

GUATEMALA



Land of Eternal Spring



Arturo Rivera - Valentin

BÂTIR.S.A.



Commitment to Renewable Energy

- In President's Portillo's Inaugural speech, he committed his government to promote the use of renewable resources for energy generation.
- In a recent inauguration of a hydroelectric project, President Portillo reiterated the importance of renewable energy.



General Law of Electricity

- Approved in November 1996
- It was based on the English law, but it failed to include a non fossil fuel component.
- It is all source, short term bidding scheme, which favors thermal projects.
- Hinders the development of renewable energy projects, and the projections from a 54% renewable - 46% thermal in year 2000, to 28% renewable and 72% thermal in year 2010.



Ministry of Energy and Mines

- Proposed policy changes.
- Creation of a financing fund to level the playing field with thermal generation.
- Inventory of renewable energy resources will help keep Guatemala the land of Eternal Spring.
- Center of Information and Promotion for Renewable Energy.

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New Developments

- El Salvador has announced a change to a US dollar system.
- Guatemala Congress studying option to allow US dollar accounts in Guatemala.



Development with Municipalities

- Several sites for hydro-wind-solar development where Municipalities can participate as equity partners with land, water rights and a market for electricity.
- Other Municipalities have hydro facilities that can be upgraded and reconstructed



Projects in Development

- SIERRA DE LAS MINAS MOUNTAIN RANGE
- CHANCHAN, potential 1.4 MW. Hydro Using an existing Irrigation canal destroyed by Hurricane Mitch.
- JONES. Potential 1 to 3 MW, Hydro run of the river project

Challenges to the Developer

- Remote Location of water shed sources compared with the major load centers of the country require:
 - Tying into the end of the national electric grid as a support generation to stabilize the grid.
 - Development of smaller projects with sale of energy directly to local municipals or industrial end users.

Challenges to the Developer

- Creation of economic solution to project developments.
 - Capital Costs for small and mini-hydropower's projects have to be kept at a minimum.
 - The transmission line and access roads are major cost components which to not improve the benefit side of the cost / benefit equation.
 - Difficulty to “share the wealth” to accommodate the required returns on investment necessary for a project to develop.

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Private Actions in Climatic Change

- With support from a local sugar mill and Batir SA, a pilot project of small coal burning stoves (Chinese experience), using anthracite, replacing firewood for cooking.
- Specific goal is to reduce the cutting of trees and saving the forest .
- Costs are very low and accessible to the low-income families.

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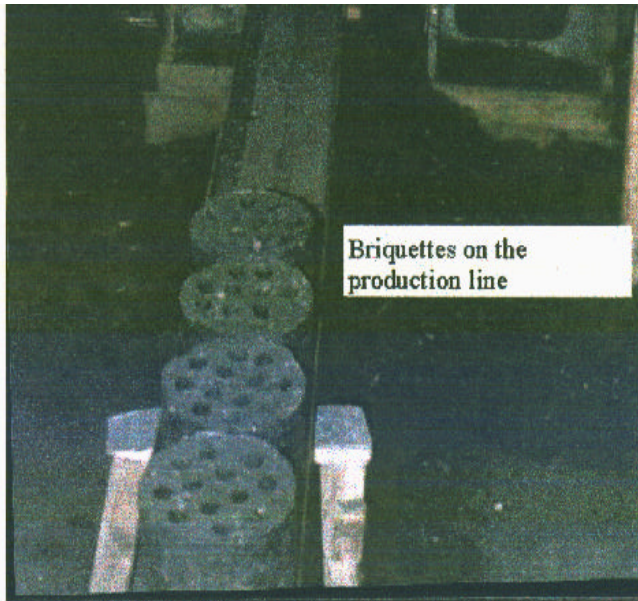
Private Actions in Climatic Change

- Tests for emissions, heat content, studies for local cooking practices, distribution etc. are being carried out to determine feasibility, as well as acceptance.
- The use of these stoves can save millions of cubic meters of wood per year.

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... Climatic Change

- Pilot project of small coal burning stoves:



The coal Briquettes on the machine conveyor belt

COAL BRICKS



SIMPLE STOVE 1 CORE

BATIR^{S.A.}

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Land of Eternal Spring

and

Opportunity !!

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