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Legacy energy: today's sustainable choices, and our tomorrow

By NEWSWEEK WRITING (HTTPS://WWW.NEWSWEEK.COM.AR/AUTHOR/FMIRANDA/)

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G Minute Read



(https://www.newsweek.com.ar/wp-content/uploads/2023/04/panelsagro2.jpg)

Renewable energies (RES) are here to stay, representing up to 30% of the energy matrix in countries with the required maturity and generating a visible improvement in the quality of life.

We talked about this trend with Eng. Jorge SE Piña is recognized for his extensive experience in the eld of Energy at the National and International level and his contribution to the development of projects and studies with the RES (http://www.jsepconsulting.com).

What is the fundamental role of RES in reducing emissions?

-The reduction of emissions is achieved by different types of energy, wind, solar, biomass, the use of biogas and small hydroelectric developments. All of them replace conventional (thermal) electricity generation that use hydrocarbons or coal, which "emit" combustiongases into the atmosphere at high temperatures in an elimination process that can be seen in different skylines in all those smoking chimneys. This is why, on average, an "emission reduction" of the order of 375 g Co ₂ /kWh is achieved with alternative energies.

In addition to other benefits in the environment and in the use of natural resources, their socio-economic benefits are considerable.

There is a creative aspect in this renewable world that perhaps stands out less, but it is still essential to make EERR viable. How is that instance?

-In my case, as a consultant, I carry out electrical studies to make the entry of this new form of energy viable, together with the development of energy transmission and sub-transmission systems (electrical networks). So, to replace the conventional forms of energy, it is necessary to access the current electrical system so that the RES that is distributed where there are long hours of wind, a greater amount of solar radiation time, water courses where small turbines can be installed that do not affect the natural watercourses, have access to the electrical

system and thus do not have restricted transportation capacity and can reach consumption. And thus be able to carry out the development of these projects. Experience on RES goes hand in hand with creativity in order to use available resources. In Argentina we have great natural resources and in that sense although the equation of adequate financing in the projects is still lacking.

What are the most interesting innovations in EERR today?

-In the case of *biomass*, much progress has been made in using residues from processes and crops. We have carried out project developments in which energy is produced by taking peanut husks, rice husks, corn residues, etc. as inputs for the boilers. In addition to generating a positive result for the environment, it has great benefits in the short, medium, and long term Regarding the Agricultural Industry, for example, the reduction of electrical losses to the electrical system where the produced energy is injected, improving the control voltage and providing greater reliability to the city to which the new plant is connected. Last but not least the reduction of fires is improved by having this waste outdoors.



Additionally in the case of solar energy; There are already some systems for capturing solar radiation to heat water with the energy of the sun. I believe that the effect of promoting widespread use and developing better technologies is an important aspect to avoid continuing to heat water with electricity or gas.

Another successful project continues to be the generation of energy from biogas . To avoid the saturation and degradation of the soil (due to the effect of burying waste), the use of domestic garbage to generate energy from biogas and the separation of the dry part as an input for theboiler. Today there are already cases of energy generation from this process, produced in a digester; currently, for example, manure from pig farms is even used.

What factors are important to promote the development of RES?

-The important challenge is beyond the technical aspects that each type of renewable energy contains, since technology advances and has allowed to reduce the costs of the installation of these in general, it is that there are economic incentive factors to make this type of energy viable. investments, for which stable macroeconomic conditions are essential.

Equally important is the awareness of society about the need to incorporate RES as protection of the environment, giving an adequate signal of the price of energy (u\$s/kWh) to the different types of users would accelerate this decision of conscience.



It is also worth mentioning that other aspects that have proven effective in developing projects, not only in Argentina but in other countries are, for example: Early return of investment VAT, accelerated amortization of fixed assets, reduction of the tax burden and promoting bilateralcontracts between users and renewable energy generators.

What would then be your message to professionals in training?

-After participating in recent decades in the trajectory of the evolution of Renewable Energies hand in hand with the continuous advancement of technology, I believe that the continuous training of professionals in this aspect is necessary to live in a more sustainable world. Regardless of the contexts in which each one chooses to develop, it is always gratifying to look ahead and feel that you are leaving acontribution with your work, by doing it conscientiously, with commitment and passion, these are key factors for good results. It is a greatsatisfaction to be a participant in Energy Conferences or classes at Universities and to be enriched through feedback from students and colleagues to contribute to these developments. Whenever the interests are oriented to the same side, energy has been taken beyond national borders, working together with the public and private sectors.

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