BIOGAS IN BRAZIL
A New Wave of Opportunities

André Tavares
Innovarelab Pesquisa e Consultoria

01/10/2015

www.export-erneuerbare.de
About Innovarelab

• Consultancy based in São Paulo – Brazil

• Active since 1997

• Specialized in innovation strategy and management, innovation policy and sectoral studies

• Experience in a variety of sectors including power generation, automotive, aeronautics, mining, biotechnology, agribusiness, etc.
Biogas - Large potential for decentralization

Production Potential of 24 billion m³ per year

Source: Interview - Abiogas
Biogas from MSW is the largest source of power generation

Biogas – Current Electricity Generation

- MSW and Sanitation: 73 MW
- Agriculture: 3 MW

Installed potential of 76 MW

Source: Aneel (2015)
Biogas from MSW will grow rapidly in the next few years

Biogas – Planned Electricity Generation

49 MW
12 MW

MSW and Sanitation
Agriculture

Projects under construction or contracted have a potential of 61 MW [81% increase from baseline]

Source: Aneel (2015)
Policy changes have structured the sector and created opportunities

- Improvement of waste management practices
  ⇒ National Solid Waste Policy (2010)
  ⇒ Targets for generating energy from waste

Source: Figueiredo (2011) and Abrelpe (2014)
Policy changes have structured the sector and created opportunities

- Regulation of biomethane
  - Ex: Resolution 08/2015
    - Technical characteristics necessary for biomethane
    - Biogas from sanitary landfills and sewage is not considered (research status)

- It is still early to judge impact of regulation

- As of today, there are few projects on the ground
  - Ex: Dois Arcos Sanitary Landfill (Rio de Janeiro)

Production potential: 5,5 million m$^3$

Source: Ecometano (2015)
Policy changes have structured the sector and created opportunities

- Other noteworthy contributions

  - Incentives to Descentralized Projects (Resolution Aneel 2012)
    - > 2 MW of microscale projects

  - States’ reduced taxes for renewables

  - States’ demand for biomethane
International negotiations have provided a welcome boost

- Clean Development Mechanism (CDM)
  - 2nd wave of interest for biogas projects
  - Especially advantageous for biogas from sanitary landfills

- Paris is right around the corner
  - The world is looking for cheap GHG emission reduction opportunities
Participants on the ground are optimistic

• Private sector
  – Cautiously optimistic
  – It is a dynamic market as evidenced by:
    • Technological *start-ups*
    • Consolidation and portfolio diversification from established players
    • International participation (Italy, Swiss, France and Germany)

• Public sector
  – Establishing important market regulations and policies, but remains conservative
  ➢ Is there a parallel with wind energy?
Last, but not least, there are other national competitive advantages

- Academic capacities in the sector are well developed
  - Research tradition in agricultural biogas
  - Strong capacities in MSW biogas

- Search by market participants of opportunities for industry-academia partnerships

- Strengthening of institutions, especially at local levels, are observable trends
Change is afoot! The question is how fast will it be observed

Possible Trend for Power Generation from MSW
Aknowledgments

Research Project ANEEL No. 14/2012
Technical and Commercial Considerations for the Insertion into the Brazilian Power Matrix of Electricity from MSW and Effluent Biogas

We gratefully acknowledge the support of Endesa, Corumbá Concessões and the Brazil-Germany Chamber of Industry and Commerce
THANK YOU!

André Tavares
andre.tavares@innovarelab.com.br
(55 11) 3285-2043

www.export-erneuerbare.de