

# AVATAR ANAEROBIC DIGESTERS

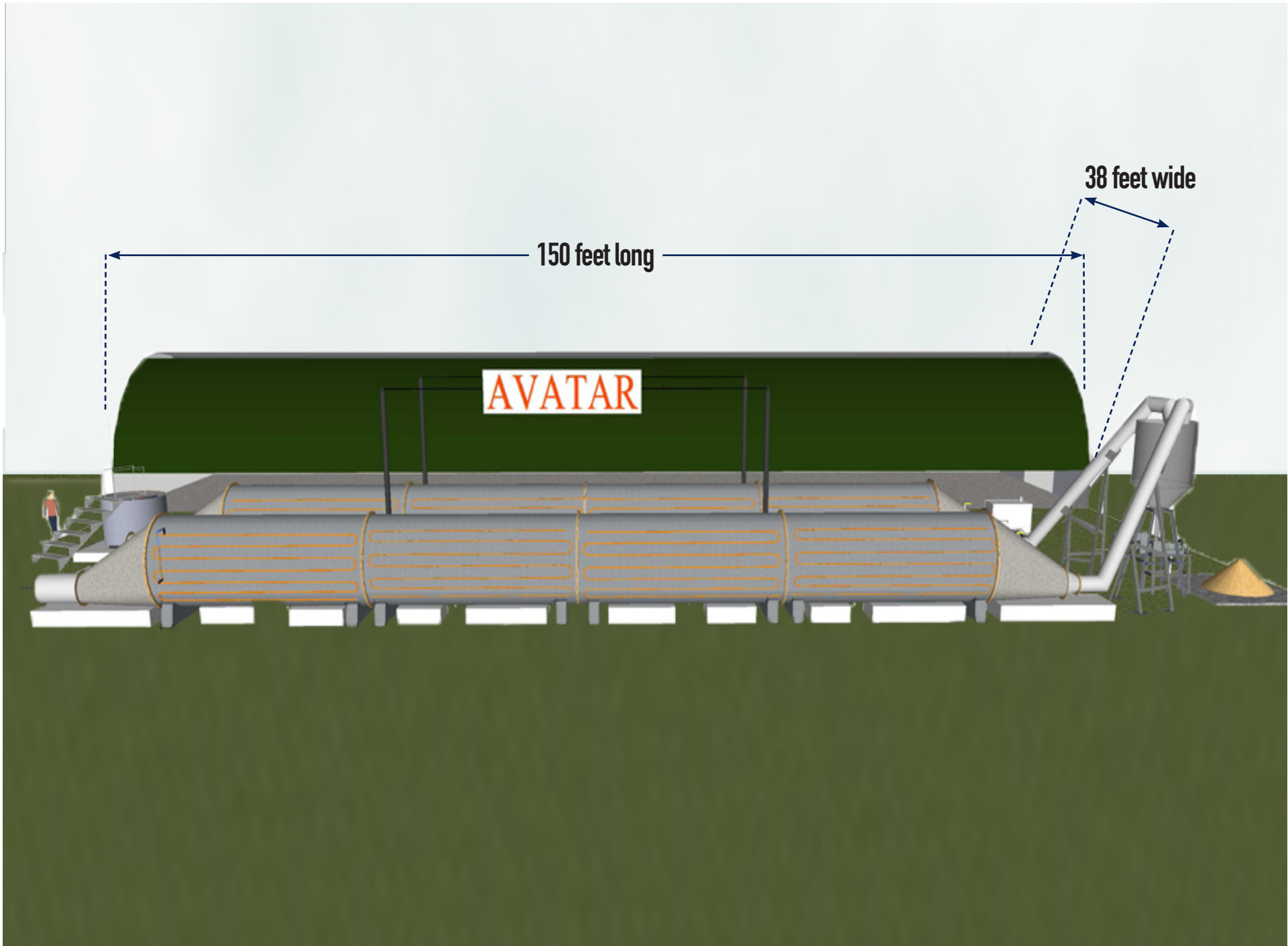
*General Information Packet*



150 feet long

38 feet wide

AVATAR



# MAIN BENEFITS



- Automated system runs 24/7
- Bio-gas from the digester can be used to supply most of the farms energy needs, including heaters and electric generators
- Digested manure loses 90% of noxious odors. Weed seeds and pathogens are also attenuated.
- Digested manure can be separated into liquids and solids.

Solids can be used for a bedding material, similar to sawdust in consistency. A solids separator has the ability to produce material with a moisture content below 65%

Liquids from the separator are aerobically treated in Avatar's trickling filters to stabilize nitrogen and to drop out phosphorus into a sludge that can be harvested and used on or off the farm.

- Manure volume is reduced by ~15% when solids are separated from digested manure.
- Nitrate-rich liquid can be spread on crops safely throughout growing season, reducing fertilizer costs.
- Earns renewable energy credits and emissions offsets for the farm.
- Adaptable and scaleable system makes system flexible to various sizes of farms
- The fiberglass hulls have a life expectancy of 30 years

# DESIGN FEATURES



- This system is designed for dairy farms whose collected manure is a slurry of 8-12% solids, ideally where sand is not used as bedding or has been pre-separated.
- Plug Flow System operates in the mesophilic temperature range (95-105°F), and has the best track record among digester systems.
- Modular and Scalable Design: Digester hull sections are 8 feet in diameter by 20 feet long, each handling manure produced by approximately 25 cows. Hulls are made up of a number of hull sections linked together and can be arranged in parallel and lengthened to adjust the capacity to match the herd size.
- Automated Operation: The control system included with the digester operates the system automatically, reducing maintenance time to a few hours per week.
- Non-Fixed Asset: The digester hulls sit on packed gravel (not concrete), and can be completely disassembled. This modularity allows the farmer to move the system. The long life of the fiberglass hulls reflects the significant resale value that the digester will retain.



# MAINTENANCE



## *Routine Maintenance*

- Monitor system 1/2 hour per week (follow list of checkpoints)
- Mix each digester hull 1 hour every other week
- Clean heating coils and tail outlets; 2-4 hours quarterly

## *Digester Clean-Out*

- Average clean out takes approximately 3-5 days/hull.  
(Please call us for more details)
- Clean-out within the first 3 years to determine regular schedule (every 5 to 10 years, depending on sediment build-up).

## *Replacement Costs*

- Injector seals (1 per hull); replace 3-5 years @ \$200 each
- Separator screen; replace every 2-4 years @ ~\$1,000
- Trickling filter media; replaced every 2-3 years @ \$500 per filter
- Pumps, motors and other hardware have been selected for cost-effectiveness and local availability.

# WINTERIZATION



- The digester is heavily insulated to enable it to operate in cold climates.
- The digester is housed in a covered structure to further protect it from the elements

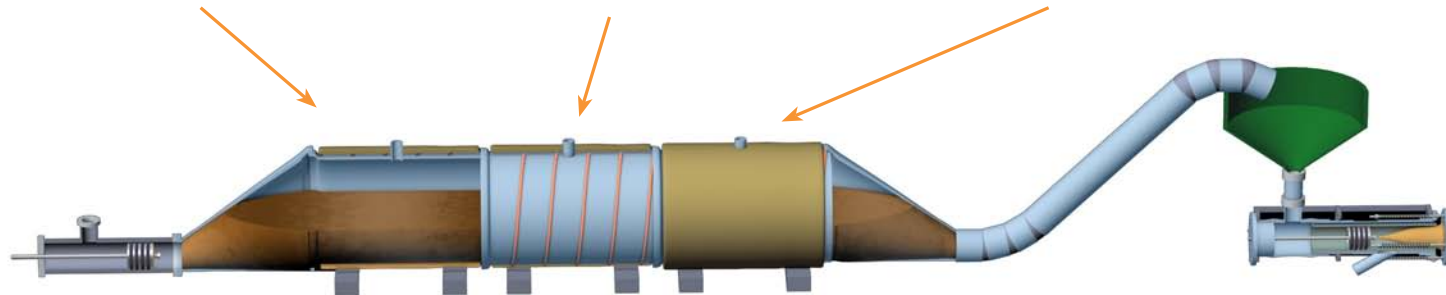


## The Avatar Anaerobic Digester

The manure is processed in the holding tank for 18-21 days. Methane gas rises and is collected above the sludge.

A heating coil is wrapped around the holding tank to maintain optimum temperature for manure processing and methane gas production.

The exterior of the digester hull is wrapped in waterproof insulation suitable for interior or exterior installation sites.





*FOR MORE INFORMATION*

*PLEASE CONTACT US AT:*

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*OR TOLL FREE AT*

*(877) 282 8270*

*(877) AVATARO*

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*Our Mission:*

*The development of technologies that transform  
and sustainably drive our economy.*

*Combining ecological and engineered processes  
to manage complex agricultural systems.*

*Our products allow farms to recover and reuse  
their resources cost-effectively.*

