Capacity Building in ACP Countries

Optimize energy use in the sugarcane industry

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Project Leader

Mauritius Sugarcane Industry Research Institute





2010 - Financing Agreement
European Commission and ACP States

ACP Sugar Research Program http://www.acp-srp.eu/	Million Euros
Total	13.0

Scientific Advisory Group

JC Autrey (Chair)
GR Lionnet
Late DM Hogarth

Source: JC Autrey, Chairman, ACP Scientific Advisory Group on Sugar

2010 - Financing Agreement
European Commission and ACP States

ACP Sugar Research Program http://www.acp-srp.eu/	Million Euros
Grant to MSIRI – 8 Projects	5.8

Source: JC Autrey, Chairman, ACP Scientific Advisory Group on Sugar

Energy project (1)

Efficient use of energy resource in cane processing

Capacity Building Type

- Consultancy
- Training
- Software

Project initiated in 2005

- **Background**
  - Sugar price reduction – To affect sugar protocol countries
- **Goal**
  - Enhance the competitiveness of ACP sugar cane factories
    - Through efficient use of energy
- **How**
  - Sharing of energy efficient practices adopted in Mauritius

Why Mauritius ?

Mauritian Sugar Industry

1. **HP Boiler + CETA**
2. **Process Steam - fine**
3. **Fully electrified factories**
4. English/French

CTBV (TerraGen)	Surplus kWh/t cane
	127 (2000)
	132 (2011)



Capacity Building Project

3 Phases

1 2 3

- **Awareness**

  11 ACP countries

  26 Factories

  Technical advices

  Training needs





Electricity Production (2011)

No	Electricity (GWh)	Potential (GWh) @ 44 bar, 440'C
1	Import	38.6
2		12.2
3		9.2
4		31.1
5		43.1
6		0 @ 20 tch
		134 GWh/year

Electricity Production (2011)

No	Electricity export (GWh)	Potential (GWh) @ 44 bar, 440'C
1	0	18.0
2		7.2
3		50.7
4		17.0
5		14.5
6		5.8
7		22.4
8		1.7 @ 21 bar
9		40.4
10		85.2
11		28.8
12		43.8
		335 GWh/year

Electricity Production (2011)

No	Electricity export (GWh)	Potential (GWh) @ 44 bar, 440'C
1	1.2 MWh export	137.0
2	13.0 MWh export	103.0
3	Factory vicinity	28.0
5	9.5	22.9
5	8.2	21.4
6	0 (action taken)	83.1
7	Moderate export	64.8
	< 150	**460 GWh/year**

In Comparison to Mauritius

- 4 sugar factories/IPP exported 332 GWh from bagasse
- Significant technological gap
  - Exposure in Mauritius justified

1 2 3

❑ Exposure

40 Participants
(2 English + 1 French session)

18 days – Theory & Visits



Emphasis on policy issues
Dr K. Deepchand



Serge Kong, ex Sugar Technologist at MSIRI



Chasteau de Baylon – Chief Strategy Officer, OMNICANE



Diffuser - OMNICANE





Special Sugar



4 Power Plants - La Baraque



Forges Tardieu – http://www.forgestardieu.com/



Chopper Harvestor



Trash Recovery - Médine



Outcome of Exposure in Mauritius

Energy Replication of the Mauritian model - Long term process

Process Cane preparation to sugar manufacture – Short term impact

1 2 3 (End 2015)

Objectively Verifiable Indicator specifies the evidence which will tell you if a goal is reached

- **Consultancy**
  - **OVI** – 130 kWh/t cane
  - **Not yet started**
  - **Available if requested**
- **Develop Energy software**

Offset lack of activity
Reinforce Capacity Building

Saccharum

A “freeware” to optimize energy use

Developed by The MSIRI

Funded by the European Union

(Development and Cooperation - Europeaid)

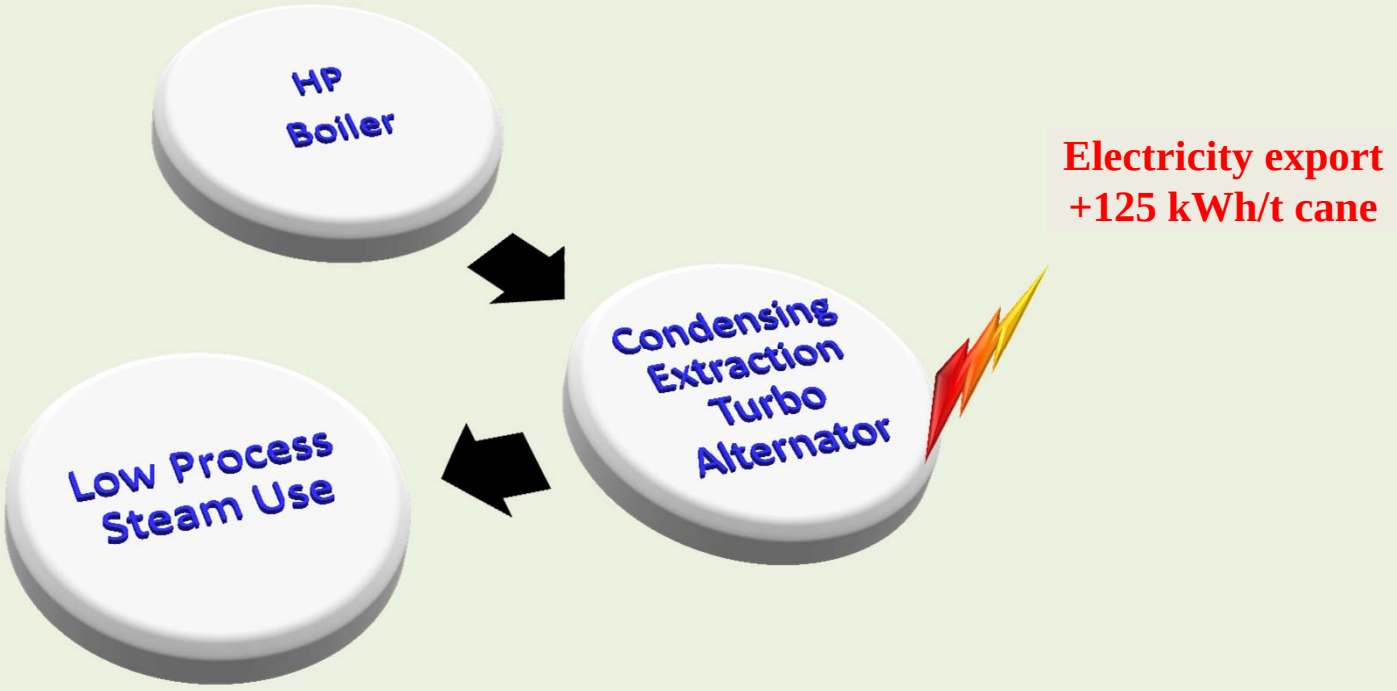


Energy Efficient Factory/Power Plant

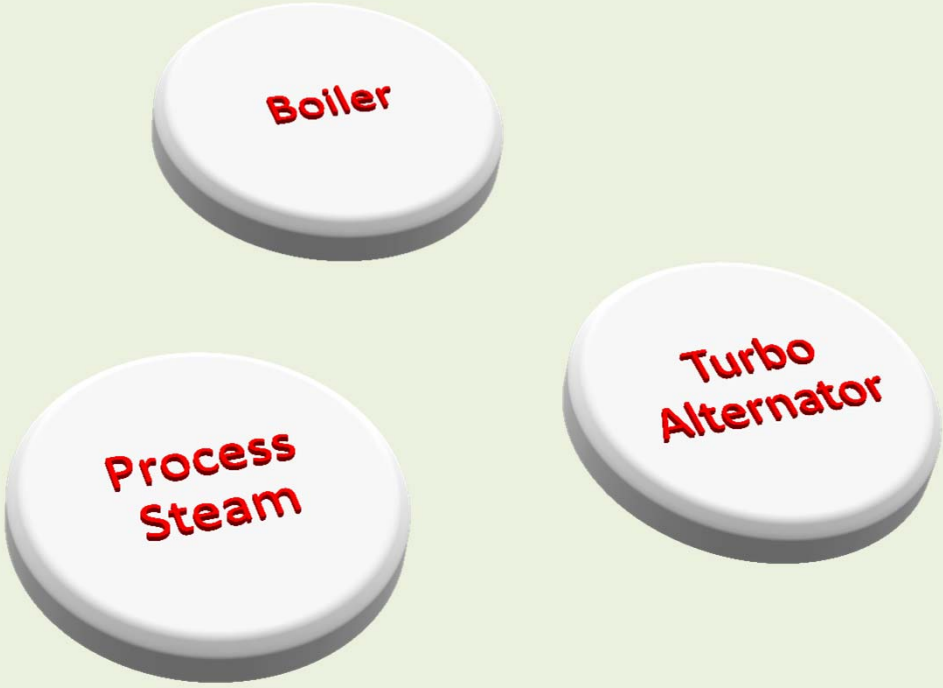
Reunion 1995 > Mauritius 1999

Model for software

Assumption
Factory fully Electrified



Software



Demo

Activation Code – First Installation

Reason **Number of users to be reported to EU**

More users …. Can justify an upgrade, based on users feedback

Enhanced version
Linux, Tablet version
Other languages


Saccharum Energy 1.0
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MSIRI shall not be liable for any errors on data entry
al or otherwise – that may arise as a result of its use.
Clause
Ce logi
Research Institute (MSIRI), qui opère sous l'égide
financière de l'Union Européene, selon les termes du
Etats ACP. Bien que ce logiciel ait été initialement co
utilisé comme un support pour faire des bilan énerg
prises pour s'assurer que les simulations soient auss
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Email: msirienergy@yahoo.com
Please mention your Profession, Organization & Country
MCIA
On-line activation code soon
http://www.acp-srp.eu/
www.msiri.mu

Dropbox Links

INSTALLATION FILES – WINRAR VERSION (43 Mb)
https://www.dropbox.com/s/p9ehiop1wjnp995/Install.rar

INSTALLATION FILES – WINZIP VERSION (43 Mb)
https://www.dropbox.com/s/5uhllzydwzguu0t/Install.zipx

Software VIDEO Demo – MP4 version (78 Mb)
https://www.dropbox.com/s/xb0ear1bmv15g3e/Saccharum%20Energy.mp4

Software VIDEO Demo – wmv version (128 Mb)
https://www.dropbox.com/s/ng0lcopbjr5jbkb/Saccharum%20Energy.wmv

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Thank You