



## Editorial – Issue 27 – October 2017

Most of the papers published in this journal originate from scientific works developed in the academy and also in partnerships involving energy utility companies, industries, research institutions and universities, supported or not by government development programmes, such as the "Research and Development Programme of the Electric Energy Sector", also known as the "R&D Programme" of *Agência Nacional de Energia Elétrica* (National Electric Energy Agency – ANEEL).

Some initiatives have been recently seen with the aim of making the results of the R&D programme more evident. Several agents of the Brazilian electric sector have not yet absorbed the breadth of the results obtained in the programme. Moreover, its own regulations have been systematically improved, incorporating actions that seek to encourage the effective substantiation of project results in products that are useful, visible and profitable to the companies that develop them and also to the electric sector.

The underlying concept of the term R&D is that the nature of the activities included therein differ greatly from the vast majority of business procedures, since, in addition to seeking future-oriented results, they start from the assumption that they are dealing with the unknown. In fact, scientific activities deal with the unknown in an attempt to obtain knowledge that brings benefits to humankind. In addition, R&D activities are closely related to science and technology and applied research, aiming at facilitating the development of new products.

One of the commonly observed misunderstandings in discussions on the subject is that R&D involves a phase of research related activities and then a phase of development activities, in the sense of creating an end product. In other words, R&D is commonly seen as the simple sum of two distinct activities. In fact, R&D is the name given to a class of activities, namely those of an innovative nature that aim at developing new products and services, or improve existing products and services, on a scientific basis. In addition, according to the most accepted definition, R&D activities have innovation as their main objective. Thus, it is unnecessary to link the term "innovation" to the acronym R&D, despite the appeal that this term has had, in recent times, in the business sphere. This appeal encourages companies to seek a kind of result that requires their engagement in concepts and practices they know little about. Therefore, linking the term "innovation" with the acronym R&D seems to be yet another attempt by the business world to make the activities, with which they have difficulty coping, more tangible, focusing on a type of outcome the path of which is largely unknown. It goes without saying that the result of this attempt is innocuous and frustrating.

In the context of the electricity sector, both in the scientific and business spheres, it is possible to verify a line of thinking in order to "simplify" the regulation of the activities within the R&D programme, on the grounds that few of its projects reach the expected results. However, attention should be drawn to other aspects of the innovation process, such as the assimilation of its results, which are often limited to its primary application, without the company even realizing that it has generated an innovative product and it is in use, bringing benefits which are not institutionally known. It is not possible to substitute the essence of activities, or, in other words, try to achieve the miracle of simplifying the generation of knowledge, by a process that seeks to shorten the path to innovation, however practical it may seem. Direct R&D results take time to show up, but their spillover results, those that indirectly impact other processes and add to their direct results, provide many benefits that are almost never accounted for.

It is necessary, therefore, to differentiate innovation in general from that innovation derived from R&D. The general form of innovation reflects the attitude of a company towards opportunities that present themselves in contexts that do not contemplate the unknown, and do not need to generate knowledge to produce a good result. It comes from creativity and innovative vision. Innovation from R&D deals with the unknown, is the result of elaborate efforts, is based on the generation of knowledge, makes use of creativity in both scientific activities and those related to the application of knowledge, is developed in a context of uncertainties, and can generate long-term sustainable differentiation.

The best way to produce sustainable innovation is to dive into the activities that sustain it. There is no shortcut that can reduce the time required, not even save the effort that is natural to it. By assimilating the concepts underlying innovation, among them R&D, which gives it the most robust foundation, companies can cease to



play with words of marketing appeal and effectively produce the differentiation that will give them the desired sustainability.

This issue of Espaço Energia brings only two papers. The evaluation criteria adopted by the editorial staff are rigorous, and they end up preventing the publication of papers that do not report scientific innovation and do not present quality compatible with the standard of the journal. On the other hand, the quality of the works to which this journal takes as a parameter is guaranteed by the competence of the authors and the referees with significant experience in different areas of knowledge related to the energy theme. Without the participation of these distinguished people, authors and referees, this journal would never be possible.

The first paper presents a study on the use of rock wool as thermal insulation material in the retrofit of buildings in the temperate zone of Brazil, addressing its viability in terms of investment and energy efficiency. This is an important issue in the southernmost regions of the country, due to its climate, with short but rigorous winters. The second paper presents a study on wind shear impacts and turbulence intensity in the performance of wind turbines, discussing the implications of these issues in the generation of energy in different wind speed scenarios.

We wish everyone a good reading and that this issue can bring valuable contributions to the energy sector and to the activities of all those involved with them.

Klaus de Geus  
*Editor-in-chief*