



Biogas to Energy Project Gold Standard Development

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Outline of Presentation

- Introduction to OneCarbon International B.V.
- Biogas Capture and Energy Generation Project
 - Introduction to project design
 - Technology deployed
- Carbon Credit Development
 - Gold Standard
 - Emission reductions and methodology
- Project barriers and potential roll-out of projects

Introduction to OneCarbon

- Started 1st Jan 07 as spin-off of Ecofys, from activities since 1998
 - Ecofys has 11 people who were part of the IPCC group who received credit with Al Gore for 2007 Nobel Peace Prize; largest for any organization in the world
- > 100 Employees
- 12 offices in 11 countries
- Project pipeline statistics:
 - Signed contracts total volume until:
 - Pre- 2012: 22 mln tonnes of CO₂-eq
 - Post-2012: 86 mln tonnes of CO₂-eq
 - Early leads: ~200 mln tonnes
 - VER ~ 15% of total
 - Gold Standard ~ 40% of total pipeline
- Registration success to date: 100%



Biogas Capture and Energy Generation Project (I)

- Project site: ethanol production facility in Guangxi Province
- Project owner: BioQi
- Current practice:
 - WWTS: lagoons in order to decrease COD value of wastewater effluent
 - CH₄ emissions
 - Coal combustion for heat and electricity generation
 - CO₂ emissions
- Project activity: installation of CHEAPtm technology in order to capture gas and produce energy



Biogas Capture and Energy Generation Project (II)

- Project characteristics:

Wastewater amount	550,000	m ³ /year
COD of the inflow	130	kg/m ³
Operation time	174	day
COD Conversion in Reactor	60%	-
Biogas production	23,579,000	Nm ³ /year
Methane production	12,968,450	Nm ³ /year

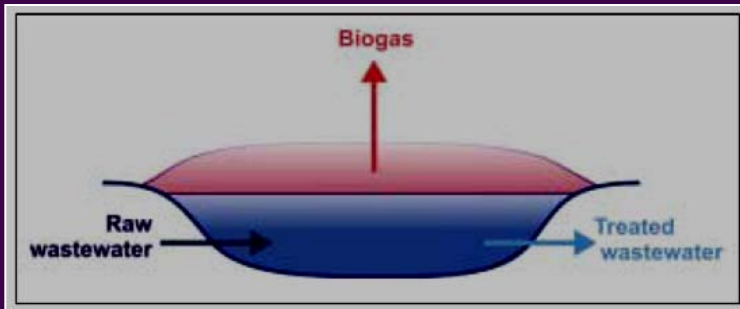
- Positive impacts:

- Employment creation and technology transfer from NL to China
- Less dependency on coal
- Positive impact on odor problem
- Decreasing Chemical Oxygen Demand (COD) of wastewater effluent



Technology Deployed

- Covered High Energy Anaerobic Pond (CHEAP™)
- Characteristics:
 - Low reactor loading rates and higher degradation rates
 - Wide range of agro-industrial processing effluents
 - Does not depend on bacterial granules



Carbon Credit Development (I)

- Gold Standard
 - CDM+
 - Premium
- Sustainability:
 - Social impacts
 - Environmental impacts
 - Economic impacts
- Special focus on NGO participation and stakeholder consultation



Key factors for success

- Ambient temperature of project site
- Depth of the lagoons
- Sufficient residence time
- Well-established relationship with technology provider and project owner
- Understanding of the Chinese regulatory and decision-making institutions

Barriers and Potential Roll-out

- Not many other projects in China developed under this large-scale methodology
 - Lack of project experience
 - Lack of validation experience
- Methodology ACM0014 is very conservative and leaves little room for project-specific situations
- Potential for roll-out?
 - Sector / industry
 - Size and baseline conditions

Thank you!

Q & A

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