Leveraging Resource Recovery to Pay for Sanitation

Pivot Works demonstration in Kigali, Rwanda

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PIVOT

URBAN SANITATION EVOLVED

How we're different

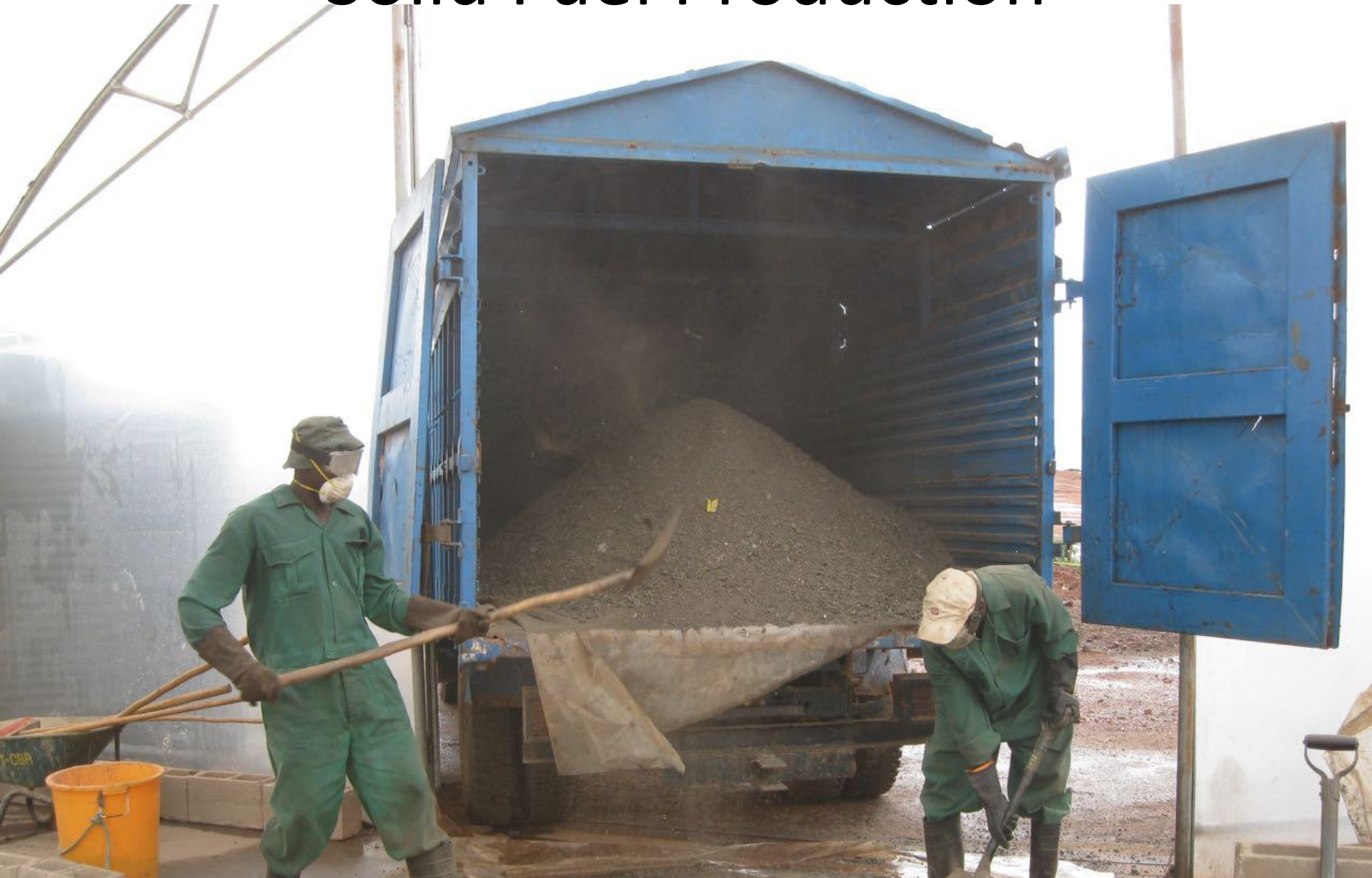
Reorganization of treatment process

- Extract costly-to-treat solids and BOD at headworks
- Reduce downstream treatment needs

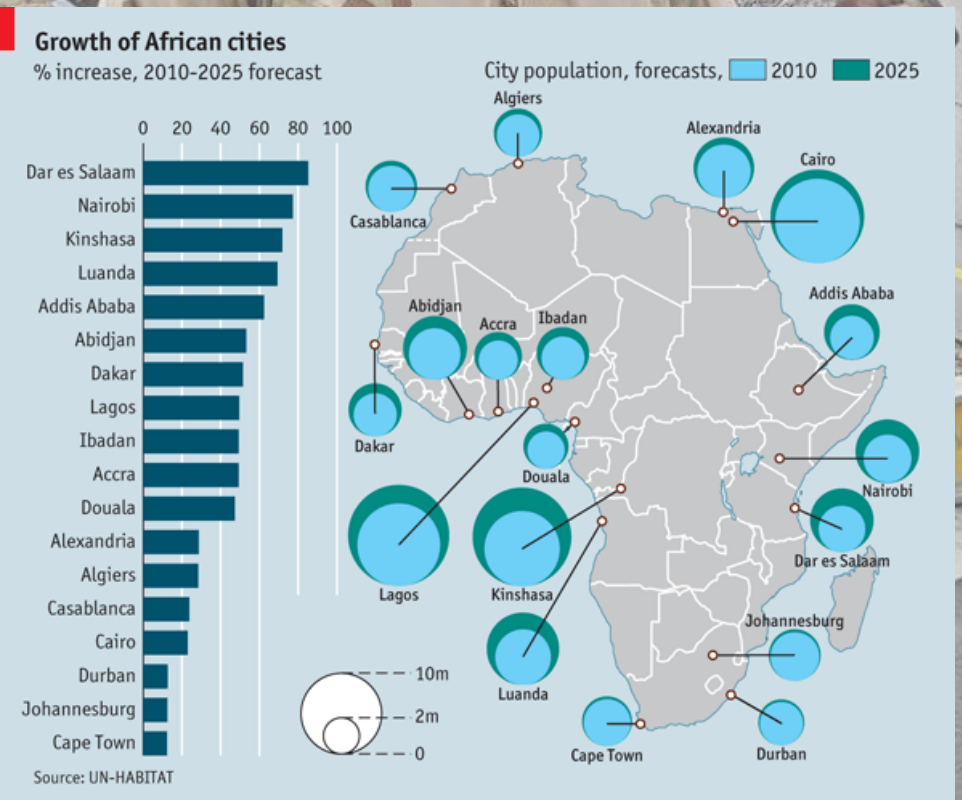
Design for reuse and revenue generation

- Derive maximum value from resource recovery
- Revenue from Pivot Fuel covers majority of costs

Solid Fuel Production

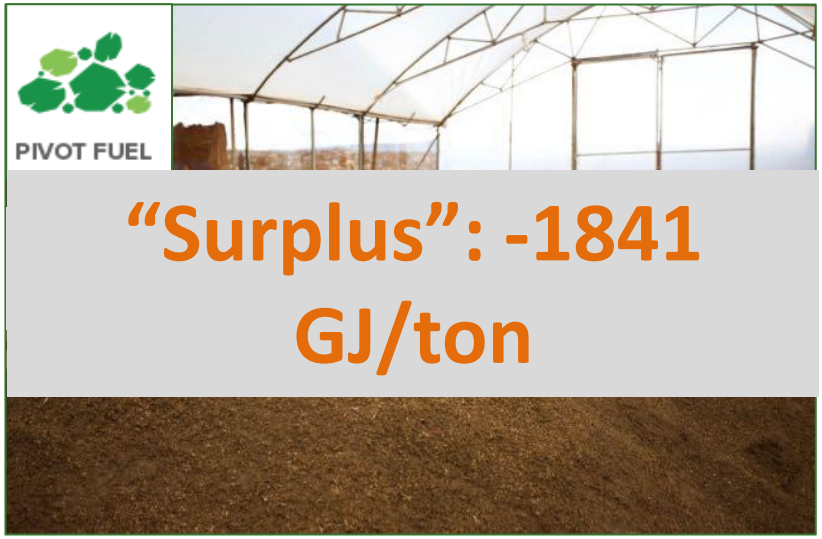


Urbanization & industrial growth is driving demand for fuel

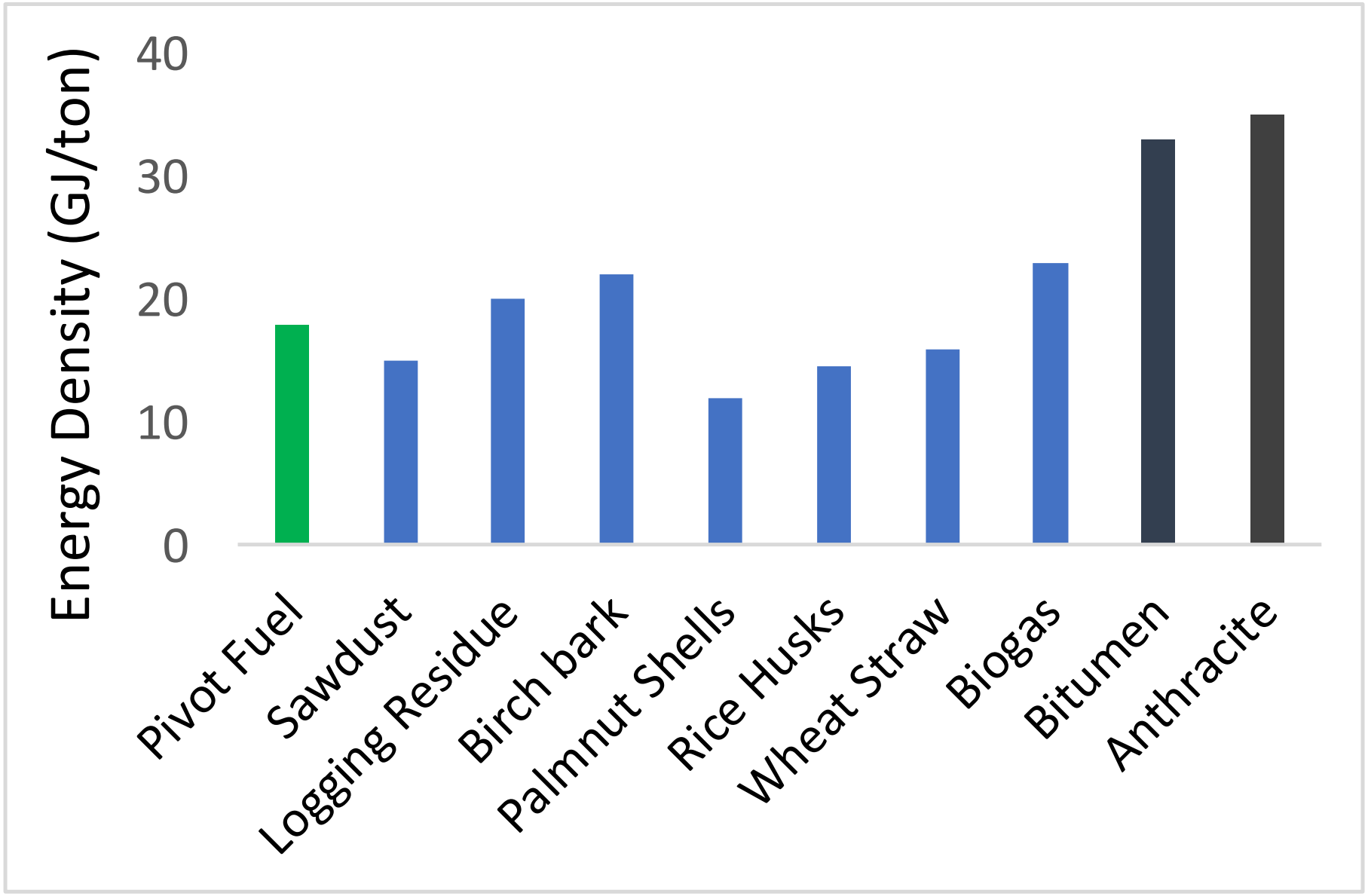


Pivot Works factory

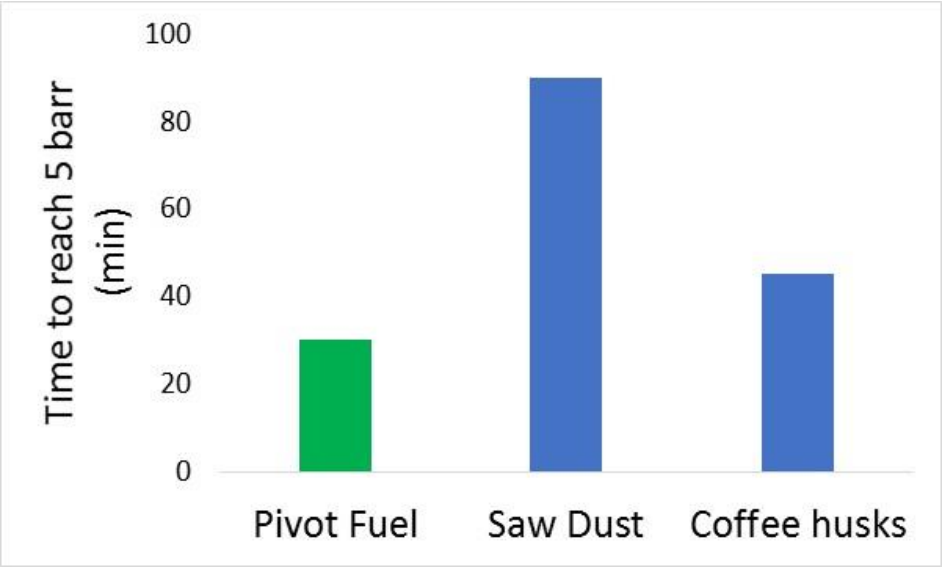
Pivot Fuel Energy Balance per ton finished fuel



Fuel comparison



Burning trials: Utexrwa



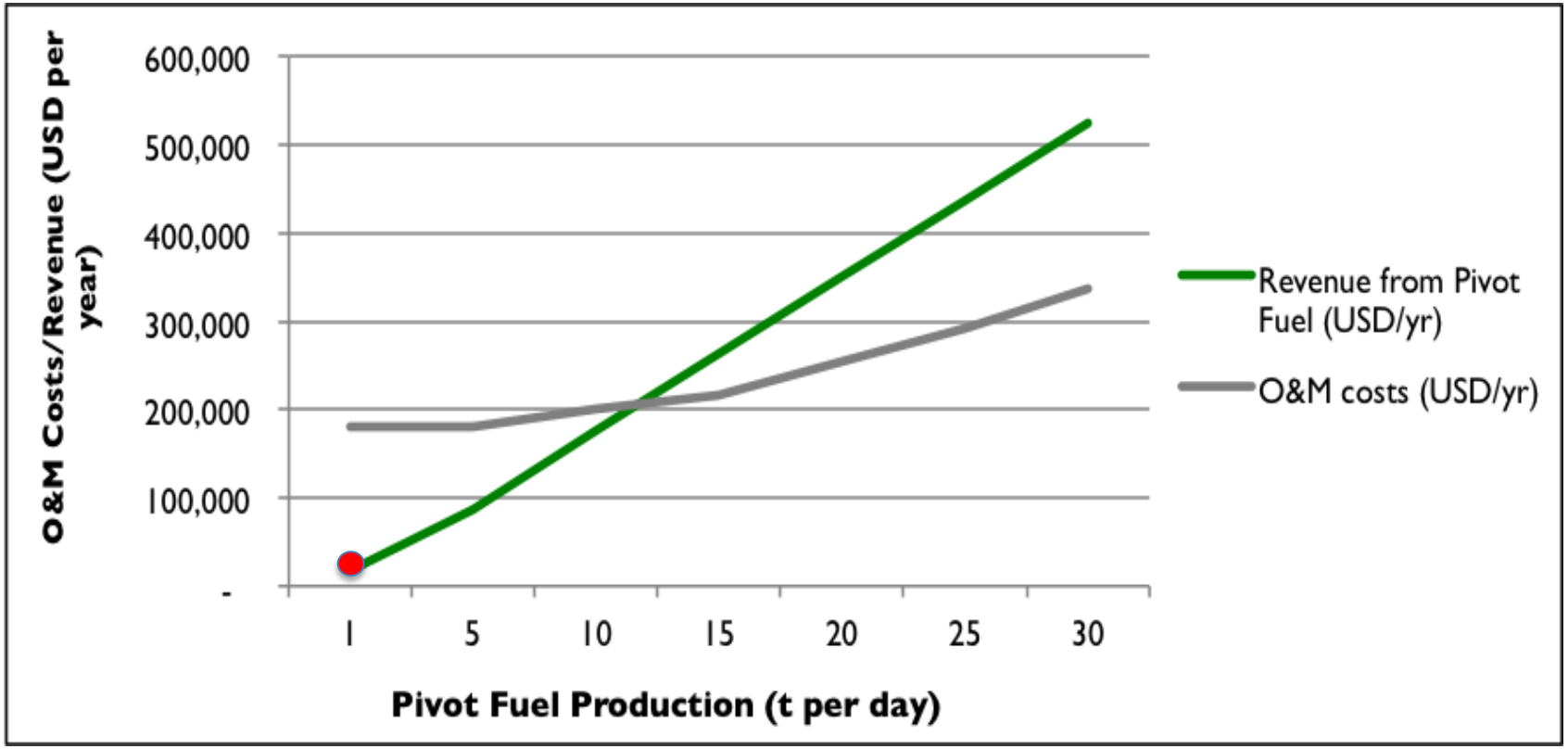
Cimerwa

- Fuel added at the precalciner to maintain temp. at 900°C
- 50/50 Mixture of Coal and Pivot Fuel
- Coal-only feed rate: 3.6-3.9 tph; Mixture feed rate: 4.2-4.6 tph

Treatment

	Unit	Influent	Effluent
		City of Kigali - Septic Sludge	Residual Liquid from Dewatered Sludge
BOD	mg/l	2820	173
NH_3	mg/l	88	45
VSS	mg/l	232.3	7.8
Total P	mg/l	51.3	20.1
TSS	mg/l	505	17
FOG	mg/l	1.4	0.7
			Pivot Fuel
Fecal Coliforms	Cfu/ 100 ml	9×10^5	3×10^2

A viable economic model for sanitation



Pivot's production in Kigali

Sourcing – FS is everywhere, but it's never enough

Some of our partners

SNF FLOERGER

BMW Foundation
Herbert Quandt

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