
12. Bioenergy: an opportunity to add value and promote development at the local level

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12.1. Introduction

A feasible, necessary and virtuous opportunity. That is what bioenergy development means for our country. The necessary conditions are there. The international context is favorable; the need for finding alternative forms of combustion to better preserve the planet is becoming an incentive and the high productivity and efficiency of our agricultural and cattle-raising activities create an excellent starting point. It is up to us, of course, to make the most of these favorable conditions. Not shrillness, but serious and responsible work, by investing in infrastructure and research, having the appropriate legal context, and looking beyond the current situation with analysis of medium and long term projects. Now is the moment.

The world's energy matrix is critical. Not only is it affected by the historical rise in oil prices due to political conflicts, but also by the growing supply restrictions. A limited and non-renewable resource sooner or later runs out and there are consequences involved. This is what is happening, not only here, but in other parts of the world as well. And that is not the end to the story. Oil demand continues to grow as a result of the logics of capitalism and this requires concrete solutions so as to avoid intensifying conflict. Some believe that the future of energy will be connected to hydrogen; some others, to solar energy. Whichever the case, there is no doubt about the fact that fossil fuels are progressively being replaced by renewable sources. It is believed that fuels of vegetable or animal origin will play an essential complementary role in that long replacement process. And our country has the capacity to supply significant and growing amounts of them.

Ecology is also part of the question. Fossil fuels, such as oil, release carbon dioxide into the atmosphere that cause global warming and growing climate changes, which are highly damaging for the future of all species. The use of bioenergy, on the other hand, would constitute an actual partial solution to this problem, since gases recycle in a continuous manner through photosynthesis. In addition, it would contribute to reducing pollution caused by lead, CO, SO₂, smog and hydrocarbon. It is true: some are already warning us about unwanted collateral effects. The advance of the agricultural frontier to respond to such demand would be the first issue. Out-of-control deforestation and the associated risks would be another. But they can all be avoided by the rational and more responsible use of resources, and by having quality parameters and clear policies for territorial order. None of these are impossible for us to do. In fact, we should have done this a long time ago, even when there was no discussion on the alternative of biofuels.

Some countries are already taking this path and they are avant-garde. Germany invests in serious research and biodiesel production from rapeseed oil. Europe seems to lead this movement but they are not the only ones. Not only because they have benefited from the positive results of this business, but also because of strict community dispositions. For instance, by 2010, 5.75% of fuel should consist of biofuels in all member countries of the Union. A similar case is that of the United States, where it will be mandatory for fuels to have an average of 10% of ethanol, extracted in this case, from corn. In fact, the latest State of the Union Address by President G. Bush estimates consumption of 132 billion tons of corn alcohol by 2017, that is to say, 146% of the current sowed surface in that country. However, there is no need to go so far away to find advances. Brazil has been doing research on bioenergy resources for three decades, is today the largest producer of sugar cane bioethanol (50% of sugar cane is used for this purpose), and is becoming strong in the development of new by-products. These countries are working towards the future and we should follow their steps.

Saying these words time and time again will not be enough. Developing a bioenergy platform in our country constitutes an opportunity beyond being beneficial. The reasons are many. On one hand, there is the actual possibility of applying the comparative advantages and the high productivity of our agricultural and cattle-raising activities to the bioenergy obtaining

process. The country has the most competitive vegetable oil production industry in the world and we must make the most of it. Also, the possibilities of satisfying additional demand are high. Europe cannot supply itself with its current production levels, and the situation will become worse when new dispositions come into effect. In addition, there is the demand from Japan, China, Korea and India, which will therefore translate into growing importation that our country will have the capacity to satisfy.

Those are not the only benefits. Intensive bioenergy production will help achieve a goal the country has not always been able to achieve in other contexts of growth. That is, it would allow consolidation of a model where agricultural profits can be used to generate genuine employment, with no need to resort to transfers between sectors via distorting taxes. The harvest of grain, oleaginous crops, and sugar cane for example, should be industrialized in the same region where they are produced and so that part of that added value would stay in the local economy. This virtuous cycle can also be created by promoting production cooperatives for the self-consumption of biodiesel or through the diversification of crops resulting from it. The number of benefits is too high not to do anything about it.

Fortunately, the commitment to carry out this project today is greater than rejecting attitudes towards it. Not long ago, the country adopted a national law aimed at promoting biofuels and it states the will of the executive power to create, through its administration, the necessary conditions for investment projects that are already in effect, to become real, and for new ones to come up in the future. Thirteen projects were announced between January 2005 and August 2006, at an estimated investment of 285.5 million dollars. The first biodiesel production plant was opened in October 2007 in San Lorenzo, Santa Fe province. And more are likely to come. It would be great for us to make the most of them, in order to promote development and create work opportunities.

12.2. Adding value and promoting local development

To add value: a central question in Argentinean strategies. Something all countries that have decided to walk the path of development know very well. So do we, but we are used to moving back and forward and we know that we could blame our backwardness on our insufficient capacity to hold on to that premise. In this sense, our agricultural and cattle-raising activity has proved to be mature, and it is providing the picture with that "extra element" that is necessary to take huge qualitative steps. A growing investment in technology, a radical reform of sowing systems, and serious investigation are promising items, just like sustained development of a modern and efficient agricultural industry. Those are the steps to take, and at the same time, they are the only way to seize on the opportunities that may come up, and, to build a more integrated and inclusive society.

Bioenergy is an actual possibility for our country, and it's an activity that could produce positive results. The world is moving in that direction, driven by the need to replace, in the medium term, its non-renewable and polluting fuels of fossil origin with other sources of energy that are less harmful and not so causative of conflict. The good news is we have the potential to fulfill this demand and more, and to turn this growing urgency into a profitable business for all. The vegetable oil production complex could very well be a considerable starting point, with its capacity to process 50 million tons of soy per year. It is one of the most efficient and productive ones in the world and it would not cost much to use these advantages in local biodiesel production, since 80% of the cost is vegetable oil. Ethanol production to replace petrol could also be easily carried out. The structure needed to process sugar cane, corn, and other cereals and organic waste requires adequate and continuous investment, but the results are very promising.

It is true that so far, most of the investments that had been planned are in the hands of major players in the sector: vegetable oil producers, stockpiles, and petro-chemistry. This is only natural, especially in the initial stages. They have the capital to do it, and a structure that allows scale-production and protects them from possible risks, with costs that are not too clear yet. But this activity, though in the making, could bring good business opportunities to those in other segments of the sector, to produce smaller volumes which could have considerable quality standards. Of course, there are real intentions for this to happen. Furthermore there is necessarily a responsibility towards this for the benefits this could bring in economic and social terms, by stopping migratory movements in search for work opportunities, and by correcting regional asymmetries. The Biofuels Law seems to be a valid incentive. And more incentives will probably be needed.

To be more specific, bioenergy constitutes, among other things, an inclusive challenge for our country. It would create the necessary conditions to generate several local development poles and it would allow industrialization of primary production at the point of origin. This not only adds value to the relevant region but it helps better distribute profits, which would therefore benefit more players. Let's take the case of soy, for example, which immediately after being harvested, begins its exportation process. This model would allow it to create a new virtuous circle. Its 20% oil would be used to produce biodiesel and the remaining 80% -rich in proteins and the basis of all quality balanced foods- could be used to feed animals and develop, at

the same time, a very important market for meat and dairies. But soy would not "star" in this business by itself. Bioenergy development could also allow for the diversification of crops, since soy could alternate, depending on the environment, with other crops that are as productive –and sometimes more productive– in terms of oil percentage, such as rapeseed, castor-oil plant, sunflower, or corn. Alternation with corn, as already mentioned, due to the high prices of the product resulting from the high cost of extracting ethanol in the US, also enhances the global sustainability of our production systems, allowing us to drop the single-crop scheme (soy).

Investments in the biofuels business, whether in production plants or in the entire infrastructure associated with the transformation of by-products, generate a highly positive impact on the general economy. This would increase the product and service demand at the local level –that is to say, in the communities–, thereby generating genuine economies at the local as well as at the regional level.

In order to get the biofuel and by-products system started, chemical products, electricity, gas, transport, logistics, and technological and legal services will be required. Thus, it is necessary to create a whole network of players associated with the business system in the fields of biofuel generation, meat, milk, eggs, etc.

The system would not only increase the income of the agricultural and livestock producer, but also create a multiplying effect on the population involved in the biofuels and by-products business. In this sense, it is very important to identify the significance of creating associations amongst biofuel –as well as animal protein– producers.

Northeastern Argentina (NEA) produces over 2 million tons of soy; 1 million tons of corn; and 1 million calves are exported to other regions of the country. On the other hand, the region imports 73 million dollars worth of red meat. Extra-zone importation includes almost all consumed chicken, pork, and dairies. NEA produces between 4.5 and 7% of the red meat in Argentina (depending on the information source), and it consumes 8%. The region registers a per capita annual consumption of 50 kilograms of red meat (2002), acquiring a significant portion of that consumption from other areas. The annual slaughter figures for the region are 650,000 animals, with a very low extraction rate at 19%. While the Pampa Region produces 720,000 tons of meat above its consumption needs, NEA must supply itself from other areas with 148,000 tons per year. The region covers 63% of its consumption with the production of other areas, that is, 116,000 tons of meat, which account for 530,000 heifers. The expansion of agricultural borders and the possibility of intensive cattle-raising activity integration, connected to sugar cane and corn by-products, as well as citric crops, are a sign of the potential growth of the cattle-raising activity in the region and the possibility of reducing the flight of capital out of NEA.

Also, the potential to generate efficient cattle-raising activity, capable of reaching external markets in the medium/long term, becomes evident. Work is already being done on this basis and it seems more relevant in social terms, in accordance with the move away from traditional vegetable oil production.

The case of the project carried out in Añatuya, Santiago del Estero province, is an example of this effort to find alternatives. There is soy there but it is the kind of soy from which less profit is obtained and the locals get less benefit from. Therefore, the local commune is working so that a greater share of the profits stay with the population, and so that production can also be used to develop the fuel the region needs so much. But this option is not only a native gesture of good will. International experience also shows that bioenergy and local development go together. It has happened in Europe and in the United States. In the US, for instance, producer cooperatives have captured most of the added value. This is not a minor issue for a country that ground 50 million tons of corn for ethanol production last year.

Bioenergy production handled by these small or medium sized associations is unlikely to develop enough volume so as to cover exportation quotas, especially in a market growing in demand. Or the local market may turn out to be too big for them. But they can serve a wide regional space in order to decompress fuel supply, and above all, their own needs. By 2010, biodiesel will have a local demand of 632 thousand tons per year; and 160 thousand tons of ethanol; a market worth focusing on, if these segments are allowed to have their share of profits as well.

In order to be able to carry out this strategic proposal for the whole country, we must not forget the significance of working within a clear institutional environment with clear regulations, capable of generating a greater level of certainty. Official incentive will therefore be more than necessary, covering advising, tax incentives and promotion strategies. We must not waste the opportunity biofuels are providing us, to work with the whole society on local and regional primary production territorial restructuring. In this sense, it will be very important to apply a certification system to grain production, in order to make this business environmentally sustainable. But above all, it will be essential for new actors in this to have enough time to consolidate themselves and achieve sustainable growth as well. Hopefully, we will find the way to bring most of it in order, so as to promote development and create new work opportunities.