

American International BioSugars



Breakthrough technology to
profitably convert cellulosic waste
into industrial sugar

Agenda

- ✓ The AIB breakthrough
- ✓ The AIB process
- ✓ Standard plant configuration overview
- ✓ Business cases
- ✓ Financial projections
- ✓ Summary

American International Biosugars, LLLP

- ✓ Founded in 2009
- ✓ Owner of patents pending in the U.S. and worldwide
- ✓ Headquartered in Palm Beach, Florida
- ✓ Single unit plant in Sarasota, Florida
- ✓ Equipment manufactured in the USA

The breakthrough

A proprietary chemical and mechanical process (patent pending in the US and worldwide) to convert cellulosic biomass waste (bagasse, paper, cardboard and green waste) into a fermentable industrial sugar solution.

Batch processing time of approximately 8 hours

Optimized water and energy solution

ROI dependent of feedstock and sugar yield but 4 to 5 years as a norm⁽¹⁾

(1) U.S. typical operating costs

Industrial Biosugar

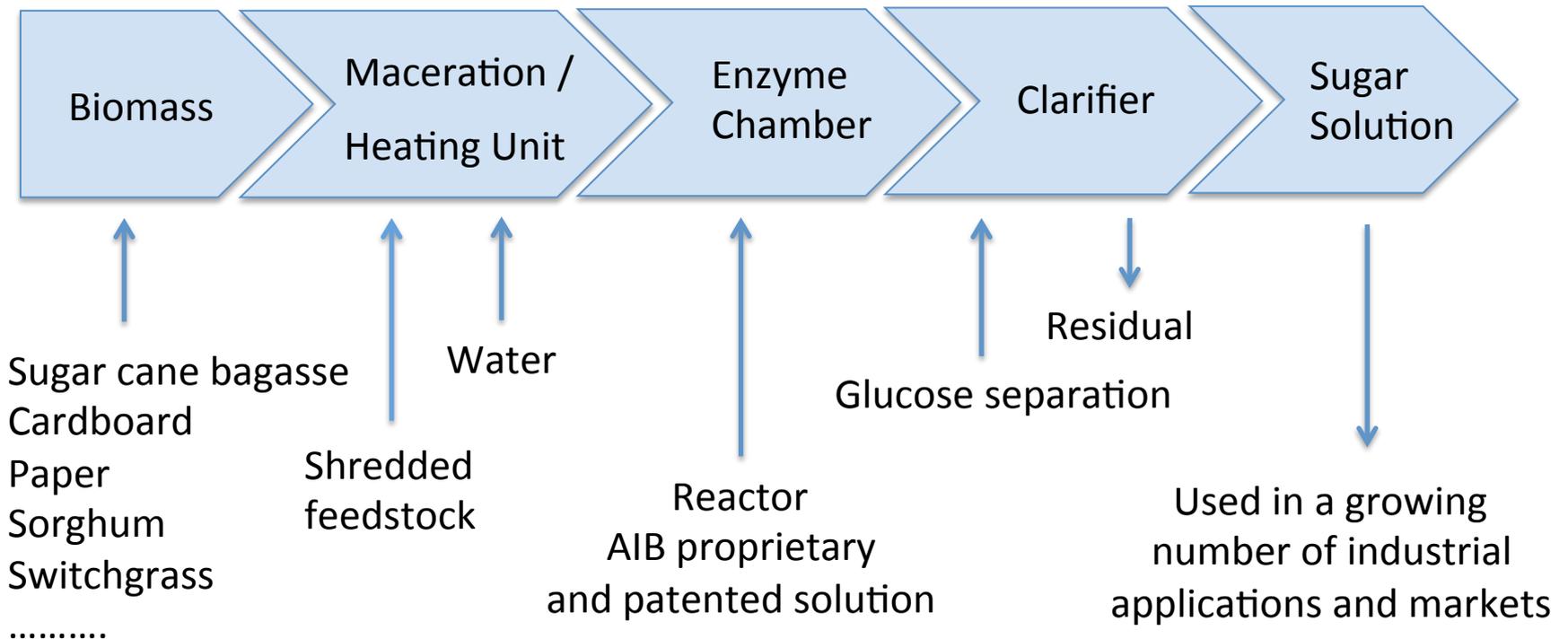
Used as the raw material in many industrial processes for:

- Biofuels
- Bio-plastics
- Detergents
- Surfactants

- Resins
- Solvents
- Inks

AIB Process

A modular, scalable, and containerized LEAN process



Processing capacity

One Processing Reactor



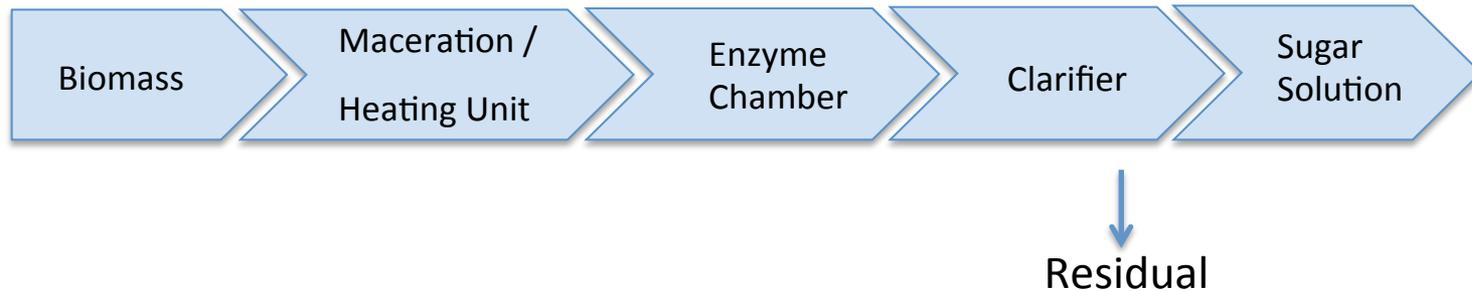
3 cycles every 24 hours

Standard Processing Plant = 6 Processing Reactors

Production figures presented reflect 90% capacity utilization

(*) Based on a typical yield of 37 % sugar solution – See table Typical Feedstock Yields
Round numbers used for indicative purposes

Uses of the residual



- Fertilizer

The AIB process does not alter the characteristics of the fertilizing elements of the original feedstock, neither changes the ratios of the source elements.

The residual is in viscous form which makes it easier to apply to fields and crops.

- Fuel source

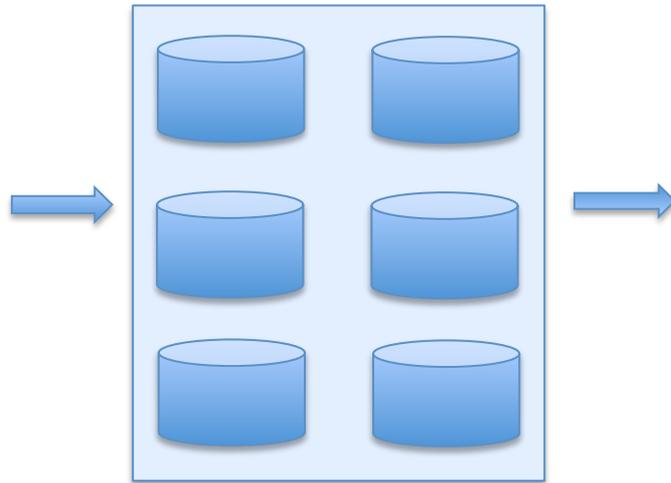
High energy density compacted into pellets – low moisture content and efficient for transportation.

Feedstock for anaerobic digester to produce methane or electrical power on site.

Standard Processing Plant

Each of the 6 independent reactors is capable of processing the same or different feedstock in each cycle

47 tons of feedstock
per day

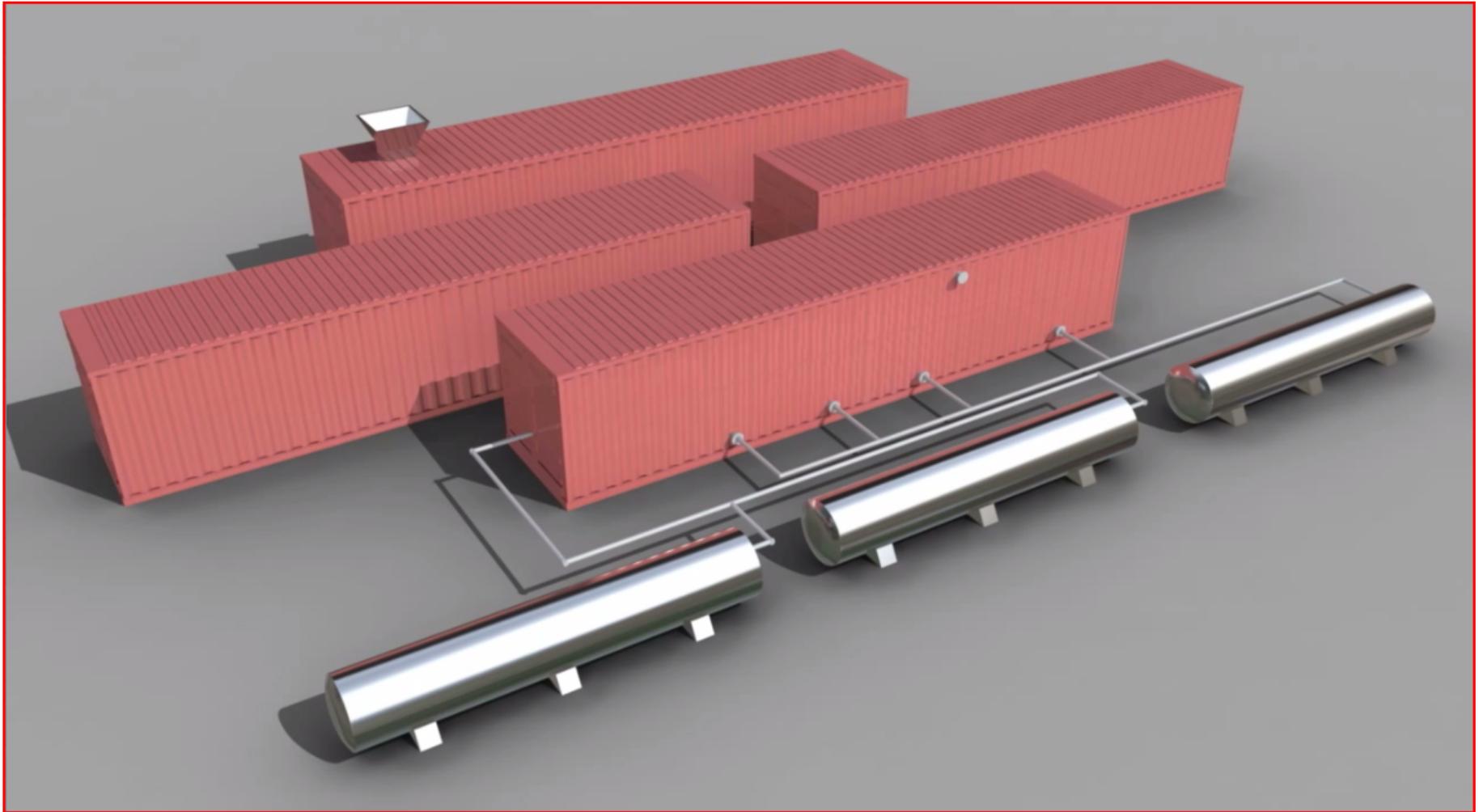


15.6 tons of sugar
per day (*)

The standard processing plant is built inside 5 containers, facilitating shipping, field installation and **reducing costs of purpose built building to house the AIB plant**

(*) Based on a typical yield of 37 % sugar solution – See table Typical Feedstock Yields
90% plant efficiency / round numbers used for indicative purposes

Standard Plant Overview



Standard Plant Metrics

Process 16 tons of feedstock in one 8-hour shift

3 shift operation processes 47 tons of feedstock every 24 hours

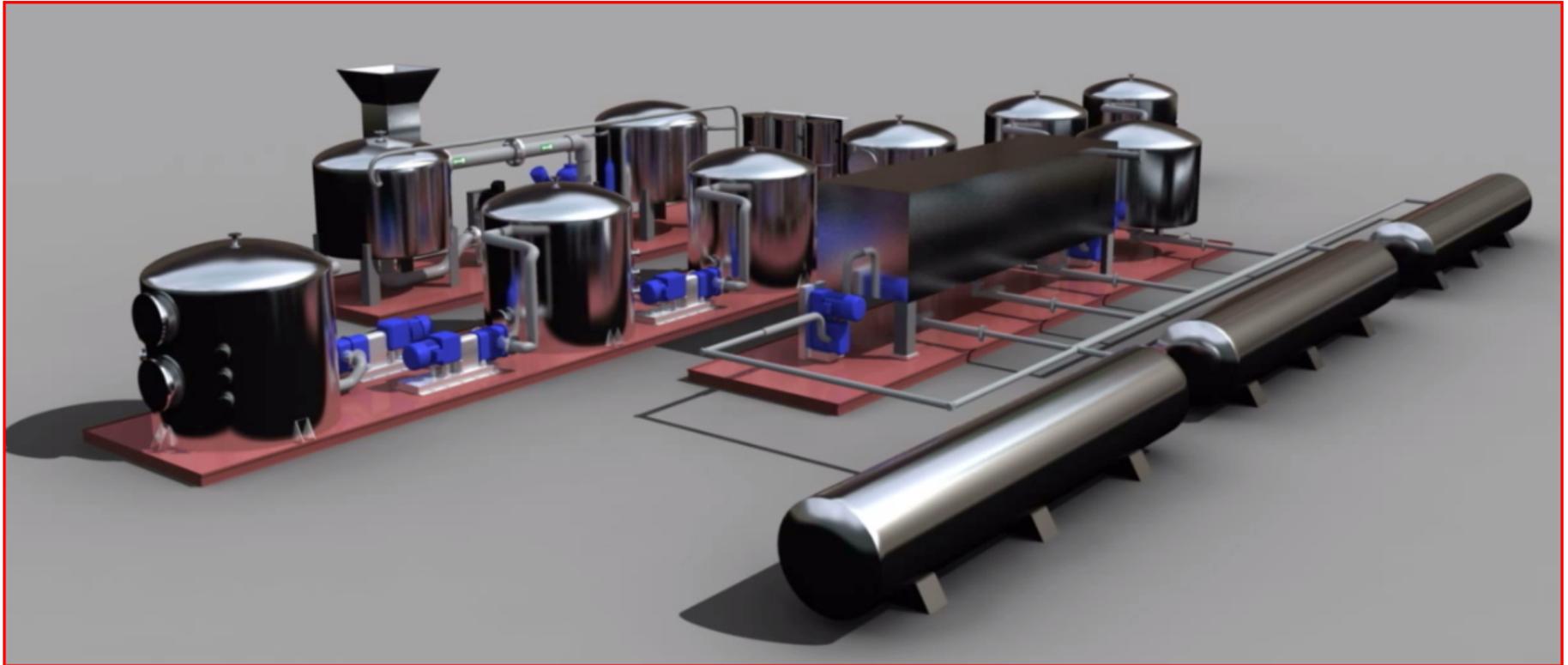
Production capacity ⁽¹⁾			
Daily		Annual	
Biomass	Sugar	Biomass	Sugar
47	15.6	16,450	5,460

(1) Figures in US tons

Multiple standard plants can be co-located to accommodate large feedstock volumes

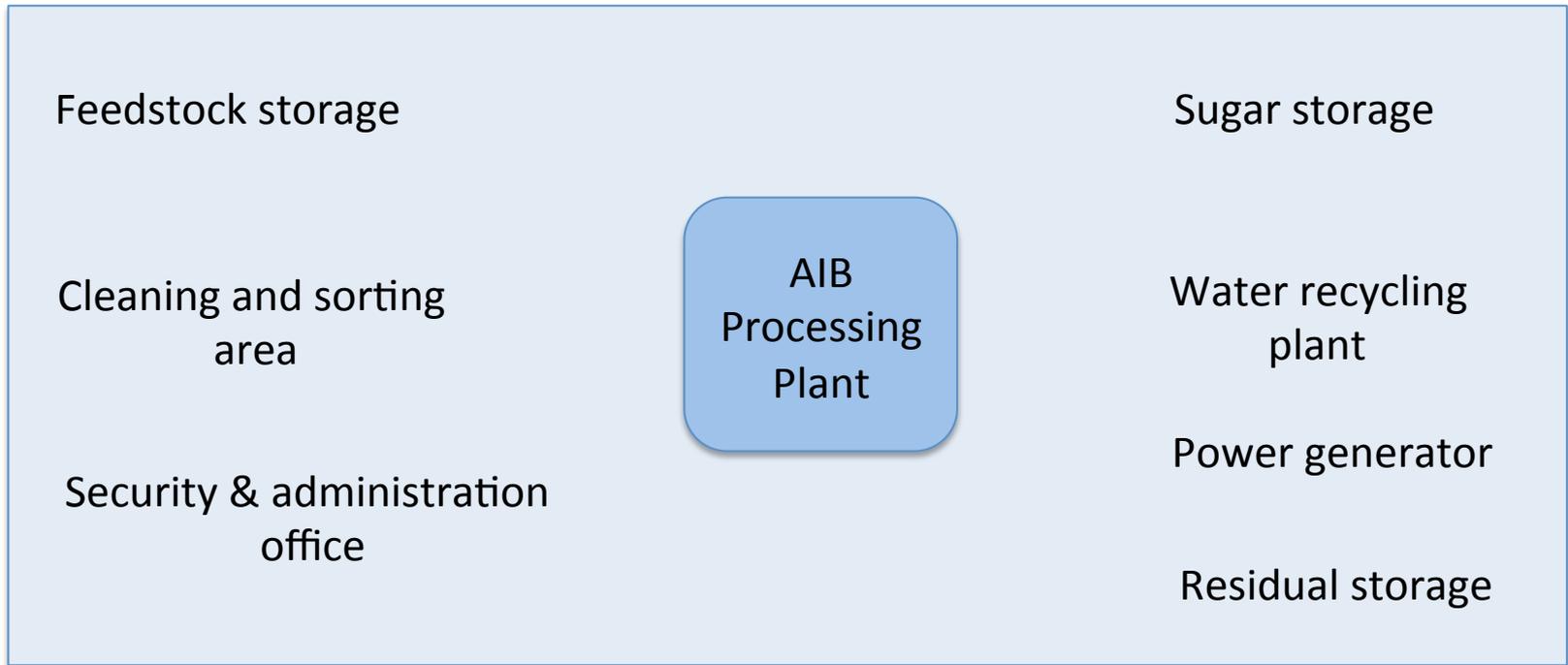
Assumptions: 350 days of operation a year / 3 shifts a day / 90% plant efficiency / 37% yield / actual yield will vary based upon customer's feedstock / round numbers used for indicative purposes

Standard Plant Open View



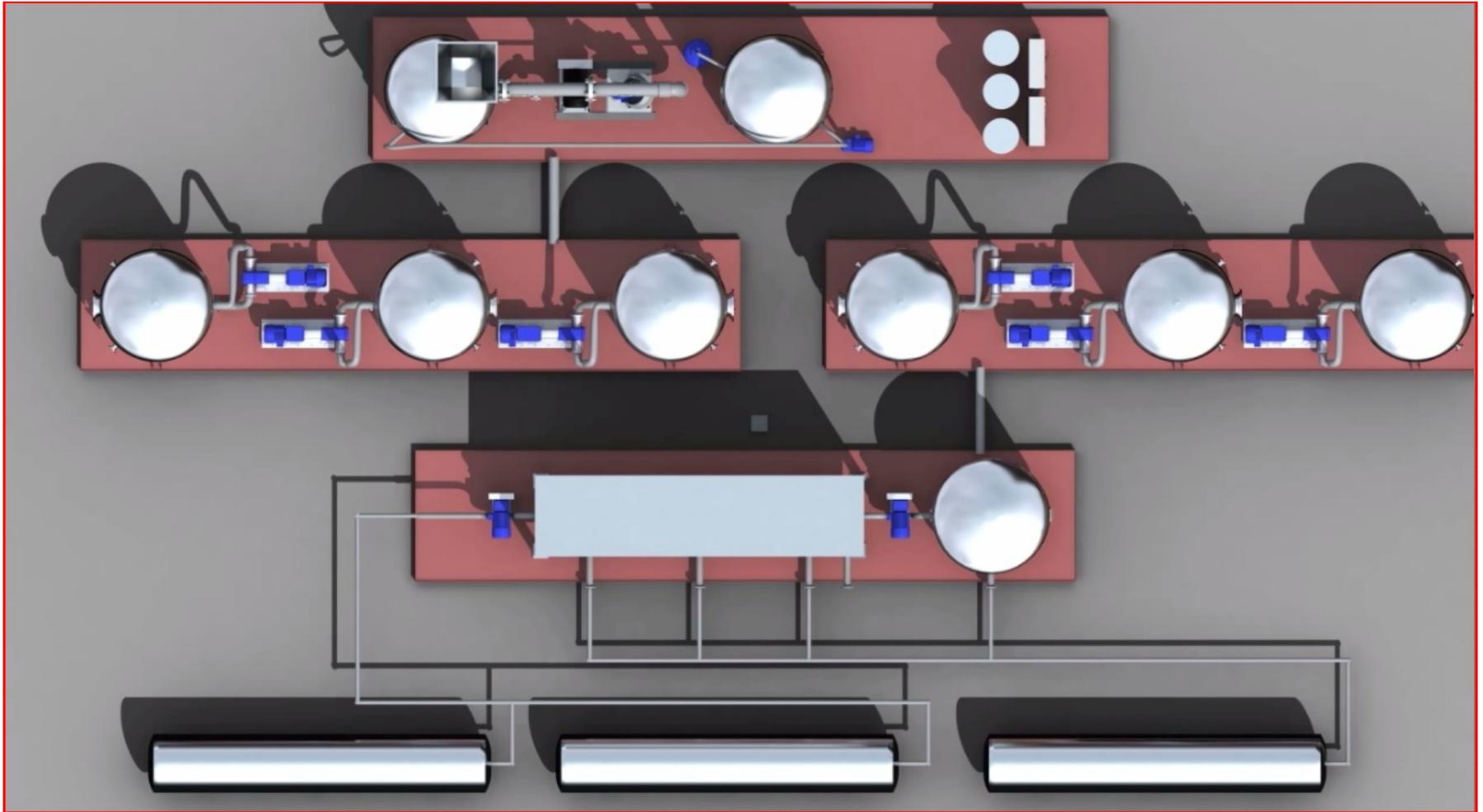
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Typical Plant Facility



Total suggested area = approx. 2.500 m² / 27,500 sqft

Standard Plant Plan View



Feasibility analysis

- Feedstock analysis
 - Required to calibrate the efficiencies and yields of the AIB system
- Site survey
 - Formal questionnaire on actual site costs (water, electricity, labor,...) and supply of available feedstock
 - Information required to prepared the Project Financial Estimates
- Project Financial Estimates
 - Prepared and presented by AIB based on the information provided by the Site survey and feedstock analysis

Thank You!

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Support Slides

Business Cases - I

Waste Haulage Company

- ✓ Landscape waste is collected and sorted
- ✓ The large pieces of wood are sold for power generation
- ✓ Green waste has low calorific power to be used as fuel
- ✓ AIB process turns green waste into fermentable sugar
- ✓ AIB is offering a turn-key solution and funded plant addressing the specific needs of the company
- ✓ AIB is in advanced discussions (contracts being reviewed) in Florida with cities and landscape waste companies

Business Cases - II

Government Economic Development Program

- ✓ Initiative to profitably and sustainably create employment in rural area
- ✓ It will employ unused land, which cannot be used for food production, to grow native feedstock with no special need for irrigation or fertilizers
- ✓ Selected feedstock: elephant grass and sorghum
- ✓ Estimate yields for elephant grass: 40 tons⁽¹⁾ per hectare⁽²⁾ every 70 days
- ✓ 150 hectares can produce 6,000 tons of feedstock every 70 days or 30,000 tons per year, sufficient to supply one standard plant that processes 15,000 tons/year
- ✓ One standard plant can produce 5,000 metric tons of sugar a year

(1) Metric ton = 1000 kg = 2204 lb (2) Hectare = 10,000 m² = 2.47 acres

Business Cases - III

Vegetable Producer

- ✓ Use of multiple feedstock including waste vegetables from processing, cardboard, and sorghum
- ✓ Sorghum is used to control weeds during the non-growing season from May to September
- ✓ Sorghum typical yields are 10 US tons per acre ⁽¹⁾ every 120 days
- ✓ The available area of 3,000 acres can produce 30,000 US tons during the non-growing season
- ✓ The feedstock volume from sorghum alone is sufficient to supply one standard plant that processes 16,450 US tons/year
- ✓ One standard plant can produce 5,460 US tons of sugar a year

(1) Acre = 0.40 ha