

Miguel Edgar Morales Udaeta, Ricardo Junqueira Fujii, Ricardo Lacerda Baitelo and Geraldo Francisco Burani

LOCAL INTEGRATED ENERGY RESOURCES PLANNING IMPLEMENTATION PROCESS

IEE/USP - Instituto de Energia e Eletrotécnica da USP
Av. Prof. Luciano Gualberto, 1289, CEP: 05508-010, São Paulo, SP, Brasil
E-mail: udaeta@pea.usp.br

Overview

The need of an energy plan aware of the influence of energy on the natural and human environment besides the simple supply of energy makes the IRP – Integrated Resources Planning – and its variants, as the Local IRP, a valuable tool in tackling energy issues.

This paper focuses on the accomplished preliminary portion of the IRP in the western region of the State of São Paulo: the Full Cost Accounting of evaluated energy resources, as well as a practical application, through a workshop carried out with local energy stakeholders.

Local Integrated Resources Planning

Transcending the traditional planning, the Integrated Resources Planning (IRP) is proposed, focused on the best allocation of available resources, into the premises of sustainable development. All possible alternatives of production and use are measured and the ones that best respond to the purposes of a sustainable social and economical development are selected.

The LIRP endorses principles of inclusion of all energy resources options in the energy planning, integration and equal treatment of supply and demand resources in the analysis, assessment of resources in a comprehensive perspective (in which environmental, social and political issues are equally important as economical issues), and formal inclusion in the assessment and decision making of a given enterprise, of all stakeholders involved in the process.

The correct execution of these principles require the fulfilling of requirements such as the Diagnosis of the Region (with Data Compilation), Assessment of available potential, Full Cost Accounting and Identification of Local Stakeholders.

Full Cost Accounting - FCA

The Full Cost Accounting can be defined as a means through which environmental issues can be integrated in business decisions. Data of external impacts and activities on the environment and health are qualitatively assessed whenever they cannot be monetized. The FCA intends to define and allocate internal environmental costs and define and assess externalities associated to our activities. In this study, several internal and external factors were considered, grouped in technical economical, social, political and environmental dimensions. The same relative weight was attributed to each group, allowing the final analysis to point the best types of generations for a given region during the period of analysis. Into each group, however, different weights have been attributed to each factor, according to their relative importance.

The FCA results enable the ranking of resources, according to the achieved scores. It is important to stress that this classification is indicative and non restrictive. In other words, a good ranking does not imply a preferential use for a specific resource. Its application is determined in further steps of the IRP process, in which different restrictions from factors outside the FCA are included. The next chart (TABLE II) shows the ranking of assessed energy resources.

TABLE II. Marks obtained by some of the assessed energy resources

Score/ Resources	Final Score
Sugar Cane Pulp	9,05
Solar Collectors	8,92
Alcohol	8,03
Small Hydroelectric Plants	7,91
Sewerage	7,59
Sanitary embankment	7,37
Small Size Wind Generators	6,96
Photovoltaic Panels	6,31
Vehicular Natural Gas	6,05
Biodiesel	5,74
Diesel	5,04

Identification and study of stakeholders in the Integrated Resources Planning in the West of the State of São Paulo

The full recognition of the stakeholders, as well as their active involvement is extremely important to the implementation of multi-lateral actions as the Energy Planning. Hence the enlisting of various agents involved with the energy issue in the west region of the state of São Paulo:

The instruction of a partner entity team intends to encourage the analysis and discussion of the regions energy planning, assisting the choice of suitable options in terms of sustainable development. It was carried out in two steps: Training and Open Workshop.

Conclusion

The researches and evaluations carried in the region of Araçatuba point a diversity of energy resources suitable for the expansion (or substitution, in the case of fossil fuels) of the current generation. These energy fuels, allied to the present technological options, enable the production of energy in a relatively cheaper, cleaner and more socially responsible way than traditional options, such as huge hydroelectric plants.

The project described in this paper involved the first steps of a complete IRP process, in which the interaction among stakeholders, the examination of local available resources and the first part of the training of the partner entity were performed. The thorough IRP process in the region of Araçatuba is being presently conducted, in a process that will take two years.

References

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