Mongolian experience on household-level CDM PoA and other carbon finance

An Introduction to XacBank’s Eco Banking Department
September 04, 2013

Eco Banking Department

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Overview of XacBank

Fourth Largest Mongolian Bank and Leader in Microfinance and SME Segments

- XacBank was formed by a merger of the largest NBFI's in Mongolia: Goviin Ekhlel LLC and X.A.C., LLC.
- XacBank operates in every province of Mongolia through 107 branches, over 888 mobile banking merchants, and 49 Cooperatives.
- Diverse base of domestic and international shareholders, including Mongolian Alt Company, IFC, EBRD, and ORIX Financial Group.
- Leads the Mongolian Banking Sector in Corporate Governance and Corporate Social Responsibility.

<table>
<thead>
<tr>
<th>Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Interest Income</td>
<td>26.8</td>
<td>45.3</td>
<td>60</td>
</tr>
<tr>
<td>Profit</td>
<td>6.5</td>
<td>12.1</td>
<td>15.2</td>
</tr>
<tr>
<td>Total Assets</td>
<td>468</td>
<td>818</td>
<td>1078</td>
</tr>
<tr>
<td>Equity</td>
<td>34.6</td>
<td>82.6</td>
<td>97.8</td>
</tr>
<tr>
<td>% Return on Equity</td>
<td>20</td>
<td>22</td>
<td>16.9</td>
</tr>
<tr>
<td>Non-performing Loans</td>
<td>1.5</td>
<td>1.2</td>
<td>1.3</td>
</tr>
<tr>
<td>Liquidity Ratio</td>
<td>26</td>
<td>31</td>
<td>38</td>
</tr>
<tr>
<td>Capital Adequacy Ratio</td>
<td>13.7</td>
<td>20.8</td>
<td>20.4</td>
</tr>
<tr>
<td>Tier 1 Capital Ratio</td>
<td>9.7</td>
<td>14.4</td>
<td>13.6</td>
</tr>
</tbody>
</table>

XacBank is a leading financial institution that is equally concerned with People, Planet, and Profit and is recognized for its inclusive and value additive financial services across customer segments.
The Eco Banking Department

Main Functions of Eco banking Department

1. **Implementing the Projects**
   - XacBank pioneered an innovative distribution model to reach ger district clients
   - **Project target areas:**
     - Air pollution
     - Soil pollution
     - Building the SME client base

2. **Building the sustainability through Carbon Finance**
   - **VER**
   - **CER – CDM**

3. **Financing for Energy Efficiency and Renewable Energy**

   - Eco Banking Department was established in 2011 to support XacBank’s commitment to a “people, planet, then profit” mission and vision, improve the well-being of the Mongolian environment and its inhabitants, and generate sustainable and commercial returns. The Department began as a small team under the Consumer Banking Department and from 2009-2011 it focused exclusively on an air pollution project before expanding in 2012 to other market segments and diversifying its funding base.

Products of Eco Banking Department

1. **Energy Efficient Products sold through the Projects implemented by EBD**
2. **Loan Products:**
   - **Consumer loans:** We offer the most flexible consumer loan products in Mongolia, ensuring that low-income families can afford energy-efficient products;
   - **Mortgage loans:** We provide mortgages for energy-efficient housing;
   - **SME Loans:** We provide loans to a growing number of Mongolian businesses that either supply environmentally-friendly products or invest in the integration of energy-efficient or clean energy technologies into their operations;
Identify the Risks

Significant Environmental Issues Threaten the Benefits of Economic Growth

- Ulaanbaatar is the second most polluted city in the world – air pollution contributes to 1 in 10 deaths and costs USD 450 million annually.

- Mongolia’s energy infrastructure is aging and approximately one third of all power generated is lost to inefficiency before reaching consumers.

- Mongolia is one of the most carbon intensive economies in the world, emitting up to 10 times more greenhouse gas compared to GDP than the world average.

- The challenge: How to transition from growth to sustainable green growth?
Tackling Immediate Challenges

XacBank and Partners Have Leveraged Microfinance to Reduce Air Pollution

- XacBank developed and has implemented a distribution model placing sales centers in ger district communities to allow households to access energy efficient stoves and insulating ger blankets since 2010.
- The Millennium Challenge Account for Mongolia and Ulaanbaatar Clean Air Fund provided asset subsidies to reduce the cost of efficient stoves and insulating ger blankets for households.
- XacBank partnered with FMO, the Dutch Development Bank to offer a low-cost microfinance loan product to ensure that the lowest income households in the ger districts could access clean energy.
# Energy-Efficient Products

## Improved Heating Systems
- Designed to circulate and draft heat for longer periods of time, resulting in more complete fuel combustion and less fuel consumption
- Fuel Savings of 30 – 50%
- Particulate matter reductions of between 80 – 95%

## Ger Insulation
- Six components: roof insulation covering, wall insulation covering, roof opening insulation, wall lower edge strip, door insulation, and a waterproof covering
- Added layers of felt improve upon the 1 – 2 layers of felt used by 30% of ger inhabitants
- Fuel savings of 30%

## Vestibules
- Attached to the opening of a ger to prevent heat losses upon entry and exit.
- Over 4,000 vestibules sold between 2011 and 2012.

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The Clean Air Project has been highly successful with 100,000 efficient stoves and 20,000 ger blankets distributed to over 100,000 households in the ger districts. It is estimated that this has led to a reduction in air pollution levels of 10-30% between 2011 and 2013.

Between 2010 and 2012, XacBank transferred over $22,000,000 in subsidies from donor organizations to local producers.
In order to effectively promote, sell, distribute, and monitor the energy-efficient products, XacBank has created an innovative network of product centers in the ger districts. Staff based at each location have access to the Department’s web-based record of products sold, through which they can update the installation status of a product either from a product center or from a client’s household using a mobile phone application.
In 2009, XacBank established a partnership with MicroEnergy Credits, a US-based organization that links microfinance institutions to international carbon markets to expand the reach and scope of global clean energy programs.

XacBank’s first carbon credits, 315 tons of CO2 equivalent were issued in 2011 and 94,215 credits were issued in 2012.

MicroEnergy Credits provides project support and has successfully negotiated purchase agreements with carbon brokers on behalf of XacBank:
- Eco Securities purchased credits between 2010 and 2012
- CitiGroup has agreed to purchase 1.18 million credits between 2013 and 2019
Carbon Finance – Overview

Partnership with MicroEnergy Credits connects XacBank to carbon markets

1. MicroEnergy Credits provides innovative monitoring system with cloud-based database and mobile phone GPS integration
2. XacBank monitors installed products and confirms CO2 reduction
3. Confirmed credits are sold by MEC to international carbon markets
4. Revenues shared by XacBank and MEC
5. Carbon revenue invested in energy efficiency in ger districts
6. XacBank is a strategic investor in MEC to strengthen partnership

9 Tons

CO2 reduced By 5 Tons

4 Tons
Carbon offsets generated by user

Day 0: Product installed and monitored

1/3 of Yearly Carbon Offsets Accrued

Day 274: Product monitored by phone

Day 91: Product monitored by phone

1/3 of Yearly Carbon Offsets Accrued

Product not in use – no offsets generated

Day 183: Product monitored in-person

1/3 of Yearly Carbon Offsets Accrued

Carbon offsets generated by user

Credit Monitoring Process
Carbon Monitoring

- Every product is monitored at time of installation via smart phone (GPS is collected and installation is confirmed as active)
- XacBank follows up with 100% of clients three times per heating season through contact by phone or an in-person visit
Carbon Monitoring, in-person visit
Policy on Carbon Credit Revenue Usage

All carbon revenues are used by XacBank to expand and sustain the Eco Banking Department’s services, specifically by:

- Covering program costs related to distributing and monitoring household-level energy-efficient products
- Lowering interest rates for Eco Consumer and Business Loans
- Establishing a Eco Guarantee Fund for clients with low income and limited access to collateral

Low-cost microfinance makes clean energy accessible to all households

<table>
<thead>
<tr>
<th>Product</th>
<th>Total Cost</th>
<th>Annual Interest Rate</th>
<th>Monthly Payment</th>
<th>Fuel Expenditure w/o Product</th>
<th>Fuel Expenditure with Product</th>
<th>Fuel + Loan Payment</th>
<th>Monthly Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stove</td>
<td>250</td>
<td>17%</td>
<td>12</td>
<td>98</td>
<td>49</td>
<td>61</td>
<td>37</td>
</tr>
<tr>
<td>Ger Blanket</td>
<td>571</td>
<td>17%</td>
<td>28</td>
<td>98</td>
<td>68</td>
<td>97</td>
<td>1</td>
</tr>
</tbody>
</table>

All prices in current USD

Monthly fuel and loan repayment is less than monthly fuel expenditure before adoption of the product in heating season—minimal net financial burden for clients
In order to build a sustainable green finance program, it is essential to tap multiple market segments for energy efficiency and renewable energy lending.

In December, 2012, XacBank signed a USD 20 million lending facility with the Global Climate Partnership Fund, managed by Deutsche Bank, for energy efficiency lending resulting in reduction of greenhouse gas emissions in two segments:
- Mortgage lending for households moving from inefficient to efficient housing
- Lending to Small and Medium Enterprises (SMEs) increasing the efficiency of their manufacturing process or service provision or that bring products that increase energy efficiency to the Mongolian market

In May, 2013, XacBank signed an advisory agreement with the IFC to support the development of institutional capacity and loan products for energy efficiency and renewable energy in the SME and project-based market segments.
Join Us to Participate in Clean Energy Opportunities and Contribute to the Sustainable Growth of Mongolia