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Enhancing biogas generation from residues: A scale up challenge

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Biogas from residues has been used as source of energy for a long time, especially in Europe and Asia, and an important drive for the circular economy. Brazil, with large natural resources and a well-developed agriculture, forest and bioenergy businesses, as well as a large population that generates a significant amount of domestic waste and sewage, has the potential to be a prominent player as a scalable producer, but there is a long way ahead of us. According to Brazilian Atlas for GHG Emissions, the installed capacity of bioenergy from biogas is still timid, 254 MW, with most of the projects related to biogas from landfills. Biogas/biomethane is a versatile source of energy, capable of generating power, thermal and automotive energy. With regulatory framework in place to support the production and commercialization of biogas in Brazil, it should be expected a production increase from residues, particularly with large availability like vinasse from S&E segment. Nevertheless, it seems that some issues are still refraining it from happening. Variations in feed quality, contaminations, upsets and performance issues are some of the hurdles that influences production, feasibility and scalability of biodigestion of residues. This paper will provide an overview on the potential of biogas generation in Brazil and discuss some of the challenges and opportunities to add value to the energy content wasted in the vinasse of S&E industry, provide a new source of revenue with biogas/biomethane, complement the energy matrix with this flexible fuel and, furthermore, reduce the impact to the environment.

Biography

Suzana Marques Domingues holds a B.S. in Chemical Engineer (1985) with post-graduation in catalysis (1987), a Master Degree in Chemical Engineer from The Pennsylvania State University (1993) and an MBA from Getúlio Vargas Foundation (2005). She has thirty-two years of industrial and R&D experience, twenty-four of those in the basic petrochemical business at Braskem where she participated in the development of green plastic, then leading engineers and researchers on the technology development of biogas/bioenergy from S&E residues at Cetrel and as a leader of the Bioenergy Center of Excellence at GE Brazilian Research Center in Rio de Janeiro. She also participated in Academic and Industrial Committees and Councils in the state of Bahia to stimulate innovation in industries. She is actually a partner at Bizup Business Leverage firm.

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