

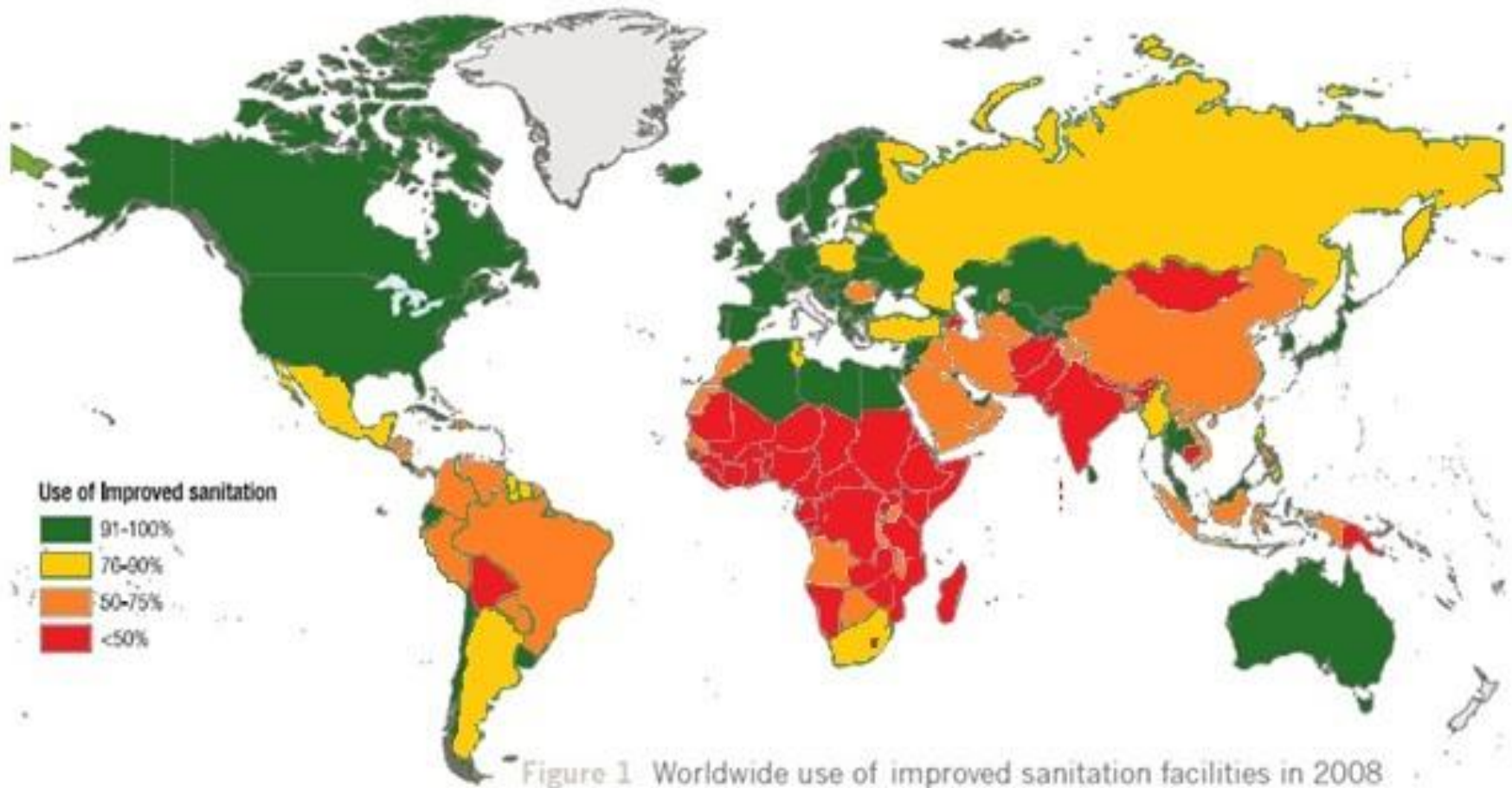
CLEARFORD INDUSTRIES INC

Bruce Linton
CEO
Clearford Industries Inc.



www.clearford.com

- 40% of the world population (2.6 billion people) live without adequate sanitation
- The absence of sustainable sanitary sewage solutions results in 5%+ reduction in GDP in countries such as India
- Rapid rates of urbanization have made the problem acute
- Water scarcity limits available water to 1/4 to 1/5 of the volume available in the “developed world”.
- Current “developed world” solutions don’t work in these environments:
 - Traditional Gravity Sewers
 - Septic Systems



2.6 billion people – 72% of whom live in Asia – do not use improved sanitation facilities



Figure 3 Regional distribution of the 2.6 billion people not using improved sanitation facilities in 2008, population (million)

- The Clearford Small Bore Sewer (SBS) System:
 - Captures solids at source (no need to move vs. traditional gravity systems)
 - Solids are digested at source (no need to pump vs. septic)
 - Allows for:
 1. Recapture of Water (drinking, irrigation) - extremely valuable resource
 2. Generation of Energy – through the digestion of solids. Used for cooking, turned into electricity.
 3. Will attract Carbon Credits – can be used to partially fund up-front system costs and/or provide annual revenue stream
 - Protected by extensive patent portfolio
 - Based on 20+ years of proven success in North American
 - Less expensive than traditional sewer alternatives

Trade Barriers????

- **Part II countries need a specific support and entry program vs. Part I countries.**
 - **Historically SME's enter Part II countries either as miners or "missionaries". Now we see this as the only place you can have access to a growth market.**
 - **For SME firms the battle is to translate Part I country installations into initial orders in Part II countries.**
- Obstacles include;**
- **Access to the country/industry thought leaders**
 - **Supply chain to achieve "developing world" price point**
 - **Regulatory compliance**
 - **Tax management in contracting – creating country sub-co's**
 - **GETTING THE 1st order as the line to be 2nd forms quickly.**

First Order Barrier Breakers

- **Opinion letters – lawyers lead engineers**
- **1st sale focused program as a measure of Trade Commissioners. CCC/EDC PLEASE work together to get the 1st government order.**
- **Implement in Foreign Affairs, EDC etc performance based specifications for procurement and push the World Bank methods.**
- **Canadian/Provincial Government domestic market references for international adoption**
- **Orientation of expertise by end customer...NOT Cleantech!!!**

- Traditional gravity sewers rely on a minimum of 100L/capita/day of water use to convey the solids fraction.
- The centralized treatment of whole sewage relies on a mainframe architecture that is both rigid in form and capital intensive to implement and operate.
- Septic systems rely upon low density for the disposal of the liquid fraction and pumping out of the solids fraction.

The Clearford offering is a hybrid solution that has evolved the most effective components of each of the historic options.

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Funding Looking for Solutions

Funding Allocations for water and sanitation projects in 2010:

Asian Development Bank –

11% per annum or ~\$3.63 billion

World Bank –

12% per annum or ~\$4.1 billion

Inter-American Development Bank –

7% per annum or ~\$1.8 billion

African Development Bank

7.6% per annum or ~\$417.58 million

Gates Foundation –

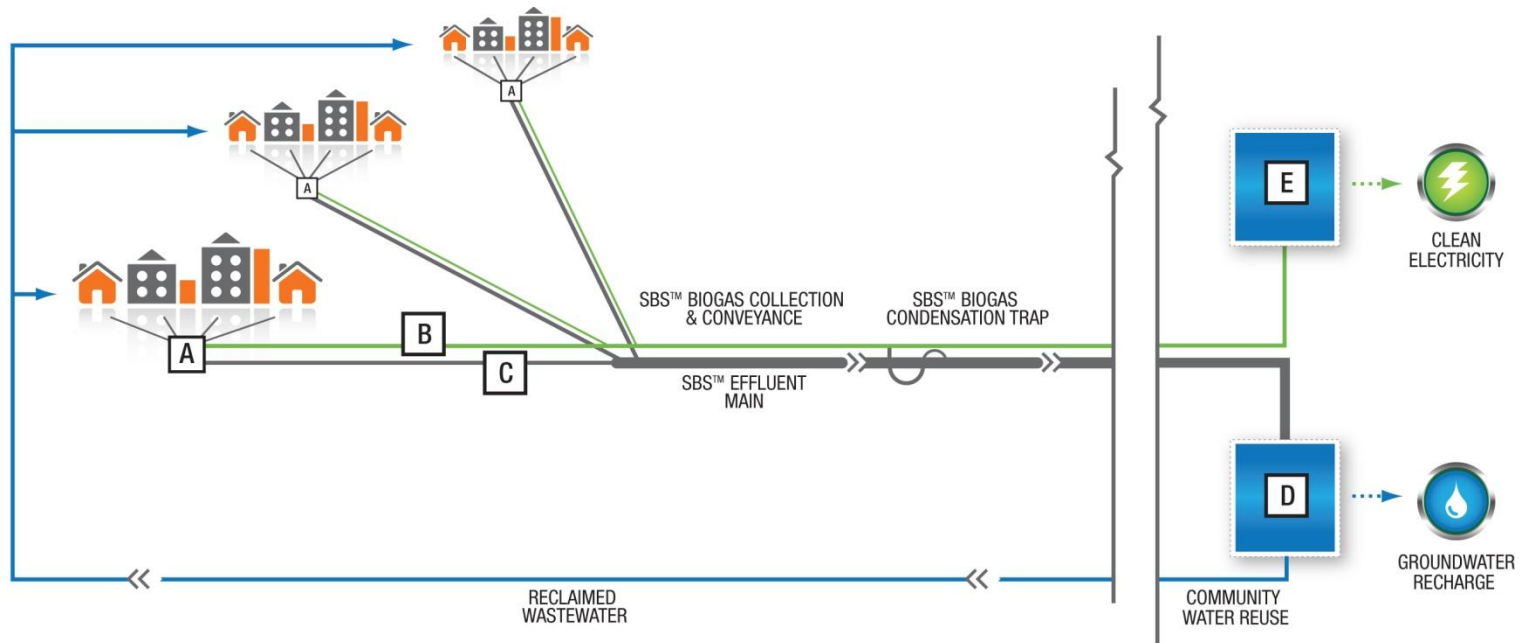
~\$31 million

JNNURM - Jawaharlal Nehru National Urban Renewal Mission

- JNNURM is a city modernisation scheme launched by Government of India. It envisages a total investment of over \$20 billion over seven years starting in 2005.

"Those whose job is to select and design appropriate systems for the collection and treatment of sewage ... must bear in mind that European and North American practices do not represent the zenith of scientific achievement, nor are they the product of a logical and rational process. Rather, [they] are the product of history, a history that started about 100 years ago when little was known about the fundamental physics and chemistry of the subject and when practically no applicable microbiology had been discovered . These practices are not especially clever, nor logical, nor completely effective – and it is not necessarily what would be done today if these same countries had the chance to start again."

World Bank Report- Sanitation and Disease: Health Aspects of Excreta and Wastewater Management



A

DISTRIBUTED ANEROBIC DIGESTION

Proprietary vessel accelerates natural digestion of solids to gas (methane).

B

SBST™ BIOGAS LINE

Gas is propelled through the pipe by natural occurring pressure to central conversion facility "E".

C

SBST™ LATERAL

Gravity conveys liquid effluent as solids remain in "A"

D

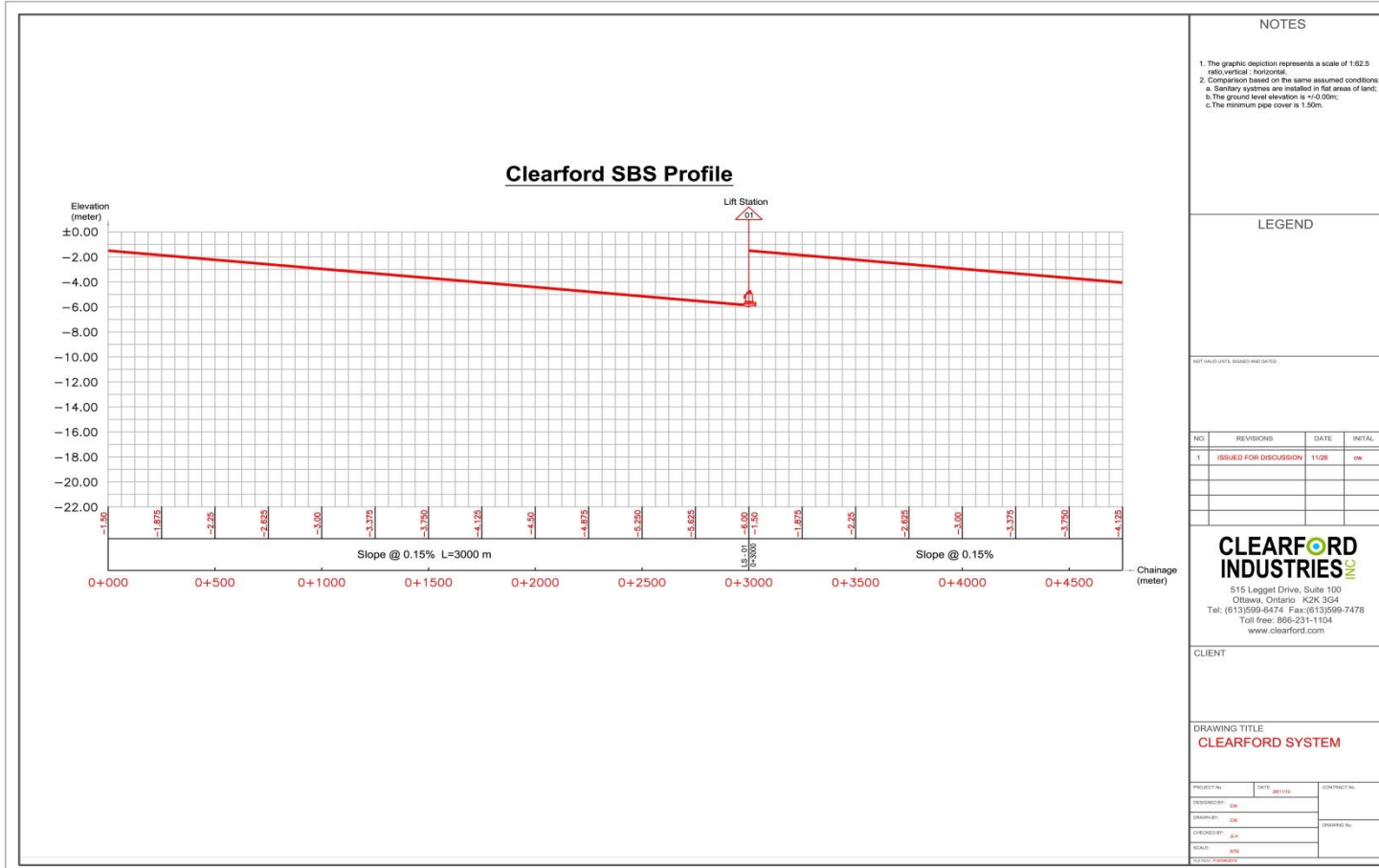
TREATMENT PLANT

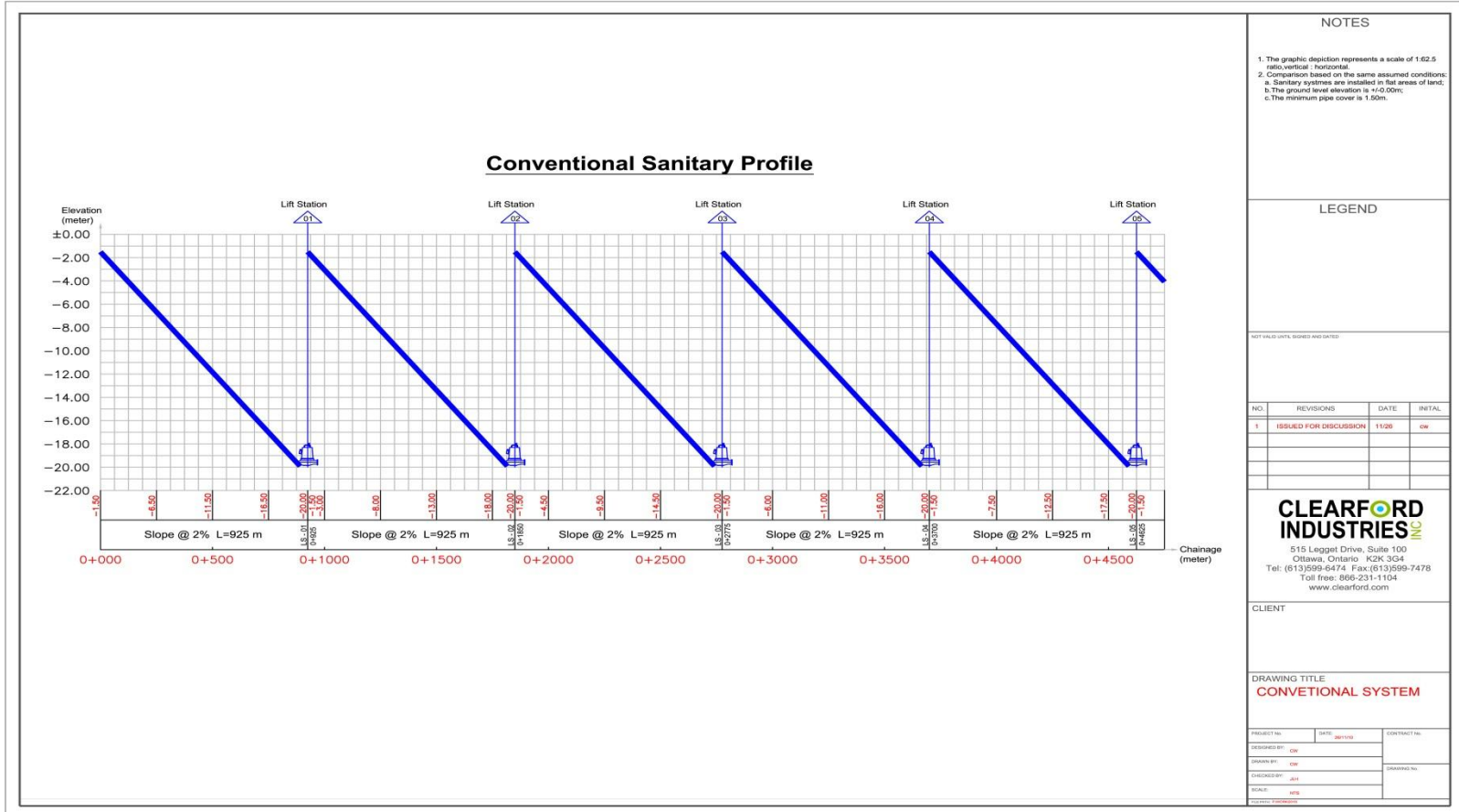
Filtration is simplified due to the consistent hydraulic flows with limited suspended solids.

E

BIOGAS CONVERSION ENERGY PLANT

Biogas (Methane) is an excellent fuel for generating power.





- Field, ON – 20 years of MOE reviewed and approved operation
- Wardsville - A 10 Year of operation and growing
- Eco-Industrial Parks, New community servicing and Retrofitting of existing communities

"The SBS™ solution exceeded our expectations on many levels. It was by far the most practical and economical alternative available."

Peter Cougler, President
Loon Lake Resort

"We believe SBS™ to be an exciting technology that could help many of our clients create new eco-

industrial parks across the country."

Tracy Casavant, MES, P. Eng.
President Eco-Industrial Solutions

"For just over half the estimated cost of a conventional big pipe system, Clearford provided a simple, cost-effective and environmentally sensible solution to our wastewater servicing requirements."

Mayor Doug Reycraft
Municipality of Southwest

Middlesex, Ontario

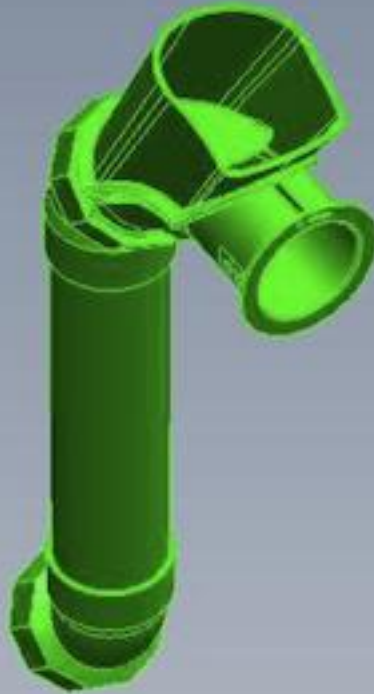


- Strong patent protection for SBS in areas of:
 1. Passive Hydraulic Mixing Unit
 2. Biogas Hood and Collection System (“Tent System”)
 3. Condensation Trap
 4. HPSS with Flow Attenuation
- Patents have been sought in up to 29 countries, have been filled by a leading (MBM intellectual property law www.MBM.com) with initial patents recently issued.

1. Passive Hydraulic Mixing Unit

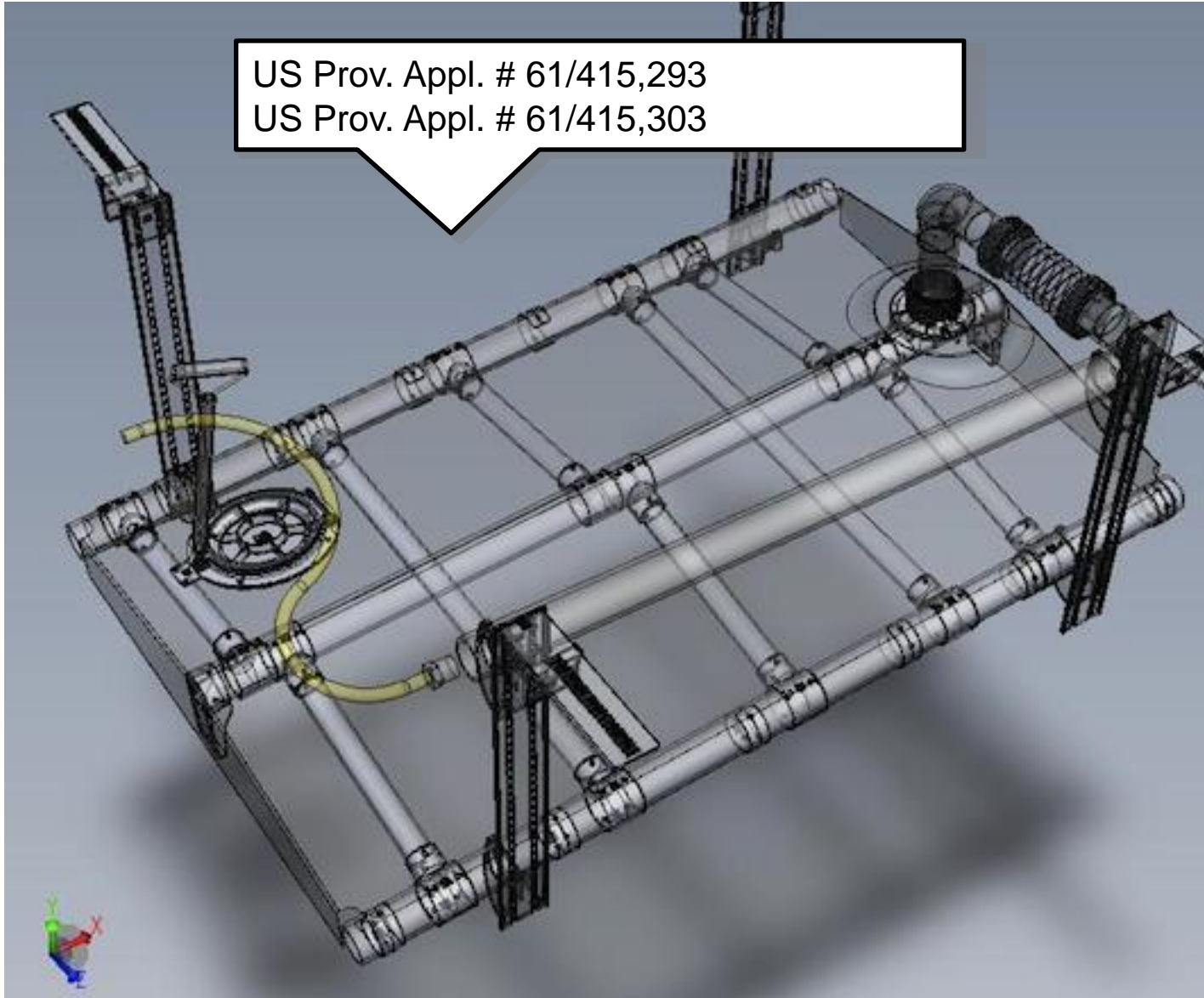
- Traditional septic-type systems use septic tank to “settle” down waste solids
- Tank used as gate keeper to protect larger capital investment in tile field
- Problem:
 - Sludge build up in septic tank needs to be maintained regularly (pumped and disposed)
- Clearford SBS:
 - Clarifier tank is used to accelerate anaerobic digestion of solids
 - Active “mixing” of waste using Passive Hydraulic Mixing Unit causes constant supply of organic materials for bacteria to digest into clear waste and biogas (eliminating organic sludge build up)

US Patent Appl. # 13/127,197
CA Patent Appl. # 2,741,464



2. Biogas Hood and Collection System

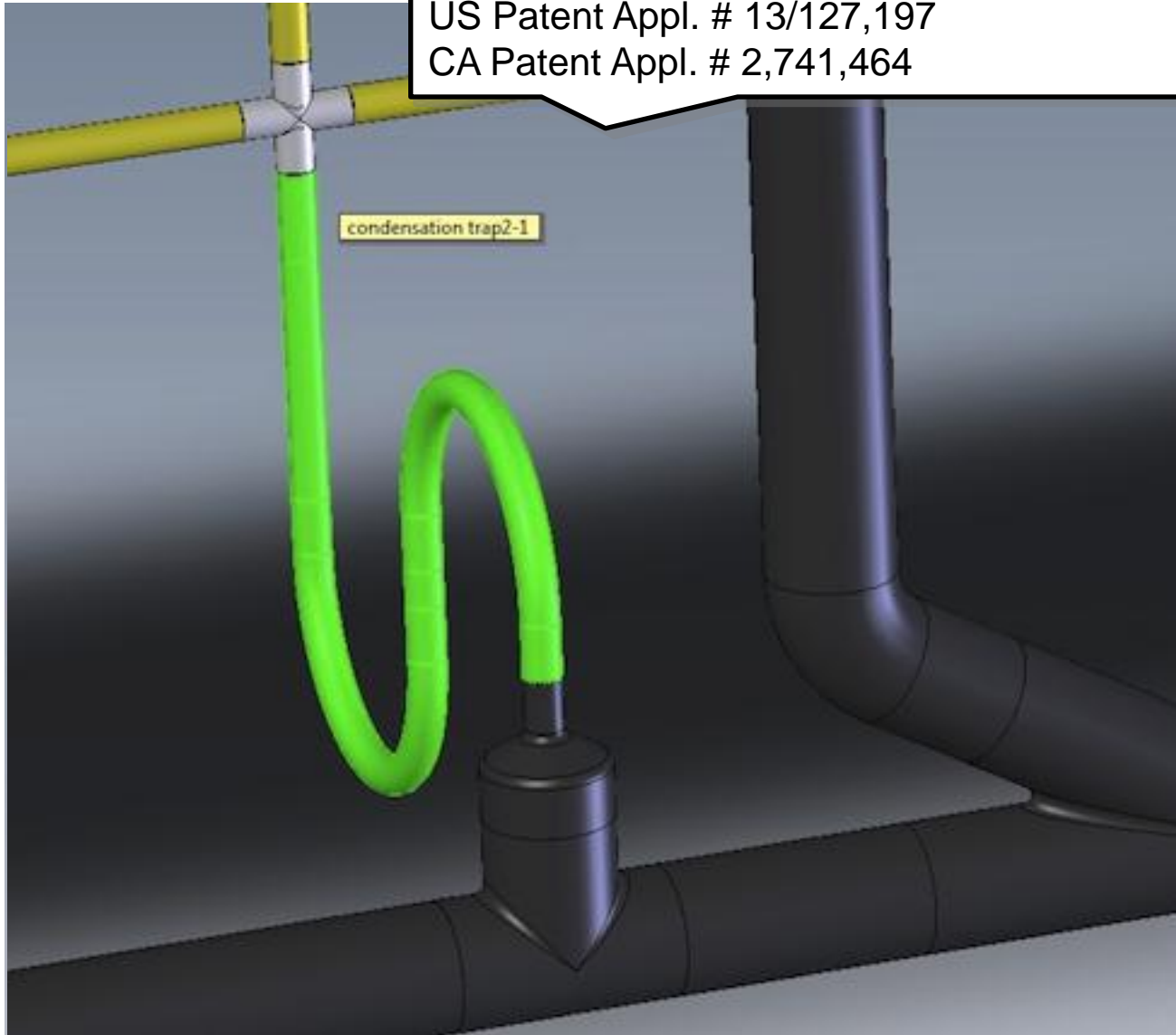
- Problem:
 - Biogas created by anaerobic digestion of sewage results in a gas which is primarily methane. Methane is both an excellent fuel and a greenhouse gas.
- Clearford SBS:
 - Biogas Hood and Collection System can be assembled on-site by local semi-skilled labour and placed into clarifier
 - Passive hydraulic seal prevents atmospheric air from entering biogas reservoir and thereby conveys biogas with 60%+ methane by volume.
 - The bio-gas conveys in a parallel line to the sewer line. Condensation from the gas drains into the sewer line.



3. Condensation Trap

- Biogas produced by the SBS system is “wet” and condensation drops out of the biogas as it is moved along pipes
- Problem:
 - Condensation accumulates and blocks that would block the biogas lines
- Clearford SBS:
 - Condensation Trap allows condensation to filter from the biogas lines and into the twinned SBS sewer line
 - The biogas line remains air and water tight allowing for proper conveyance

US Patent Appl. # 13/127,197
CA Patent Appl. # 2,741,464

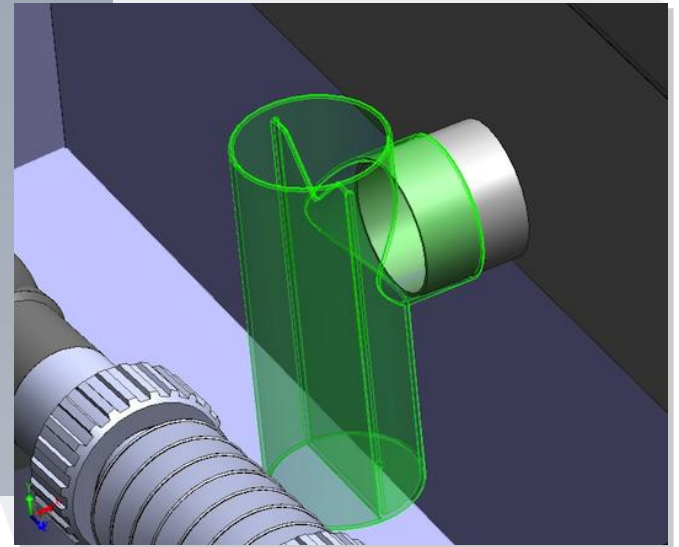
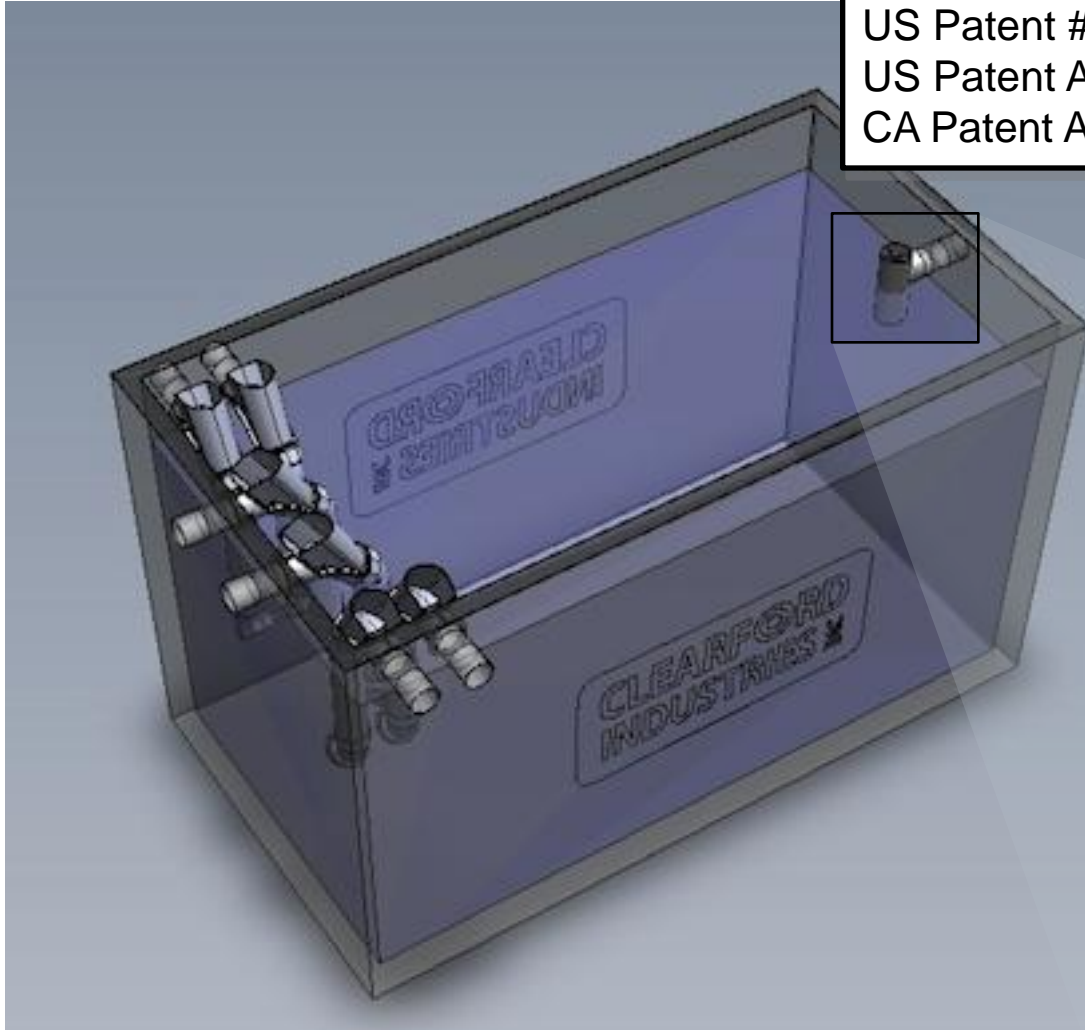


4. HPSS with Flow Attenuation

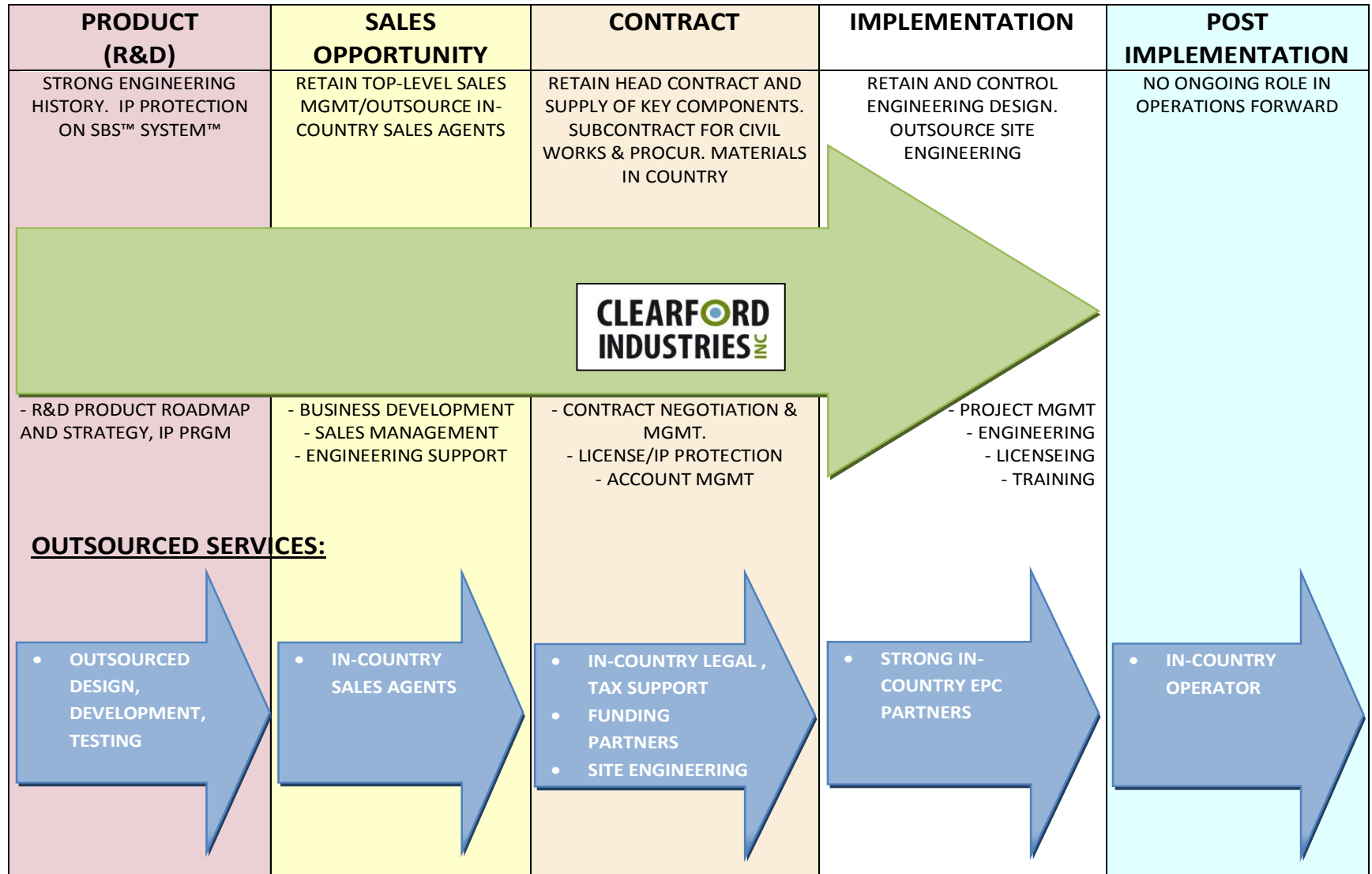
- Sewer system daily flows vary greatly with typical peak usage in the mornings and evenings
- Problem:
 - Traditional sewer systems must have larger and more expensive infrastructure (pumping stations, treatment plants) capable of accommodating peak flow
- Clearford SBS:
 - Flow Attenuation devices at the clarifier tank allow for a moderated flow during peak usage (clarifier tank accumulates peak flow and acts as a buffer to moderate downstream flow)
 - As a result smaller and more efficient pumps and treatment plants can be utilized

Effluent Flows at a Consistent Rate
HPSS with Flow Attenuation

US Patent #7,857,968
US Patent Appl. # 12/959,499
CA Patent Appl. # 2,623,956



- Priced to be attractive vs. the alternative
- Capture the value gap as the contribution to profit
- 20%-35% gross margins available to Clearford
- Capital cost to the community < 80% of alternative gravity sewer cost
- Operational electricity consumption can be less than the sum generated by the system
- Carbon credit generation could fund 1/3 up-front project capital costs or be used to generate revenue from customer on-going operations
- Maintain efficient company fixed cost infrastructure:
 - Retain key competencies (Product/IP, Sales Mgmt., Engineering Design, Contract Mgmt.)
 - Build in-country support infrastructure for sales, site engineering
 - No post-delivery responsibilities



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QUESTIONS?

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