



Latin American & Caribbean Bioelectricity Community of Practice (BioE-CoP)

2nd Session of 2018: Mid to large size rural biogas production

Ana María Majano, LEDS LAC Secretariat
Alexander Ochs, LEDS Energy Working Group



Agenda

- 00:00 – 00:20 Introduction**
- Welcome, introduction of session agenda
 - Self-introduction of session participants including their work on BioE and biogas
- 00:20 – 01:00 Leandro Janke (DBFZ): Technical & market issues of biogas production and use**
- Questions and comments
- 01:00 – 01:40 Presentation of projects**
- Carolina Hernandez Chanto: Biogas Program of ICE (Costa Rica)
 - Christian Colindres: Central Agricola's Biogas Plant (Guatemala)
 - Questions and comments
- 01:40 – 02:10 Facilitated discussion: Main challenges of such projects and potential solutions**
- 02:10 – 02:20 Summary of challenges, expert comments and topics for in-person meeting**
- Input from Leandro Janke
 - Topics for further in-depth analysis
- 02:20 – 02:30 Wrap up, Next Steps & Closing**
- Next meetings
 - REAL Services
 - Other logistics e.g. Linkedin group, Whatsapp.

Countries represented in the CoP*

Argentina

Belize

Bolivia

Colombia

Costa Rica

Dominican Republic

El Salvador

Ecuador

Germany

Guatemala

Mexico

Jamaica

United States

Uruguay

*Registered for the introductory session as of April 26th at 5 pm Costa Rica time

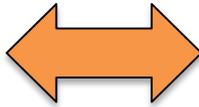
How the BioE-CoP works

Direct technical assistance to countries

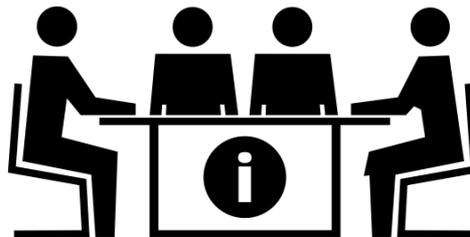


Incl. early mover activities

Provided by EWG, LEDS LAC & other partners

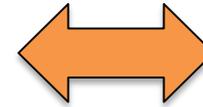


Community of practice

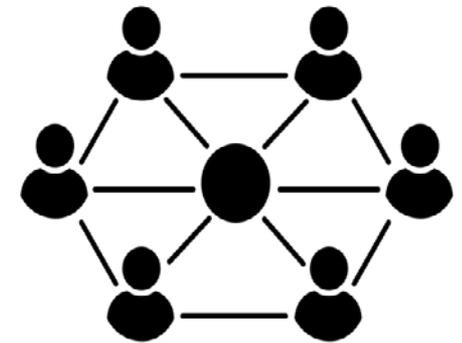


Online and in-person exchange

Provided by EWG, LEDS LAC & other practitioners



LEDS LAC & LEDS GP



Broader dissemination of knowledge

Webinars, reports, case studies, sessions at regional & global events

BioE CoP - Background

- Launched in 2016 – first community of practice for LEDS GP and LEDS LAC
- 1st year: 3 online sessions and in-person workshop in Costa Rica, December 2016
- 2nd year: 3 online sessions and in-person meeting, Mexico, October 2017
- 3rd year: 4 online sessions and in-person workshop, Montevideo/Uruguay, 20 August 2018

2016 – Advancing bioelectricity development

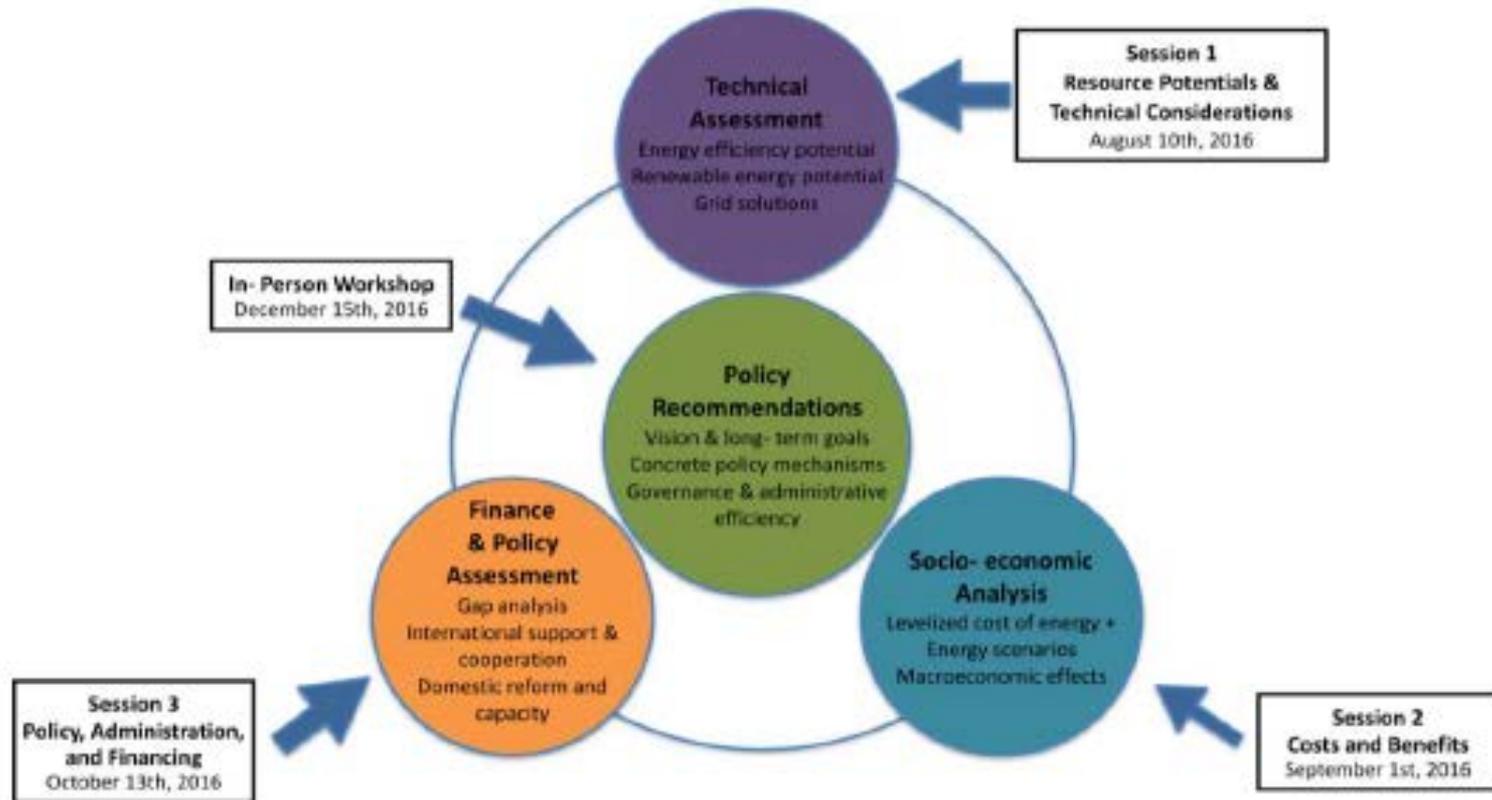


Figure 1: Overview of Community of Practice Proceedings

2017 – De-Risking investments in bioelectricity

Online Session 1. Bioelectricity Investment Risks and De-Risking Measures, Sept. 13

Online Session 2. Addressing biomass feedstock-specific investment risks in bioelectricity project development, Oct. 4

In-person meeting. Oct. 18, Mexico City, as part of LEDS LAC's Sixth Regional Workshop

Online Session 3. 2017 Summary of Findings & 2018 CoP planning, Dec. 15

2018 – Policy and market environment for sustainable biogas investments

Sessions organized by geographical setting, role and scale of operation

Online session 1. Introduction & discussion of work plan

Online session 2. Rural large scale: Power to the Farmland!

Online session 3. Rural small scale: Energize your cows and crops!

Online session 4. Urban biogas: Don't waste your waste!

In-person meeting. Final exchange and hands-on work
- Business models, financing, enabling policies -

Market & finance challenges

- Ultimate goal needs to be to ensure a sustained market that strengthens the commercial supply of biomass
- In on-grid settings, bioelectricity is not yet price-competitive with other energy sources
 - Requires incentives and mechanisms to reduce risks for often large investments required.
 - Requires financing tailored to the specific needs of this projects (longer paybacks, etc.)
- To develop a sustainable biogas market and facilitate access to renewable energy for micro-, small- and medium-size agricultural producers and rural households, for both productive and domestic use, we need to first create awareness and stimulate demand about the potential of biogas as an alternative energy solution
 - This includes a gender perspective.
- Main challenge is related to the assessment of environmental externalities of biogas
- A key problem is the cleaning and compression of the gas
- Financing is the key problem
 - Banks don't believe in this type of projects.
 - Open the market for bioelectricity.

Policy challenges

- How to best organize the integration and involvement of stakeholders in strategy development and implementation (government, banking, investors, providers of technology/innovation, distribution, final users)?
- What are the best-working cornerstone policies?
- Goals and broad policy frameworks are not enough. Need to find new bureaucratic and administrative processes that make the policy functional.
- Although in some countries there is a strong policy related to renewable energy, its effect on biogas energy utilization have been minimal.
 - Detailed information about technologies, bioenergy potential, technologies, and markets are non-existent, so each biogas-related initiative must invest significant resources, even at screening or pre-operational levels
- In some countries, biogas use as energy source is highlighted the energy policy, there is no plan for implementation
- In some countries, there is renewed interest in the support biogas to address problems with high amount of intermittent resources

Topics to be discussed

- Business cases:
 - Installation, maintenance and operation (M&O), financing and economic feasibility for operators or contractors
 - Industry lookout: needed importers, producers, builders, service providers (e.g. M&O)
- Governance
 - Laws, regulation, standards, certification and non-governmental initiatives setting the framework for biogas investments
- Implementation on the ground:
 - Site identification, getting permissions, construction, securing input and offtake via contracts

Session 2. May 23

Rural Biogas: Power to the Farmland

- Technology: medium sized digesters with CHP to produce power and heat
- End use:
 - Off-grid electricity/heat for large farms and/or agricultural processing
 - Mini-grids for electricity/heat for rural communities/towns
 - Grid-connected electricity if grid access available; in combination with self-consumption of electricity/heat
 - Digestate as fertilizer in all cases
- Input: residues (e.g. press mud, manure, household waste), energy crops from marginal or unused agricultural land
- Advantages: waste management, stable energy supply, residual load supply to compensate volatile wind and solar; value stays in region

Session 3. July 1th

Farm Biogas: Energetic cows & crops

- Technology: small scale digesters (e.g. bag systems), connected to cooking stoves
- End use: replacement of wood, coal etc. for cooking
- Input: cow manure, kitchen waste, other organic waste
- Advantages: reduction of waste, replacement of unsustainable fuels, forest protection, health (clean burning), comfort

Session 4. June 20th

Urban Biogas: Don't waste your waste!

- Technology: Medium to large-scale biogas plants with CHP (power/heat) or upgrading to biomethane (cooking gas, transportation fuel, grid injection)
- End use:
 - Grid-connection – power, heat, natural gas
 - Self-consumption, if operated by industry
 - Self-consumption of biomethane as transportation fuel, e.g. municipal companies
 - Biomethane for various end uses via grid injection – remote CHP, heating (incl. Industry), transportation fuel
 - Fertilizer from digestate
- Input: Urban residues such as organic fraction of Municipal Solid Waste, kitchen waste, sewage sludge, grass cuttings, water plants
- Advantages: waste management, flexible power source for residual load, high efficiency through high demand for power and heat – high utilization rates

In-person workshop

August 20th, Montevideo

- One day workshop
 - Business models and financing
 - Enabling policies
- Interactive sessions to exchange experiences, discuss cases, learn about tools
- Closed meeting for participants in the Community of Practice
 - those who have attended the online session.
- Possibility of funding (plane tickets and hotel) for a number of participants – one or two per country, depending on donor criteria
- Agenda and information on support allocation to be provided during the May 23rd meeting

Please introduce yourself briefly:

- Name
- Country
- Organization
- Why are you interested in the Community of Practice?
- Are there any important recent developments in your country regarding biogas?

Leandro Janke
DBFZ

Technical and market issues related to
biogas production and use

Questions & Comments

Carolina Hernandez Chanto
Costa Rica

ICE's Biogas Program

Christian Colindres
Guatemala

Central Agricola's Biogas Plant

Questions & Comments

Questions & Comments

Facilitated discussion

Main challenges of mid-large scale
biogas projects and potential solutions

Summary of challenges,
expert comments,
and topics for in-person meeting

Wrap up, Next Steps & Closing

Thank you!

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