

“BIOMASS, A RENEWABLE ENERGY CLIMBING STEPS. REGARDING THE CASTILLA Y LEÓN BIOENERGY REGIONAL PLAN”

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I. - BIOMASS WITHIN THE RENEWABLE ENERGIES FRAMEWORK

Sun, wind, water and biomass are nowadays terms quoted more than usual as far as the main subject at issue is energy. Renewable energies have again acquired greater relevance as a result of the energetic extremely complicated situation generated internationally by the earthquake in Japan and the disaster at Fukushima power nuclear plant. Notwithstanding decisions on energy options cannot be left to simple political decisions depending upon the orientation of the immediate news, but rather to meditation and prudence.

The four words we have started with, will be, according to the United Nations, the main energy sources in the world in 2050 and they will have an influence on the road map of the worldwide energy sector. At least, this is the aim that the Intergovernmental Panel on Climate Change (IPCC) expects under its last Special Report, presented by the working group on mitigation in the 33rd Session of worldwide scientific experts on climate change, held in Abu Dhabi, 10-13 May 2011. Experts concluded that, with appropriate policies, 77% of the demand by 2050 may be met with energy from renewable sources. Nevertheless, Professor Ottmar Edenhofer, co-chairman of the Working Group III, highlighted that, although the possibilities of doing so are not called into question, “there are important technical and political challenges”, as well as the need for strong policies within the climate and energy fields.

One of the technologies studied by the Panel has been Bioenergy, and particularly, energy crops, forest, agricultural and livestock waste and so-called “second generation biofuels”. According to the UN data, renewable sources met 12.9% of the global energy demand in 2008, being biomass the most important (10.2%), followed by hydraulic power (2.3%), wind power (0.2%), geothermal and solar power (0,1).¹

Biomass, as we all know, has been the most important energy during the history of humanity. Nowadays, biomass represents an essential part of the worldwide energy consumption, especially in developing countries. From its most basic use through the wood extraction from forests to its role as energy supply for the industry, technological advances have played a main role in developing more efficient processes for converting biomass into energy.

At European level, although energy was already a vital issue when ECSC and Euratom treaties were signed in 1952 and 1967 respectively, as well as the negotiations that led to the Treaty of Rome, the fact is that the EU policy with regard to renewable energies is fairly recent since this policy started with the adoption of the White Paper of 1997². Finally, the Treaty of Lisbon contains a new Article 194 establishing the EU competences related to energy policy. Its aim will be, inter alia, the development of new and renewable energies.

Nowadays, the problem of energy security has become a decisive factor for national security and economic development. In such sense, the EU has set a number of tough and totally binding objectives related to renewable energies to achieve within its own territory by 2020. Until 2008³, these goals

¹ One of the main conclusions of the Summary for Policymakers was as follows: Despite international financial difficulties, renewable energies increased during 2009: wind power rose up by more than 30%; hydropower power increased by 3%; photovoltaic powers connected to the net rose up by more than 50%; geothermal power raised by 4%; solar power for water heating or heating rose up by 20% and the production of ethanol and bio-diesel increased by 10% and 19% respectively.

² COM (1997)599 “Energy for the future: renewable sources of energy”. This White Paper set out the aim doubling the energy production from renewable sources and reach 12% by 2010. Due to the indicative nature of such goals, the Member States have slowed down its performance.

³ Until 2008, the Directive 2001/77/EC, of 27 September 2001, on the promotion of the use of energy from renewable sources and the Directive 2003/30/EC, of 8 May 2003, related to biofuels or other renewable fuels for transports, set out indicative national targets. One of these targets was that, by 2010, 21% of the electricity generated in the EU must be from renewable sources. According to the Commission, this target has not been achieved. However, it is expected that the global share of renewable energies in Europe

were only indicative. At the same time, the EU has given a new direction to its polity in the field of energy infrastructures⁴ in adopting measures that contribute to mitigate the economic and financial crisis we are undergoing, as also planned in the Commission Energy Strategy 2020⁵.

The binding objective was included in the Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources, including biomass.

In its Article 2, biomass is defined as the biodegradable fraction of products, waste and residues from biological origin from agriculture (including vegetal and animal substances), forestry and related industries including fisheries and aquaculture, as well as the biodegradable fraction of industrial and municipal waste.

The only difference with the definition of the Directive 2001/77/EC, abolished by the afore-mentioned Directive, is the introduction of two new related industries: fisheries and aquaculture.

Although it is not a time for analysing thoroughly the definition of biomass and the terms included, the fact is that some of the problems that restrict the growth of this kind of energy are precisely related to the need of considering a clearer and more harmonized definition of the terms that make up this concept. Professor Martín Mateo defines biomass as “energy from the solar origin converted through photosynthesis into chemical energy stored in different organic bodies. In principle, it would include everything being or having contemporarily been vegetal living material that could be applied to the increase of our energy availabilities through an adequate recovery process.”⁶

exceeds 20% by 2020 and, according to the national action plans, this share will represent 37% of the total production of electricity in 2020. In Spain, the Transitional Provision XVI of the Electricity Sector Law (LSE) established the same target in Spain by the same year

⁴ Communication of the European Commission to the European Council and Parliament. Renewable energies: Progressing towards the 2020 target. COM (2011) 31 final. The Communication is based on a found analysis gathered in three Reports. These Reports examine the European and national financing of renewable energies, the latest advances in the development of renewable sources and the use of biofuels and other renewable energies for transport. Biomass will be the higher share of estimated increase in the consumption of renewable energies.

⁵ COM (2010)639/3 Energy 2020: Strategy for a competitive, sustainable and secure energy.

⁶ MARTÍN MATEO, R. “La verde energía de la biomasa”, Aranzadi, Cizur Menor, 2008, pg.23.

It needs to be highlighted that the fixation of solar energy in green plants is the only renewable source that is stored automatically. This particular characteristic distinguishes this energy from direct solar power, wind power or any other powers that must be artificially concentrated and stored, often with difficulty. By this way, organic matter constitutes stored solar power⁷. Hence, there is not an extra emission of carbon dioxide released into the atmosphere when biomass is burnt, as far as carbon dioxide has been previously extracted from the atmosphere thanks to the photosynthesis.

The definition of biomass, as mentioned above, is very wide and includes forest waste (from the clearing of forests and wood industry), agricultural waste (straw, waste on mills for making olive oil, waste from greenhouses and pruning), livestock waste and energy crops (for the production of energy biomass in significant amounts as thistle, black poplar and eucalyptus). Indeed, one of most widely accepted classifications about the different types of biomass is the one which distinguishes among: natural biomass, dry waste biomass, humid waste biomass, energy crops and biofuels⁸. Ultimately, biomass has the advantage of being potentially used to produce both electricity and biofuels that can be utilized as thermal energy or fuel for the machinery and boilers operation.⁹

Although biomass is undoubtedly a renewable energy that must be taken into account together with other types of energy within an integrated energy policy framework, the fact is that the Commission, for the purpose of establishing a coordinated approach to the biomass policy, already approved in 2005 the Action Plan on biomass (COM (2005)0628 final) in order to increase its use for heating, electricity and transport. Although this Plan does not include the definition of biomass, it is to be considered one of the elements to achieve the objectives of the energy policy. Nevertheless, the Commission stressed the Plan as an “important element” because biomass

⁷ JARABO FRIEDRICH, “La energía de la biomasa”, S.A.P.T. Publicaciones Técnicas, S.L., Madrid, 1999, pgs.7 y 8.

⁸ FERNÁNDEZ SALGADO, JM., “Tecnología de las energías renovables”, A. Madrid Vicente, Ediciones y Ediciones Mundi-Prensa, Madrid, 2009, pgs.304 y ss.

⁹ SÁNCHEZ SÁEZ, AJ., “Las demandas de suelo derivadas del desarrollo de la biomasa como fuente de energía renovable”, en “El derecho de la energía”, XV Halic-Spanish Congress of Administrative Law Professors, (Coordinator Alfonso Pérez Moreno). Andalusian Institut of Public Administration, pgs. 161-184.

represented almost half of the renewable energy used in the European Union at that time. Even the European Parliament adopted a Resolution on "Renewable Energy Sources in the European Union" in its plenary session of 28 September 2005. In the Resolution, the Parliament stressed the multiple advantages offered by biomass, in particular, relatively low costs, minor dependence on short-term weather changes, promotion of regional economic structures and creation of alternative income sources for farmers.

However, the potential of biomass assigned by the EU in this Action Plan has not been met at all. It had been estimated that by 2010 biomass could contribute to our energy needs with 150 MTEP. Even so, the Commission insists on pointing out that biomass constitutes the most important renewable energy source in absolute terms, especially when it can be used for the production of heat, electricity and biofuels. By 2020, it is foreseen that biomass will represent two thirds of the total renewable energy, understood as primary energy consumption¹⁰.

19th Recital in the preamble to the Directive 2009/28/EC, considers the drawing up of national renewable energy action plans suitable for guaranteeing the achievement of the global mandatory national targets including information on sectoral targets, "while having in mind that there are different uses of biomass resources, and therefore, it is essential to mobilize new resources of biomass." Although, it was stated the need of analysing the requirements for a sustainability scheme for energy uses of biomass and monitor the impact of biomass cultivation (75th and 78th Recitals).

In order to evaluate the effects of the Directive on renewable energies, the Ministerial Council of the Energy Community created a task force dedicated to renewable energy sources. The task force noticed how data on consumption and availability of biomass were one of the main uncertainties of the study. This fact stressed the available potential to achieve the targets set by 2020 and therefore, a new study was commissioned in order to reexamine biomass data of all Contracting Parties¹¹. This problem had already arisen in the results produced by more than 70 studies related to the huge differences counted out of total potentials estimated for the 27 EU Member States in the

¹⁰ Communication of the European Commission to the European Council and Parliament- The Renewable Energy Progress Report- Commission Report in accordance with Article 3 of 2001/77/EC Directive, Article 4(2) of 2003/30/EC Directive and on the implementation of the EU Biomass Action Plan, COM(2005)628{SEC(2009)503 final}. Section 4.1 "The role of the EU's bioenergy sector".

¹¹ Council Decision on establishing the European Community position within the Ministerial Council of the Energy Community (Skopje, 24 September 2010).

horizon 2020. This is the reason why the Economic and Social Committee showed its concern about the forest management and the pressure on forest exploitation in an Opinion (COM (2009) 192 final, OJEU 18.5.2010.) The Committee main conclusion was that an adequate system of supervision must be started up in order to adopt important measures and decisions related to the energy generation from biomass.

In the Directive, it was established that the Commission must inform about the requirements of a sustainability system for biomass energy uses. The Commission, in compliance with such obligation, summarized it in three main principles: effectiveness in dealing with problems of sustainable biomass use; cost-efficiency in meeting the objectives and consistency with existing policies¹². Indeed unlike to other renewable sources as solar or wind power, Biomass is a resource with limited availability, so it must be used as efficiently as possible.

Even though the renewable energy use has increased by 50% in the current decade, it represents nowadays only 8% of the total energy production¹³. In May 2010, the current uncertainties of the European Union with regard to energy culminated in the Report to the European Council of the Reflection Group on the Future of the EU 2030. The Report highlighted the need of encouraging permanently and in an orderly manner the development of alternative energies and boosting the search of renewable energies viable sources, emphasizing the “promising” role of biomass.

The availability of an adequate supply is exactly one of the problems that the encouragement of biomass as a renewable energy source implies. Hence, it is necessary to adopt measures in agriculture and silviculture suitable to guarantee a sustainability system of biomass related to the protection of ecosystems with high biodiversity and carbon stocks, for example, in forests. The fact that a high percentage of wood from EU forests is not used because

¹²Report from the Commission to the Council and the European Parliament on sustainability requirements for the use of solid and gaseous biomass sources in electricity, heating and cooling. (COM/2010/0011 final). Through this report, concerns have been shown by the Commission that an expansion of the international trade of biomass and the increasing imports from third countries may led to an unsustainable production of biomass. That is why the recommendations for sustainability, communication and monitoring have been suggested. These recommendations aim to promote the sustainable production and use of biomass, as well as an efficient biomass functioning internal market and to lift barriers to bio-energy development

¹³ Opinion of the European Economic and Social Committee on the “Energy Supply”: Which policy of vicinity is needed to guarantee the supply in the European Union? Opinion requested by the Hungarian Presidency C132/15, OJUE 3.5.2011

it is usually located in small private holdings, making their mobilization difficult, needs to be highlighted.

In the Fifth Ministerial Conference on the Protection of Forests in Europe (Warsaw, November 2007), it was highlighted the key role that forest biomass, waste from wood processing and recovered wood play as important renewable energy sources.¹⁴

In the Spanish Act 43/2003 of 21 November, on Forestry (Ley 43/2003, de 21 de noviembre, de Montes), it is mentioned on the one hand forest biomass and on the other, forest waste. In the latter case, there is not a specific regulation or a legal definition about forest waste, although the aforementioned Act might refer to waste from forestry lands and activities related to the felling of trees. In fact, forest waste are included in the European List of Waste and they are not considered as urban waste or hazardous waste, but as non-hazardous industrial wastes.¹⁵

The III Energy Plan of the Autonomous Community of Navarra (Spain)¹⁶ approved by a recent Agreement of the Government of Navarra on 9 May 2011 stresses that the exploitation of forest biomass must be carried out on the one hand in the framework of planning instruments in order to guarantee environmental sustainability and on the other in the forest law framework to assure rule of law. In relation to the removal of biomass from agricultural origin, the Agreement sets out to collect biomass in the less harmful period for the fauna and minimize the adverse effects of this activity on extensive livestock farming system that uses biomass as a food resource. Again advantages and drawbacks arise when it comes to bring together sustainability, legality and the minimization of the adverse effects of livestock feed.

Moving on to the Spanish framework, the national Renewable Energy Action Plan 2010-2020 (PANER, according to its Spanish acronym) meets the demands of the Directive on renewable energies and complies with the model of national renewable energies action plans adopted by the European Commission. Likewise, the Royal Decree 661/2007, of 25 May, regulating activities related to electrical energy production under special regimes foresees

¹⁴ Warsaw Resolution 1. “Forests, Wood and Energy”

¹⁵ With regard to this subject, see SARASÍBAR IRIARTE, M., “El aprovechamiento energético de la biomasa forestal residual”. In: *Revista Aranzadi de Derecho Ambiental* 2007-1, number.11, Cizur Menor (Navarra): Aranzadi, 2002, pp.235-249.

¹⁶ BON (Official Journal of Navarra) number.100, 25 May 2011.

the drafting of a Renewable Energy Plan for to be implemented in the period 2011-2020 (REP 2011-2020). This Plan, now being planned, sets out precisely the assignation of bonus to the electricity generation from biomass. In general, the energy policy in Spain has been developed around three cores: Increase of the assurance of supply, improvement of the Spanish economic competitiveness and the guaranteeing of an economic, social and environmental sustainable development.

A few days ago, the Secretary of State for Climate Change has presented the "Environmental Profile of Spain 2010", in which the environmental state of our country is studied. As regards energy, for the first time in Spain, renewable energies exceeded other energy sources as far as the electricity generation in 2010 is concerned. The share of renewable energies went from 19.7% in 2008 to 25.1% in 2009, reaching 32.3% in 2010. These figures herald a continuous development of these energy sources and the compliance with the targets set.

As acknowledged by the European Commission, the results of the Spanish model are a successful example in the elaboration of policies promoting renewable energies. Although, it is necessary to move on to a second stage of consolidation and development of this kind of energies because they are no longer a minority element of the system but a basic element that must be supported. As regards biomass, this is justified by its energy potential which until now has been exploited less than expected. Specific measures proposed in this sector are related to the modification of regulations on transport of biomass-related products, the policy development of multiannual plans on forest or agricultural exploitations for energy use of products, by-products or residues and the promotion of energy reforestation. In the case of bioenergy, this planning to 2020 reduces the shares of electricity generation with solid biomass and increases the relevant share to thermal applications, biogas and biofuels with regard to REP targets.

Moving on to something else, PANER admits that the councils of the main cities of Spain have not approved any local Statute on biomass. (Madrid, Barcelona, Sevilla, Bilbao, Valencia, Las Palmas de Gran Canaria, Murcia, Zaragoza). As an exceptional event, PANER deals with the regulation of the procedure for introducing installations of electricity generation from forest biomass in Galicia because it is the only Community that has regulated specifically the introduction of this technology. Although there were many drafts of the Strategy for the Energy Use of Forest Biomass, there is no

specific mechanism for bioenergy whose main aspects are tackled in the Spanish Renewable Energy Plan for 2005-2010, still in force¹⁷.

Finally, it deserves to be highlighted the Article 89 of the recently published Act 2/2011, of 4 March, on Sustainable Economy (Ley 2/2011, de 4 de marzo de Economía sostenible), in which it is set out that Public Administrations must promote the increase and improvement of carbon dioxide drains related to the sustainable forest use in order to achieve the stated target in the afore-mentioned Act. This target consists on reducing the greenhouse gas emissions by 2020, encouraging actions that value both immediate productions and the positive effects produced by forest areas as for example, the forest biomass use in the framework of energy generation from renewable sources.

Within this framework, it is obvious that there is hope placed in biomass in the short-term but its future will greatly depend on its stable availability at a reasonable price and, at the same time, on a sustainable consumption.

II. - CASTILLA Y LEÓN BIOENERGY REGIONAL PLAN (PLAN REGIONAL PLAN OF SECTORAL SCOPE OF BIOENERGY OF CASTILLA Y LEÓN)¹⁸

This plan (hereinafter referred to as “PBCyL”) is undoubtedly an example of the recognition of the preponderant paper that biomass can represent in Castilla y León. This Autonomous Community is the largest region of Spain and the biggest agricultural and forest area with a great potential for the development of this type of energy. “By this Plan, the Regional Government of Castilla y León aims to provide the proper legal range to a package of measures that contribute to develop the energy exploitation of biomass in Castilla y León. The PBCyL aims to achieve this target on the basis of the public benefit, the social interest and the supramunicipal scope of energy diversification, the reduction of greenhouse gases, the progress in waste management, the use of great potential of biomass in this Community and the search for alternatives in the traditional crops.” This is the reason why it is considered as a transverse matter to many policies.

¹⁷ It is worthy to mention the fourth additional provision of the Act 43/2003, of 21 November, on Forests, establishing the obligation of the Government to jointly create with the Autonomous Communities a strategy for the development of the energy use of the residual forest biomass.

¹⁸ Decree 2/2011, of 20 January, approving the Castilla y León Bioenergy Regional Plan.

The regional government of Castilla y León has followed the recommendations set out by the Commission aimed to the elaboration of biomass regional plans that are considered really important for the economy, the employment and the sustainable and rural development. In spite of this circumstance and unlike the national and community regulations, we find such regulations as mere declarations of principles on more occasions than desired. In the PBCyL, we can observe a major concretion of the measures that must be adopted in order to make biomass play an important role among renewable energies. It is also established a binding planning in terms of biomass resources, highlighting the control and monitoring of any environmental damage that might be caused¹⁹.

The key principle on which the PBCyL is based to carry out a planning of the bioenergy sector is the biomass value chain; in other words, since biomass is produced or extracted until the final consumer enjoys it as energy. For that purpose, the PBCyL clearly defines the concepts of biomass, biofuel and bioenergy, all the more since these concepts are handed together and used as synonyms whereas it is necessary to differentiate them²⁰.

The central part of PBCyL is focused on the analysis of the resources that enable us to achieve a detailed knowledge of the different types of biomass. This section defines and classifies precisely forest biomass, energy crops (subdivided in arable and woody crops), agricultural residues, livestock biomass, biomass from agro-food industry, biomass related to wood industry and biomass from urban and other industries origin. It is important to

¹⁹ FAO established the International Bioenergy Platform (IBEP) by the end of 2006. This Platform proposed to Castilla y León the development of the analysis instrument Woodfuel Integrated Supply- Demand Overview Mapping, WISDOM15. Thanks to this instrument, the potential of resources from biomass of Castilla y León is being studied in detail. Possible flows towards an energy use, utilizing not only international criteria but also specific ones of the Autonomous Community, are also being examined.

²⁰ The PBCyL uses the definitions set out by the Unified Bioenergy Terminology (UBET), FAO and the European Committee for Standardization (CEN):

- Biomass: Material of biological origin excluding material embedded in geological formations and transformed to fossil.
- Biofuel: Fuel produced directly or indirectly from biomass.
- Bioenergy: Energy derived from biofuels.

Biomass is identified as the natural resource being part of the value chain that is object of assessment and biofuel is the material from which the energy is directly extracted.

The Bioenergy Plan for Castilla y León includes all the different types of biomass in six groups: Forest biomass, agricultural biomass, livestock biomass, industrial biomass, urban biomass and aquatic biomass (related to alga and phytoplankton).

emphasize the detailed outline of the PBCyL in relation to every resource making possible to achieve a better knowledge of the main factors interacting in the productive process and to establish the current situation and the potential production expected for each of the available resources. Thus we will be able to determine the advantages and drawbacks of every resource. In the PBCyL, it is also studied the economic viability and the alternative purposes that compete with biomass.

A brief look around this outline shows that forest biomass is essential in this Autonomous Community whose territory is 52% forest. However, forest biomass needs a progressive development in order to overcome the barriers to its growth. An adequate policy of aids and the observance of the forest market will be fundamental elements in order to avoid the price increase and consequently a shortage of forest biomass. In this case, the essential intervening parties in the process will be the owners of the forest resource, the forest manager, in charge of carrying out a planning for the placing on the market of the forest products, and the forest industry company, who would carry out the forest works and sell the feedstock to the industry. Nevertheless, this type of biomass faces a number of technological (inclined and rocky terrains, lack of accesses...) economic (higher extraction costs) and environmental limitations (risk of erosion, disruption of habitats, loss of nutrients and safeguard of biodiversity...) needed to be overcome.

Although the presence of arable energy crops in Castilla y León is just symbolic, these crops are the only source of biomass whose production can be planned with exclusively energy criteria, guaranteeing the supply in the long-term and consequently the decrease of the energy dependence. In this case, like in the woody energy crops, the decision of the farmer, producer of biomass in both cases, will be crucial as far as he decides upon the type of crop to be planted. Similarly, the intervention of the marketer of biomass and the energy companies will be crucial. It is important to remain that arable energy crops conflict with the increase of food prices and in the case of woody crops, with its possible environmental impact in terms of biodiversity, soils, hydrology and landscape.

Biomass related to wood industry, that is, waste and by-products generated by this industry (wood, bark and black liquors), are a high-value good for the production of pellets, all the more since it is an easy availability material whose price is not very high. This fact helps this energy industry when competing with other energy purposes.

Ultimately, when it comes to talk about biomass, we do not refer to a particular resource but a heterogeneous one that involves a complex analysis related not only to the concepts included but also to its electric, thermal and

mechanic applications according to the main energy obtained. Likewise, biomass involves different models of business subject to the rules of the market and to the diverse technological variables. However, there is a common model of management represented by generic and consecutive stages of biomass production, distribution, energy transformation and consumption.

Nevertheless, it is necessary to highlight that biomass entails two clearly differentiated fields. On the one hand, the energy, and on the other, the agricultural, forest and waste management fields, generators of different prospects related to the capital, competing companies and level of regulation. As regards the latter aspect, the level of regulation is high in the energy market, whereas the Common Agricultural Policy is the main character for the other resources. Furthermore, the role of the Public Administration is essential because it is direct or indirectly responsible for resources, authorizing viable projects and setting out the final prices of the energy.

One the guiding principles that characterize this Plan is the “Approach to an environmentally sustainable development.” Talking about biomass as a renewable energy source, means talking of an example of an environmentally sustainable economic activity not allowing disproportionate forms of exploitation and, likewise, being considered as protection of the biodiversity both in farming and in forestry.

The PBCyL proposes a Program of measures and actions in order to turn the use of biomass into a preferential option providing consumers certainty. The following measures stand out: the economic support for the mobilization of forest resources for energy use, the Plan for wood mobilization and the elaboration of new plans on forest management, as well as, grants for the acquisition of specific equipment. We must not forget the thermal exploitation of biomass in households and companies, the provision of incentives to potential users and the need to publicize the sector by means of advertising and communication campaigns. In order to guarantee the use of biomass, the Plan stresses the need to coordinate its planning (not only the supply of resources but also the planning of energy demand and its public consumption) with the planning of all those fields that either way could affect it. In turn, the Plan proposes the need of reviewing and adapting certain rules that nowadays determinate the development of bioenergy activities such as from electric sector, road transport, urban planning, hydrocarbons, heating plants in buildings and tax regulation.

The PBCyL has considered the following priority actions to be achieved by 2015: elaboration of a Plan for wood mobilization, a regional Plan of woody energy crops and development of a Program for energy

management and recovery of the livestock biomass. Regarding the demand of bioenergy, the Plan sets the installation of biomass boilers in public buildings, the improvement of grants to the installation of biomass systems in households and companies, the introduction of a program for the use of biofuels to the fleet of automatic vehicles and the development of advertising campaigns to significant sectors, such as residential users.

The Plan concludes with a summary of its expected effects from a qualitative and quantitative point of view. From the qualitative point of view, biomass use will entail environmental improvements because GHG emissions and atmospheric pollution will be reduced. The forest residues management will improve the state of forests and will reduce the risk of fires and plagues. The right treatment of urban and industrial organic waste will prevent the contamination of riverbeds and soils. As regards the quantitative point of view, the expected effects are related to steady jobs and avoided atmospheric emissions.

In conclusion, I strongly believe that the exploitation of biomass is an essential instrument that is no longer an eternal promise but a current definitive bet. There is available raw material, human resources and companies on which we must trust and thus encourage. What we cannot say is that sun and wind power are cheaper than biomass and consider that this renewable energy is a second class source whereas our dependence on the fossil fuels and its impact in the pollution of the planet call for a reflection that would culminate in the title of this article in a conditional tense, “biomass, a renewable energy that *should* climb steps.”