



Access Energy Technologies Ltd

WASTE TO ENERGY EnvirOcyclers

"Reasonable, Responsible & Recycling"



The “EnvirOcycler

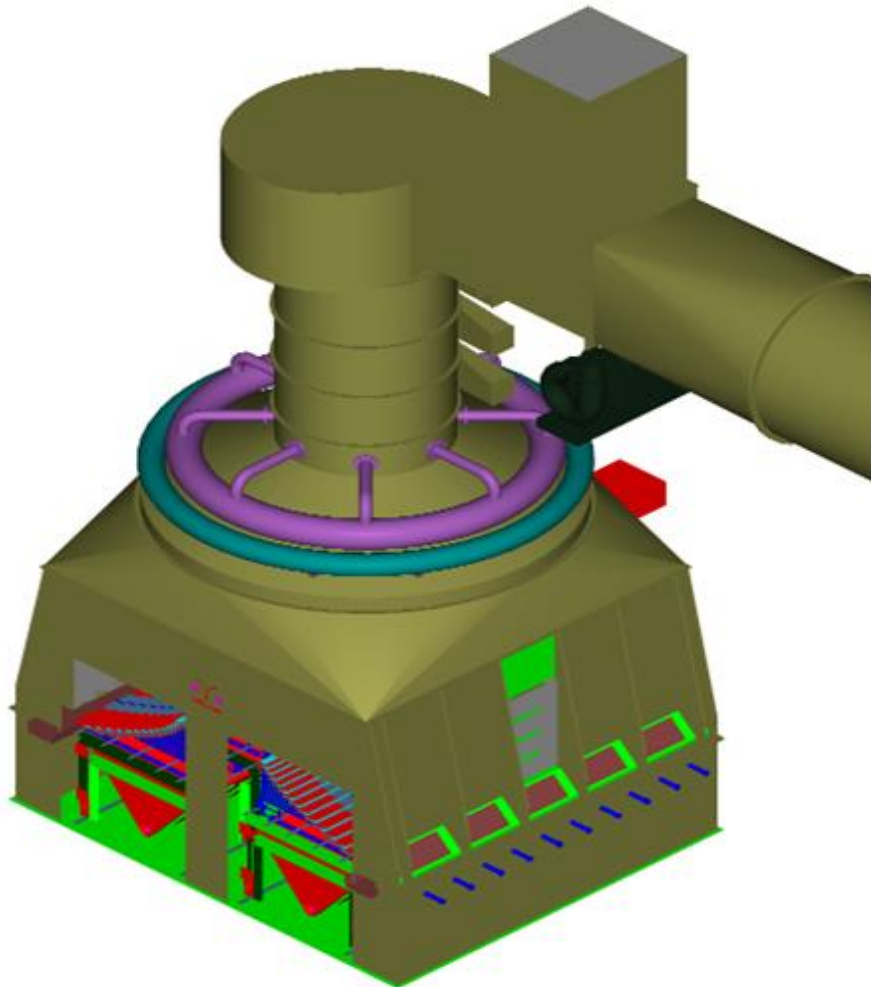
The EnvirOcycler is a 2-stage gasification unit that gasifies wet biomass (such as wood waste) and MSW

Units have been in continuous service in the US forest products industry for over 28 years

The EnvirOcycler is the cleanest wet biomass gasifier combustor in North America today



Waste Disposal with Energy Recovery



Each unit is self sustaining

- *100mm/Btu per hr
EnviroCycler Results in the
generation of 6.5 Megawatts of
Clean Green Power*
- *Can gasify Biomass that has
35-65% moisture content.*
- *Estimated to divert 60 to 70 %
of waste from landfills.*

EnvirOcyclers



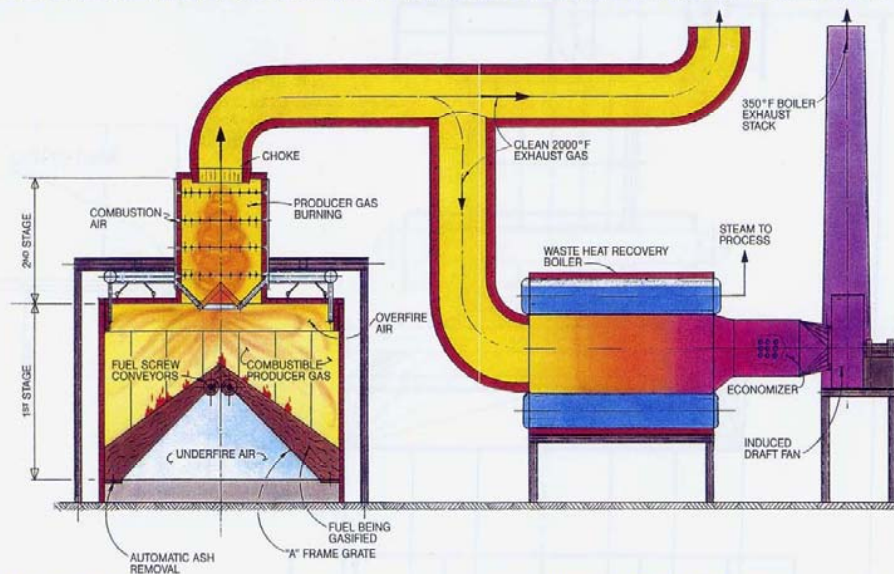


How Does It Work?

- ***Underfire** air gasifies biomass in the 1st stage*
- ***Overfire** air preheats 1st stage producer gas to ensure ignition in the 2nd stage*
- ***Primary combustion** air ignites the preheated producer gas at the bottom of the 2nd stage*
- ***Secondary combustion** air completes combustion of producer gas in the 2nd stage*

How Does It Work?

HEURISTIC ENVIROCYCLER WASTE DISPOSAL WITH ENERGY RECOVERY



OPERATING PRINCIPLE

- First stage: Gentle, updraft gasification generates combustible producer gas at controlled temperatures.
- Second stage: Vigorous, cyclonic combustion of first stage producer gas, with minimum excess air, produces high temperature, clean products of combustion.

SPECIAL FEATURES

- Feed: Robust, dual screw conveyors or dual hydraulic rams.
- Grate: Large, stainless steel, low heat-release rate, A-frame grate.
- Ash Removal: Reciprocating, wedge-type unloaders on either side of grate bottom (easily removed for servicing).

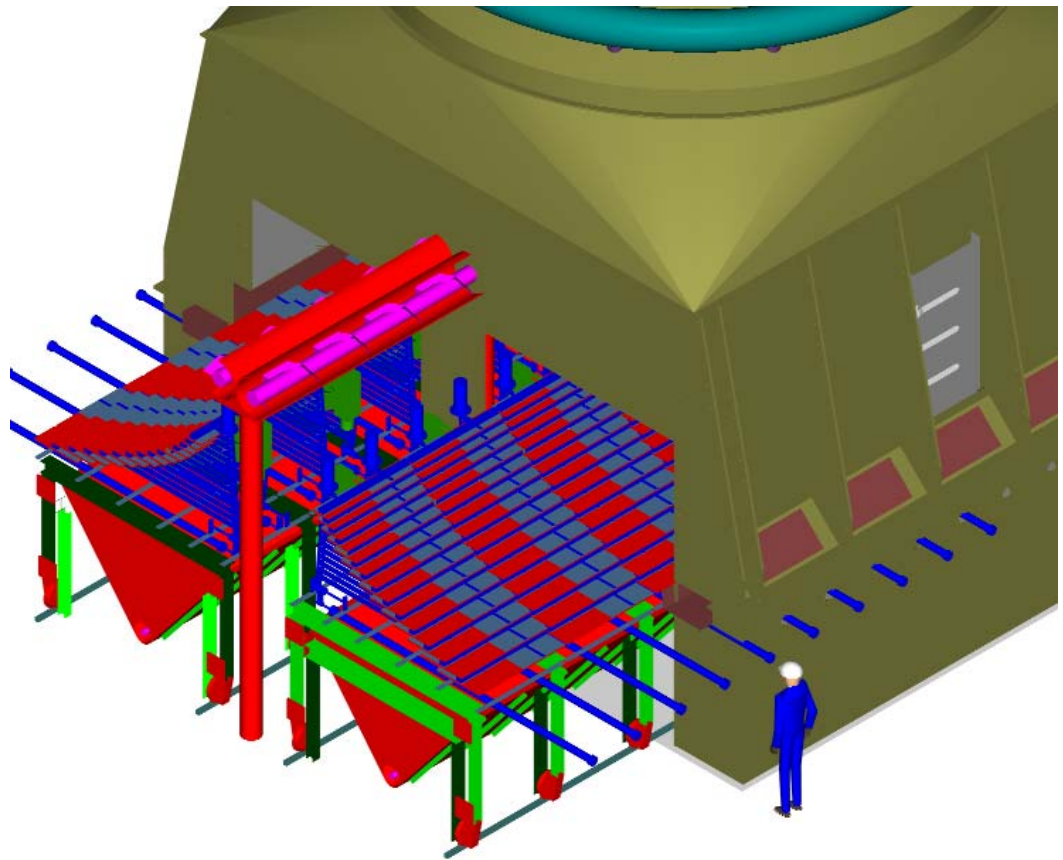


Unique features

*Low Heat Release Rate
Grate 1100 F*

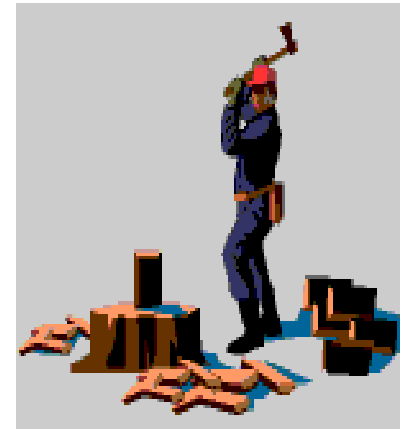
High Pressure Drop Grate

*Injected, High Velocity,
Overfire and Secondary
Air*

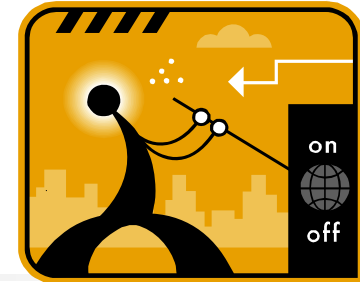


EnviroCycler Fuel

- *Wood Waste*
- *Municipal Solid Waste*
- *Bio Solids or sludge from waste water*
- *Used railway ties & telephone poles*
- *Construction, demolition or land clearing debris*
- *Poultry litter*
- *Cow manure*
- *Pig manure*
- *All or mixtures of the above can be processed in the Thermal Oxidizer*



Significant Features



- *5:1 turndown ratio is standard; 9:1 is not uncommon*
- *15 second response time to step change in Btu Demand signal*
- *Abort valve permits rapid dumping of products of combustion in case of an emergency*



Summary

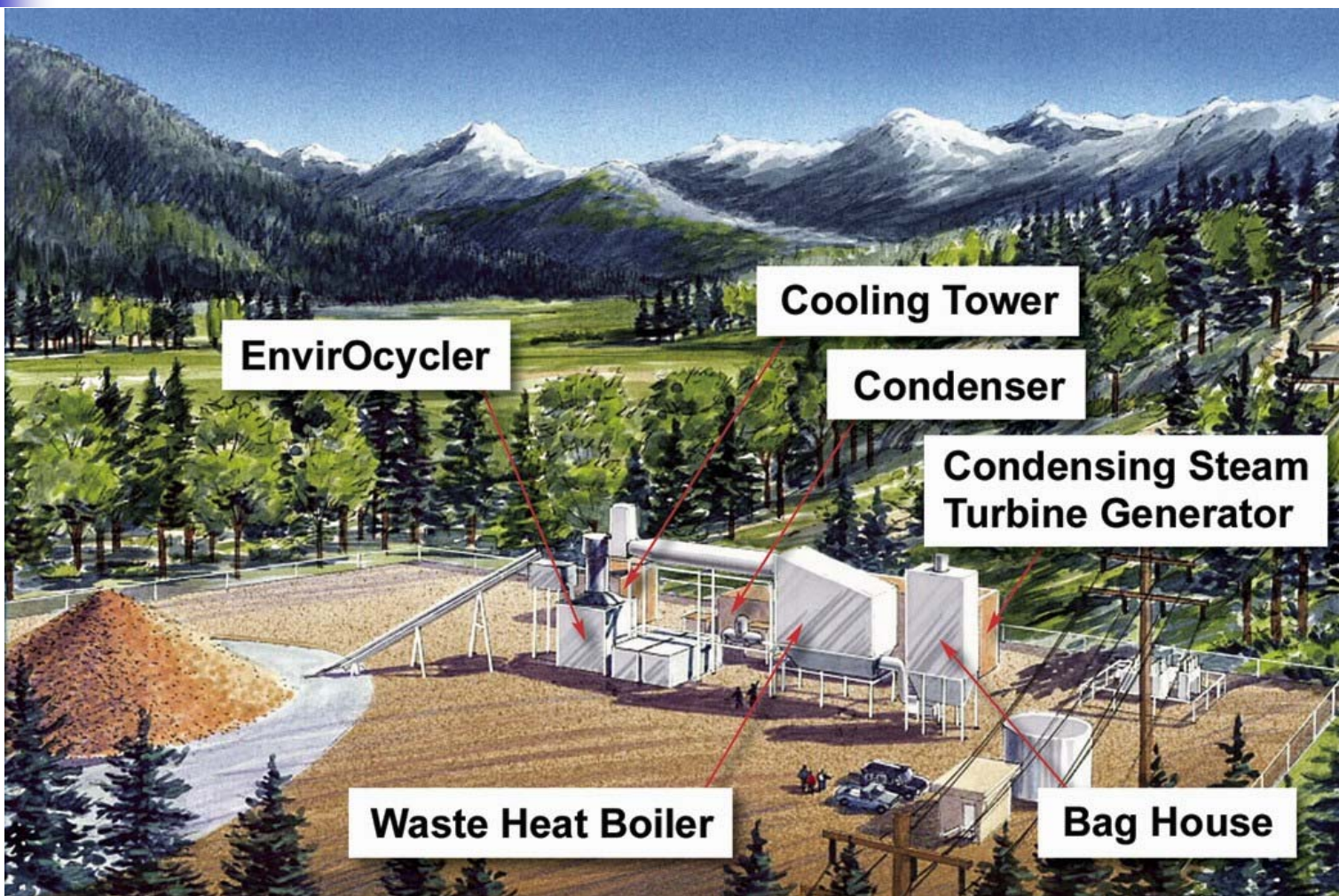
- *Large grate area*
- *Biomass size up to 3 inch minus*
- *Moisture variation of 30% to 65%*
- *Very low air velocity in 1st Stage*
- *Low 1st Stage Temp. 1100 F*



Summary

- *Zero vaporization, alkali metals (Na, K)*
- *Highly turbulent second stage*
Double Vortex combustion + 1850 F
- *Capture of all solid particulate*
- *6 to 10 % Ash*

EnviroCycler Site



Power Generation Equipment



Construction

- *Estimated direct workforce will be 35 to 40 men for approximately 14 months*
- *Additional jobs in transportation and supply.*



Construction Major Trades



- *Electricians - major and sub-systems*
- *Welders and fitters*
- *Operators for power equipment, cranes, concrete*
- *Refractory specialists*

Environmental Compliance



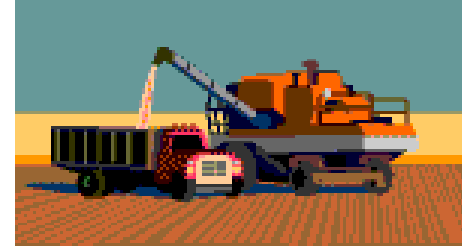


Environmental Control Features

- *Continuous measurement of 100 Data points, ensures EnvirOcyclers compliance with performance requirements and emission regulations.*



Environmental Benefit's



- *With a maximum grate temperature of 1,100° F, potassium (potash) and sodium (soda) in the ash do not vaporize.*
- *The potash and soda remain and are used agriculturally as a fertilizer .*



Environmental Benefit's

- *Project technology is recognized under the Kyoto Protocol (under the United Nations Framework Convention on Climate Change) to reduce greenhouse gases (CO₂)*
- *Project will displace CO₂ from fossil fuels used to generate grid power electricity*



Thank you!

“ there need not be any conflict between the environment and the economy. We will find the way not only to reconcile (those), but to find new profits and new opportunities as we do the right thing. ” Al Gore.

- *We welcome any questions you may have on this introduction to Access Energy Technologies EnvirOcyclers*

*Contact: Douglas Beer
doug@aetmail.com
or 1-604-737-1005*

