10 years later
The 2\textsuperscript{nd} phase of the electricity prepay project in Curaçao

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Curaçao, Netherlands Antilles
182 square miles, population 135,000, Avg. Temp 28 °C
Curaçao
Is not the best kept secret in the Caribbean anymore!!
### Key figures of Aqualectra

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sales per year electricity in MWH</strong></td>
<td>597,269</td>
<td>616,834</td>
</tr>
<tr>
<td><strong>Sales per year water in m3 x 1,000</strong></td>
<td>8,624</td>
<td>8,708</td>
</tr>
<tr>
<td><strong>Capacity Electricity</strong></td>
<td>235 MW</td>
<td>235 MW</td>
</tr>
<tr>
<td><strong>Capacity Water</strong></td>
<td>69,000 M³ / Day</td>
<td>69,000 M³ / Day</td>
</tr>
<tr>
<td><strong>Peak Load Electricity</strong></td>
<td>111 MW</td>
<td>112 MW</td>
</tr>
<tr>
<td><strong>Daily average Usage</strong></td>
<td>23,563 M³ / Day</td>
<td>23,858 M³ / Day</td>
</tr>
<tr>
<td><strong>Electricity connections</strong></td>
<td>64,400</td>
<td>64,900</td>
</tr>
<tr>
<td><strong>Water connections</strong></td>
<td>65,400</td>
<td>65,900</td>
</tr>
<tr>
<td><strong>Personnel</strong></td>
<td>731</td>
<td>720</td>
</tr>
</tbody>
</table>
Challenges to overcome
1997-1999

- Increasing untimely payment by customers
- Increasing non payment by customers
- Increasing theft

As a Consequence

- Collection process becomes more complex
- Increasing provision bad debts
- More pressure from the Government for a solution
Some basic policy assumptions:

- Every households must be connected to the electricity and water distribution grid of Aqualectra;
- Every households (as well as all other user groups) must pay for the usage of electricity and water;
- Illegality or usage without payment is not an option and is not acceptable;
- Interruption (cut off) of the supply in case of non payment is an effective debt collection instrument and not more than that.
Pre-Payment as a solution
Main objectives

- A solution for purchasing electricity and water in portions according to the customer's budget;
- Rationalize the process of dis-/reconnects;
- Minimize credit lines and outstanding arrears;
- Improve public image of Aqualectra.
Pre-Payment as a solution
The Economic Rationale – The Model basics

- Supports conversion of conventional to pre-paid water, electricity separately or jointly;

- Implicit assumptions that the products are converted jointly. Unmatched conversion has less benefit on e.g. meter reading and bill distribution;

- Time span of 10 years, coincides with the life cycle of the meter.
Pre-Payment as a solution
The Economic Rationale – Cost/benefit analysis

<table>
<thead>
<tr>
<th>The benefits:</th>
<th>The costs:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Earlier collection of revenue;</td>
<td>- Required investment in meters, central equipment and payment points;</td>
</tr>
<tr>
<td>- Reduction of bad debts write off;</td>
<td>- Possible reduction of volume purchased by a more conscious client;</td>
</tr>
<tr>
<td>- Collection of old debt through pre-payment surcharge;</td>
<td>- No collection of surety, Pay back of surety to converted clients;</td>
</tr>
<tr>
<td>- Gain in efficiency of personnel;</td>
<td>- Commissions payable to payment points;</td>
</tr>
<tr>
<td>- Reduction in dis / re-connect procedures and cycle time;</td>
<td>- Operational costs of the prepayment system.</td>
</tr>
<tr>
<td>- Reduction of cost in printing and distributing invoices;</td>
<td></td>
</tr>
<tr>
<td>- Reduction of cost in meter reading;</td>
<td></td>
</tr>
<tr>
<td>- A profit tax reduction by Antillean tax laws.</td>
<td></td>
</tr>
</tbody>
</table>
Pre-Payment as a solution
Conclusions and recommendations

- The prepayment solution has a clear financial benefits when performed for problem accounts. Main reason: conversion to prepaid reduces account receivable write-offs and money-losing cutoff procedures;

- The prepayment solution has also a clear financial benefits in the case of new installations, where most or all of the investment can be recovered from the client;

- The benefits of a conversion of a normal account (a well-paying customer) to a prepayment account does not outweigh the investment, however in the case that a normal account is charged for the conversion to prepaid, the ROI will not be negatively impact.
Pre-Payment as a solution
Conclusions and recommendations (continued)

- In the business case of Curaçao. It was recommended to pursue a moderately aggressive policy of converting problem accounts to prepayment accounts. The sensitivity analysis shows only marginal to negative viability if lower aggressiveness indices were used.

- The above must be tempered by the realization of the prepayment project. In other words the solution has not been marketed as a solution for problem accounts only. Doing so might create a stigmatization of the concept, endangering the overall project.
## Installed base prepayment solution

Development of the installed prepayment meters

<table>
<thead>
<tr>
<th>Year</th>
<th>Electricity</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Post</td>
</tr>
<tr>
<td>1999</td>
<td>59,365</td>
<td>58,340</td>
</tr>
<tr>
<td>2000</td>
<td>61,416</td>
<td>59,027</td>
</tr>
<tr>
<td>2001</td>
<td>64,012</td>
<td>60,252</td>
</tr>
<tr>
<td>2002</td>
<td>68,461</td>
<td>61,749</td>
</tr>
<tr>
<td>2003</td>
<td>63,201</td>
<td>52,746</td>
</tr>
<tr>
<td>2004</td>
<td>64,384</td>
<td>49,963</td>
</tr>
<tr>
<td>2005</td>
<td>64,933</td>
<td>49,270</td>
</tr>
</tbody>
</table>

Note 1: Clean up of residential accounts data base in 2002
Some Images
Electricity Distribution – Pre-Payment installed meters
Some Images
Electricity Distribution – Pre-Payment Meters
Developments in 2006
Using prepayment as a solution for combating poverty

- **Sales of electricity to households has increased with 3%**
  - 2004: 236.5 mwh
  - 2005: 255.8 mwh

- **Sales of water to households has decreased with 3%**
  - 2004: 6.7 million m3
  - 2005: 6.5 million m3

- Average usage households electricity in kwh/month has increased with 6%
- Average usage households water in m3/month has decreased with 4%

- **Different development of sales was a reason for concern**
Development of the disconnected clients in case of non payment

<table>
<thead>
<tr>
<th>Disconnected clients on August 17, 2006</th>
<th>Total</th>
<th>&gt; 3 month</th>
<th>&lt; 3 month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>1,058</td>
<td>667 (63%)</td>
<td>391 (37%)</td>
</tr>
<tr>
<td>Water</td>
<td>2,277</td>
<td>1,909 (84%)</td>
<td>368 (16%)</td>
</tr>
<tr>
<td>Electricity &amp; water</td>
<td>643</td>
<td>598 (93%)</td>
<td>45 (7%)</td>
</tr>
</tbody>
</table>

- Amount of clients to be disconnected because of non payment is increasing;
- Amount of clients who remain disconnected for longer than 3 months is also increasing;
- Result: Debt collection instrument “cut off” is getting ineffective.
Development of the disconnected clients in case of non payment
Matching case with the Department of Welfare

<table>
<thead>
<tr>
<th>August 17, 2006</th>
<th>Total Disconnected clients of Aqualectra</th>
<th>Total clients on welfare, disconnected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>1,058</td>
<td>886</td>
</tr>
<tr>
<td>Water</td>
<td>2,277</td>
<td>1,033</td>
</tr>
<tr>
<td>Electricity &amp; water</td>
<td>643</td>
<td>520</td>
</tr>
</tbody>
</table>

84% 81% 45%
Development of the disconnected clients in case of non payment
Project: Restructuring debt and reconnection of the poor

Targeted results:

1. Restructure the doubtful debt of the poor;

2. Reconnect the clients through the prepayment system on the distribution grid of Aqualectra;

3. Counsel the clients about efficient use of water & electricity;

4. Obtain more management information about this client category;

5. Restructure the balance sheet item doubtful accounts receivable.
Development of the disconnected clients in case of non payment
Project: Restructuring debt and reconnection of the poor

Realized results

1. As of December 28, 2006 the doubtful accounts of 2,067 clients have been restructured;

2. 226 electricity clients and 646 water clients have been reconnected. 373 (1 phase) en 183 (3 phase) prepayment meters have been installed;

3. Will be implemented in 1st quarter of 2007;

4. The client category have been identified and can be followed for the next year. Still on January 7, 2007 all clients are still connected;

5. Balance sheet line item ‘doubtful accounts receivable’ of 2,067 clients have been restructured.
Development of the disconnected clients in case of non payment
Project: Restructuring debt and reconnection of the poor

Client perspective:
-Disconnected (poor) household customers of Aqualectra are again connected on the distribution grid;
- Customers of Aqualectra will have a fresh start with regard to their account with Aqualectra. All have been reconnected on the renewed prepayment system;

Aqualectra’s perspective:
- All households from than on, are connected on the distribution grid of Aqualectra;
- All households clients from than on, are paying clients;
- Increase effectiveness of debt collection instrument: cut off;

Society perspective
- Aqualectra is from a social point of view more connected with the community;
- Better social development of the society.
Overall conclusions after 10 years from inception

- Pre-payment concept is fully accepted in the community;
- More than 16,000 pre-payment (26%) electricity meters installed;
- Demand for prepayment solution is still increasing;
- Economic rationale;
- Contributed to a positive image of Aqualectra Corporate Citizenship”
THANK YOU FOR YOUR ATTENTION

Pre-Payment
the “Aqualectra Experience”

Anthon C. Casperson
act. President & CEO Aqualectra