countries participate directly and have another 20 countries as observers⁷. The initiatives related to Bioenergy are there to be seen and are a striking reality.

We know that the US has the goal of reducing fossil fuel consumption by 20% until 2017 which directly impacts the demand for ethanol. If the goal is achieved, it will mean 132 billion gallons per year of additional demand, more than three times the current world production of ethanol.

In Brazil, 45% of the energy matrix is clean renewable energy. This is a highlight in the world stage, as the developed countries consume only 6% of clean energy, yet using, on a large scale, highly polluting energy sources like oil, gas and coal.

In addition of being already a showcase to the world because of our current position in relation to the energy matrix, we have a huge competitive advantage in the bigger evolution, still necessary,

of quality energy used. We have abundant and quality land available for agricultural production, a relatively low price of properties, lots of water and sun. And we have a good advantage and production on scientific and technological development for the production of ethanol. Yes we can become a powerhouse in the production of ethanol and we must not lose this opportunity.

However, we must improve a lot in the Law field, against the negative aspects that this evolution entails.

We'll have with the expansion of ethanol production, a large increase in national wealth that will permit us to quickly solve our social problems. President Lula and government officials do not get tired affirming that ethanol production is an important factor in achieving the goals of his Growth Acceleration Program. The positive effects are numerous (...). We will see an increase in exports with an increase of primary surplus, greater preservation of the environment through the replacement of non-renewable and polluting energy by renewable and clean energy; this sector of the economy will grow and generate new work positions etc, but we should have a strong legislation and comprehensive enough to avoid side effects such as the possibility that ethanol replaces food production, impairs biodiversity, worsen the problems of hunger and environmental degradation. We have availability of land to plant sugarcane for ethanol production, but the logic of the capitalist system may, if not limited by Law, bring effective risks that in certain regions, the cane could replace food production if it becomes a more profitable crop. Suani Teixeira, Vice Secretary of the Secretariat of Environment of the State of São Paulo, interviewed on 26/07/2006 stated:

The cane sugar already steal traditional fields of grain in São Paulo. In the red soil of the southwestern part of the state, where such crops as beans predominated, sugarcane production advances and changes the local landscape. [...] Data from the Agricultural Economics Institute (IEA), linked to the State Secretariat of Agriculture, indicate that the region has 7,000 new hectares planted with sugarcane, totaling 20,800 hectares this year. In Taquaritiba were planted this year 2,000 hectares with sugar-

⁶ Available at: <<http://www.envolverde.com.br/materia.php?cod=72163&edt=7>>.

⁷ Available at: <http://www.iso.org/iso/standards_development/technical_committees/list_of_iso_technical_committees/iso_technical_committee_participation.htm?commid=585141>.

cane [...] In Avare, sugarcane occupies 7,400 hectares, planted to meet the demand of mills in Lençóis Paulista and Barra Bonita⁸.

A democratic government must act to control the logic of the capitalist system and intervene. We must ensure a balanced development, in the interests of social and environmental preservation. This can only be done with regulation, to establish a “new Law” that deals with all the elements necessary to avoid such disastrous consequences. If the authorities fail to curb the market logic and its goal of maximum profit, certainly food production and the environment will suffer. And yet we do not have even outlined any legislation providing for some kind of regulation accordingly. There are tons of zoning Laws for urban growth, industrial and environmental development. But there is no news of a legal instrument regulating the planning of soil use and environmental management that addresses the demarcation of areas for planting food/cane. We need rules assigning uses and activities compatible with the capabilities and constraints of each region of the country, aiming at the sustainable use of natural resources and the balance of existing ecosystems. And these rules can not be dissociated from the technological, scientific and economical production of ethanol study. They must be based on careful analysis and integrate region, technology, Society, location etc., considering the impacts of human actions and the capacity of the environment in question. Again, the social reality and the risks to Society, “call the Law”, or better call for a good framework of Law.

Another issue that requires immediate government action is the advancement of foreign capital in buying land in the country to produce ethanol. Multinationals are constantly buying sugar/ethanol mills and large portions of land. George Soros became a partner of Adecoagro with industries in Minas Gerais and Mato Grosso do Sul. In the web page of the company⁹ we read:

“La caña de azúcar es uno de los cultivos más eficientes para la producción de energías renovables en forma de etanol y cogeneración de electricidad. Adecoagro cuenta con Usina Monte Alegre, planta industrial ubicada en el estado brasilero de Minas Gerais, (...). En la región se cultivan 14.000 hectáreas de caña de azúcar, que aseguran el abastecimiento de la empresa, (...). Uno de los principales proyectos de inversión de Adecoagro constituye la construcción de nuevas plantas destinadas a la producción de azúcar y etanol en Brasil, en el estado de Mato Grosso do Sul. Las localidades seleccionadas para desarrollar nuestros proyectos poseen condiciones de clima y suelos ideales para la producción de caña de azúcar, permitiendo obtener altos rendimientos. Siguiendo este objetivo en Agosto de 2008 inauguramos un nuevo Ingenio Azucarero, Angélica, ubicado en la zona de Angélica, Mato Grosso do Sul. Esta moderna planta alcanzará su capacidad máxima de molienda en el 2010 con aproximadamente 4 millones de toneladas de caña de azúcar; cosechadas en 55.000 hectáreas, produciendo etanol hidratado, etanol anhidro, azúcar VHP y vendiendo energía a la red local. Adicionalmente, ya contamos con dos emplazamientos próximos a Angélica, en la localidad de Ivinhema, con capacidad para desarrollar otros dos proyectos industriales, permitiéndonos generar enormes eficiencias productivas debido a las economías de escala existentes. El primero de ellos, Ivinhema, se prevé que se comenzara a construir en el 2012, y el segundo, Amandina, en el 2013. Esperamos desarrollar una capacidad de procesamiento de unas 11 millones de toneladas de caña de azúcar por año durante los próximos 5 años (...).

The company Infinity Bio-Energy has made eight (8) acquisitions in Brazil (Usinavi, Alcana, Cridasa, Disa, Paradise, Ibiralcool, Montasa and Laranja). It has 14.5 million tons of sugarcane crushing capacity considering new investments

⁸ RODRIGUES, D.; ORTIZ, L. Em direção à sustentabilidade da produção de etanol de cana-de-açúcar no Brasil. Available at: <http://www.bothends.org/project/project_info.php?id=41&scr=st>.

⁹ Available at: <http://www.adecoagro.com/index.php?seccion_generica_id=194>.

in industrial facilities and plantations¹⁰. Cargill acquired participation in the Itapagipe Plant, MG and controls of Cevasa Plant in São Paulo. According to an article published in EXAME magazine¹¹, entitled “The Moment of Truth for Ethanol”, “we see the growth of foreign groups which already holds 25% of the stock capital of the sector of ethanol from sugarcane, and oil companies are beginning to invest in renewable fuel.” Louis Dreyfus Bioenergy and Louis Dreyfus SEV already have shares in companies from Mato Grosso, São Paulo, Minas Gerais, Rio Grande do Norte and Pernambuco. The group Pacific Ethanol is already researching to expand in Brazil. The Australian Robert Newel bought 11,350 hectares of land in the County of Rosario, Bahia¹². The Calpers Pension Fund has acquired properties in California and Santa Catarina. Numerous other examples could be mentioned. Powerful multinationals are buying lands and mills to produce ethanol in Brazil. It is essential to introduce clear legal measure in order to balance the foreign invasion of this sector in Brazil.

Another important issue to be addressed is the genetic manipulation of sugarcane. This practice is already old and ensures resistance to pests. Before, it was done with the replacement of species adapted for cycles of 10-15 years. The use of GMOs can reduce these timespan. There are already several pleas to research on transgenic sugarcane pending before the National Technical Commission on Biosafety. However, the regulation on the subject is negligible.

Brazil shall not lose the train of history and fail to occupy the place it deserves as the leading supplier of renewable energy in the world, but we can not accept development at any price. We must protect the interests of the country and the people, fighting the negative effects that ethanol production on a large scale may cause. For this we have to “make Law”, build an effective legislative framework, absolutely necessary to an effectively sustainable development. In the same way that

Brazil needs to invest in technological research to avoid losing its competitive advantage of ethanol from sugarcane, and the production of cellulosic ethanol, we must invest in research and construction of legal mechanisms that allow us to guarantee the national interests in preserving and develop the environmental. Only the Law can create an obligation to curb the hunger and determine the respect for sustainability from the capitalist system, necessary for the development of humanity, but that has a tendency to destabilize a lot in the pursue of easier and greater profit.

The sustainability of any system or process requires a lot of responsibility, austerity, fairness in dealing with various factors involved in this system or process. It is not, and will not, be different with Bioenergy particularly that derived from cane sugar.

We need Society to make good use of this time of intense economic, technical and social study and debate, to analyze the legal standards and the need of legal criteria for sustainable production systems, not only of ethanol but also of its raw material – sugarcane, as well as criteria for international trade of the ethanol produced in Brazil; as well as criteria for monitoring sustainability, aiming to minimize negative impacts, in both Society and the environment; and ensuring the adoption of those principles by all actors, national and international, of the sugar industry, as indeed, the whole Bioenergy industry.

There are as priority actions in the legal area as in the ones regarding research and technological development of the Bioenergy sector. For example, the review of existing provisions and rules on mechanical harvesting and end of burning of fields of sugarcane comes to mind. The end of burning and the mechanization are actions desired by all, but from the social point of view, the total mechanization of the harvest unaccompanied by other social actions would be a disaster, replacing and throwing into marginality a large contingent of non qualified workforce. It is necessary to establish obligations to the various players in the system to force them to train and relocate some of these workers, and improve the process of agrarian reform, establishing some other part of them.

Likewise, the format of the licensing of new mills and distilleries deserves to be reviewed. We

¹⁰ Available at: <http://www.infinitybio.com.br/infinity/web/index_pti.htm>.

¹¹ March 2010.

¹² Available at: <<http://www.cofeci.gov.br/paginternas/destaques.php?nDestaque=335>>.

have already a huge environmental liability and considering the history of disrespect to the Brazilian Forest Code, States should legislate to condition new licensing processes for new distilleries and mills, to the presentation of a registration of legal reserves and the properties in permanent protection areas of the land involved in the undertaking of sugarcane production.

We still have the issue on regulating the price and the stocks of ethanol. Fluctuations in the value of fuels are natural, and expected in a scenario like ours, especially when there is adverse weather conditions prior to production. Similarly a lower supply of the product is understandable and can result from this scenario. Despite this, when that price volatility is the result of lack of product on the market due to exports to foreign markets, or because the raw material is being diverted to the production of more profitable asset, this translates into an affront to consumers who believed in that the productive sector. Greed can not be the motive of financial conduct which is harmful to domestic consumers and the national Society. And the way to determine the balance that the capitalist model course fails to deliver is creating legal obstacles, both related to the price and to the buffer stocks needed. “Agência Brasil”¹³, in January 23rd of 2010, reported an excellent cote from the Minister of Agriculture, Reinhold Stephanes:

There must be compromises. The domestic market is the one that maintains the ethanol industry, and there’s a consumer to whom we owe allegiance. When the price rises above the appropriate level that it is not quite right with the customer. Of course in this case there was an abnormal phenomenon which was the heavy rainfall in the period, but either way, one should plan to avoid this in the future.

The regulation provides another point of legal deficiency that needs to be quickly corrected: the position and legal status of regulatory agencies – ANEEL and ANP. Oddly, when it comes to ethanol,

this product can not be regulated by ANEEL for obvious reasons. But neither the ANP has provided exemplary service to regulate the biofuel sector. Due to the huge new developments in the oil sector in Brazil, and also looking at the considerable importance of Brazilian ethanol, not only domestically but also internationally, isn’t time to leave the National Petroleum Agency to deal exclusively with fossil fuels?

We should also pay “legal” attention to aspects of the international market for biofuels.

Ethanol from Brazil suffers a competitive disadvantage in the European Union because of the tariffs imposed on the product, even if proven that our ethanol comes from sustainable sources, and with a much lower cost than ethanol corn based, and with considerable environmental advantages.

In an interview with the BBC Brazil¹⁴, published on September 11th of 2007, the Trade Minister of Sweden, Sten Tolgfors, advocated “the creation of an international market for biofuels to stop global warming” and also defended a zero tariff to ethanol. “We must eliminate all tariff barriers imposed on ethanol,” he said, and subsequently added:

The value of the tariff imposed by the EU to ethanol is currently up to 55% depending on the product price. At the same time, the European rate for oil is only 5% (...). Simply makes no sense to impose high taxes on renewable fuels like ethanol, and not to fuels that cause climate change; Especially at a time in which we are trying to expand the use of ethanol. (...) We, the European Union countries, must be prepared to eliminate trade barriers that do not match the ideals of the World Trade Organization.

It is true that in international affairs, you can not promote a Law that enforces everyone to abide by it, as in the case of domestic Law. No country can impose anything to the other. And yet, as a member country of the E.U., Sweden can not take unilateral decisions in terms of changing or abolishing tariffs imposed by the bloc, as no other country of the same group can. But it is always through International Laws, as in this case – that

¹³ Available at: <<http://www.correiobraziliense.com.br/app/noticia182/2010/01/23/brasil,i=168610/BRASIL+DEVE+FORMAR+ESTOQUE+REGULADOR+DE+ETANOL+DIZ+STEPHANES.shtml>>.

¹⁴ Available at: <<http://ethanolbrasil.blogspot.com/2007/09/para-ministro-tarifas-prejudicam-etanol.html>>.

we could create an international market for bio-fuels and thus to ameliorate the climate change threat, promote development and reduce poverty. In relation to the tariffs imposed on international trade to Brazilian ethanol, since little has been done so far, they still persist. Proof that nothing changed was published in the article by O Globo, on April 19th, 2010, entitled “Producers complain to the WTO on ethanol tariffs.:

Os produtores de etanol aproveitaram a visita ao país do diretor-geral da Organização Mundial do Comércio (OMC), Pascal Lamy, para reivindicar a redução das tarifas sobre a comercialização do produto nos mercados americano e europeu. Lamy ouviu as queixas dos produtores, representados pela União da Indústria de Cana-de-Açúcar (Unica), mas deixou claro que as negociações dependem do que o Brasil oferecerá em troca para outros países. Em visita à Usina São Martinho, em Pradópolis (SP), Lamy afirmou que a produção brasileira de etanol é “um bom exemplo do que os países emergentes podem fazer”. Mas se esquivou de tomar qualquer posição em relação ao pedido do Brasil de transformar o etanol numa commodity ambiental.

Only through international agreements, perhaps in a new Doha round, we may see the liberalization of international trade, particularly for developing countries.

There are many “legal green fields” in which we have to work, as there are many Laws that displease rather than please in this area. It’s time to pay attention to the legal issues involved in Bioenergy, in particular ethanol.

We are ahead, but to keep ahead in such a privileged position in the world of ethanol, we need to, as I said, “do it right”. We have good natural resources to win the battle for the new global energy cycle. We also have an excellent research base with many researcher scientists that, since the 1920s have been studying and developing the technology to produce clean, renewable energy. But we are late in the legal regulatory field in many important aspects. We are in the spotlight, especially if we compare our legislation with that of developed

countries. At least in relation to ethanol production, when Laws have been enacted, often fail to reflect the technological and social reality, bringing other problems which, in turn, require legislative reform.

It is time for us, Law professionals, to leave aside formalities, to approach the technological areas, to engage in social issues and to create or develop a fertile and perennial legislative field, in accordance to the social and political reality, that especially serves the evolution of the system as a whole.

The Bioenergy Law(s), as in all areas of human existence, is of fundamental importance, both for channeling science and for technological and social development. There isn’t, as said, development without the Law and the Law often must shape this advancement to avoid conflicts and preserve values such as environment, employment relationships, social organization, productivity, profitability and so forth. The rule, the limit, the definition of what is right and what is wrong, of what is possible and what should be avoided, only the Law can provide; only the Law can provide the necessary guidance to the Society. Just as a child needs to be tutored to grow healthy, a country, to be a great country, must be well oriented by its Laws. And in the area of Bioenergy, our regulation is still embryonic and requires competent people to help Brazil to create a mature Law, not based or dedicated to protecting the interests of segments or groups, but dedicated to protecting the country as a whole, its people, its land, its wealth, its Society, its values, its environment etc. The world is watching us. And the world can be cruel. If we are not well prepared for the locomotive of progress that is ahead of us, we will either lose the train or it will pass us. Even if our scientists are brilliant and even if our technology was ahead of times, (or still is), even if our leaders try to show us to the world as “a big country of well grown people”, if our social relations, in the field of Bioenergy, are not based on mature, integral regulations, that go hand in hand with all this progress, we will not be as big as we want to, nor as important as we could be in the international scene. And only the old good “new” Law will be able to establish such fair and progressive Society. I’m willing to get involved and to help in the creation of this new Law. What about you?