AGENDA

"DISTRIBUTED GENERATION: INTERNATIONAL EXPERIENCES AND COMPARATIVE ANALYSES"

RIO DE JANEIRO, BRAZIL | OCTOBER 17| 2017
WORKSHOP AND PUBLICATION
SIMULTANEOUS TRANSLATION: ENGLISH-PORTUGUESE
AUDIENCE: 40 PARTICIPANTS
EVENT ADDRESS: AUDITORIUM OLIVEIRA CASTRO, CENTRO BRASILEIRO DE PESQUISAS FÍSICAS (CBPF), R. DR. XAVIER SIGAUD, 150 - URCA, RIO DE JANEIRO

Concept: In line with the need to mitigate greenhouse gases emissions, several countries have implemented consistent incentive policies to alternative sources of power generation over the past few years. As a consequence, there are significant investments in these sources and a considerable reduction in their costs. This process has already been verified with wind energy and is currently underway with photovoltaic solar energy, the latter characterized by its ability to micro-generation in the consumer units themselves.

If the diffusion of renewable sources alone already poses challenges to the operators of the electrical systems derived from the intermittency of these sources, the tendency of decentralization of the system potentiates the existing challenges. In this sense, the expansion of the micro generation needs to be judiciously examined. In the technical field, the introduction of bidirectional energy flows may require modifications to the network operating standards. Nevertheless, issues such as voltage and current control, protection and losses may require investments in the network in order to adapt it. At the same time, as more consumers install micro-generation systems, the market for distribution utilities tends to decline.

The benefits of promoting a decentralized and renewable-based electricity system are unquestionable. However, it is necessary to know that there are direct and indirect costs involved. In this way, it is necessary to compare the magnitude of the benefits with the existing costs and, in addition, the adequate allocation of the same among the different stakeholders involved.

Thus, given the regulatory guidelines and business models traditionally in force in the electricity sector, the diffusion of micro-generation represents a risk to the distribution companies' economic equilibrium. By contrast, holders of micro-generation systems will continue to use the services of the distribution network. At the same time, such diffusion may result in higher consumer expenditures for those who do not install photovoltaic systems, see the occurrence of possible tariff increases in order to try to re-establish the financial and economic equilibrium of the distributors.

This is already a problem in countries with reasonable levels of micro-generation systems. Thus, it is now possible to identify some adjustments that are being implemented. For example, many countries are implementing specific energy fees for consumers holding photovoltaic installations.

In summary, a careful analysis of how the diffusion of alternative and renewable sources should be processed in order to effectively promote an efficient and sustainable electricity system is

needed. Considering that this will only be possible with the existence of economic attractiveness for the realization of investment in the sector, it is noticeable the need to correctly allocate the different benefits and costs existing between the different agents. At the limit, it is possible to question the pertinence of opting for larger projects in detriment to the logic of decentralized micro generation.

Given the problems presented, a workshop with experts will address the following issues:

i. The role of alternative and renewable sources in the electricity sector;
ii. The tendency of decentralization of electrical systems;
iii. Impacts in the micro generation electric network;
iv. Economic-financial consequences of micro generation for distributors;
v. Distortions in the allocation of distributors' costs among different types of consumers;
vi. International experience of regulatory adjustments;
vii. Micro generation prospects in Brazil;
viii. Alternatives for integration of alternative and renewable sources.

As a result of the discussions, a book of articles will be published in English in November 2017.

AGENDA

OCTOBER 17, 2017 – CLOSED WORKSHOP WITH EXPERTS

I. Registration and Welcome Coffee

8:30 a.m. — *Registration and Welcome Coffee*

II. Opening — Welcome words

9:00 – 9:30 a.m.

Christian Hübner | *Head of Regional Programme Energy Security and Climate Change in Latin America (EKLA) of the Konrad Adenauer Foundation (KAS)*

Nivalde de Castro | *Coordinator of the Electricity Sector Study Group (Gesel) of the Institute of Economics of the Federal University of Rio de Janeiro (IE/UFRJ),* ***Brazil***

Moacir Carlos Bertol | *Deputy Secretary for Energy Planning and Development – Ministry of Mines and Energy (MME) -* ***Brazil***

III. Panel 1 — Decentralization of the Electric Sector

9:30 – 11:00 a.m.

Inputs:

Thilo Schäfer | *Head of the Research Unit Environment, Energy, Infrastructure of IW Köln,* ***Germany***

Isaac Dyner | *University of Jorge Tadeo Lozano,* ***Colombia***

Moderation:

Talita Porto | *Member of the Board of Directors of the Electric Energy Trading Chamber (CCEE)****, Brazil***

IV. Coffee break

11:00 – 11:20 a.m. *Coffee*

V. Panel 2 **Photovoltaic Micro Generation Incentive Policies**

11:20 – 1:20 p.m.

Inputs:

Lori Bird | *Member of the Markets & Policy Analysis Group in the Strategic Energy Analysis Center at the National Renewable Energy Laboratory (NREL),* ***United States***

Joana Resende | *University of Porto,* ***Portugal***

Davi Rabelo Viana Leite | *National Agency of Electric Energy (ANEEL),* ***Brazil***

Moderation: Luis Fernando Loureiro Legey | *Professor at Alberto Luiz Coimbra Institute of Graduate Studies and Research in Engineering (Coppe) of the Federal University of Rio de Janeiro,* ***Brazil.***

VI. Lunch

1:20 – 2:45 p.m.

VII. Panel 3: **Impacts of Photovoltaic Solar Micro Generation and Regulatory Arrangements**

2:45 – 4:45 p.m.

Inputs:

Job de Figueiredo Silverio Alves | *Grupo Energisa,* ***Brazil***

Dilek Uz | *University of Nevada, Reno,* ***United States***

Lorena C. Borges dos Santos Mattar | *Strategic Regulation Management, Regulated Affairs Board CPFL Energia,* ***Brazil***

Moderation: Thereza Nogueira de Aquino **|** *Federal University of Rio de Janeiro,* ***Brazil***

VIII. Final words

4:45 – 5:00 p.m.