

Innovation diplomacy as a driver of the energy transition

Vitória Elisa da Silva

Federal University of Uberlândia

Alberto Martins Fontoura Borges Avenue, 75, 38022-070, Uberaba, Brazil
+55 34 991301070

vitorelisa@gmail.com

<http://www.feelt.ufu.br/>

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Introduction

The energy sector is undergoing a process of strong transformation. Given their relevance to greenhouse gas emissions, energy systems are the center of global warming mitigation actions. This transformation, called the energy transition, is led by developed countries and results from policies for the energy sector, with a particular focus on the diffusion of renewable sources for electricity generation. The ability to generate and disseminate innovations can be seen as a diplomatically strategic element to accelerate the transition to a sustainable energy system.

Technology in the core of the long-term transition

Among the common factors associated with a transition, the pursuit of greater efficiency, the modernization of infrastructure and the addition of production capacity from renewable sources are the main axes of transformation. However, it is common to observe several electric utilities that are economically weak. Diplomatic measures focusing on innovation would therefore be essential to improve the visibility and viability of low carbon technologies and processes in investment planning of those utilities. Such measures would include raising awareness and encouraging the adoption of technologies and practices to expand the use of renewable energy.

Conjoint innovation projects

In the area of science, technology and innovation, it is possible to structure cooperation by various means, whether informal or formal. By creating a research infrastructure platform, a memorandum of understanding on research and development cooperation is established between countries, setting priorities in energy transition, such as innovation in renewable energy and energy efficiency; innovation needed in the end-use sectors; zero-energy buildings; and new materials for advanced battery storage. From this, technical and investment partnerships between state-owned companies are developed.

Setting up ambitious innovation centers

The creation of ambitious innovation centers should aim at enhancing the national R&D production mode, being able to act simultaneously on four critical aspects that constitute the basis of a knowledge and innovation production system: infrastructure; fomentation; qualified human resources; and innovation. It is the articulation of these dimensions that allows us to maximize the investments made in laboratories and equipment, design and implement new support modalities, execute brain gain programs, incorporate new generations of researchers and encourage the search for patents.

Conclusion

In conclusion, to achieve the energy transition, the following are essential: deepening the internationalization of scientific and technological production; stimulating networking and cooperation based on multi-user and transdisciplinary laboratories, articulated by solid and world-class core competencies; and the concentration of material and human efforts on key areas to bridge the gap between knowledge generation and world technology.