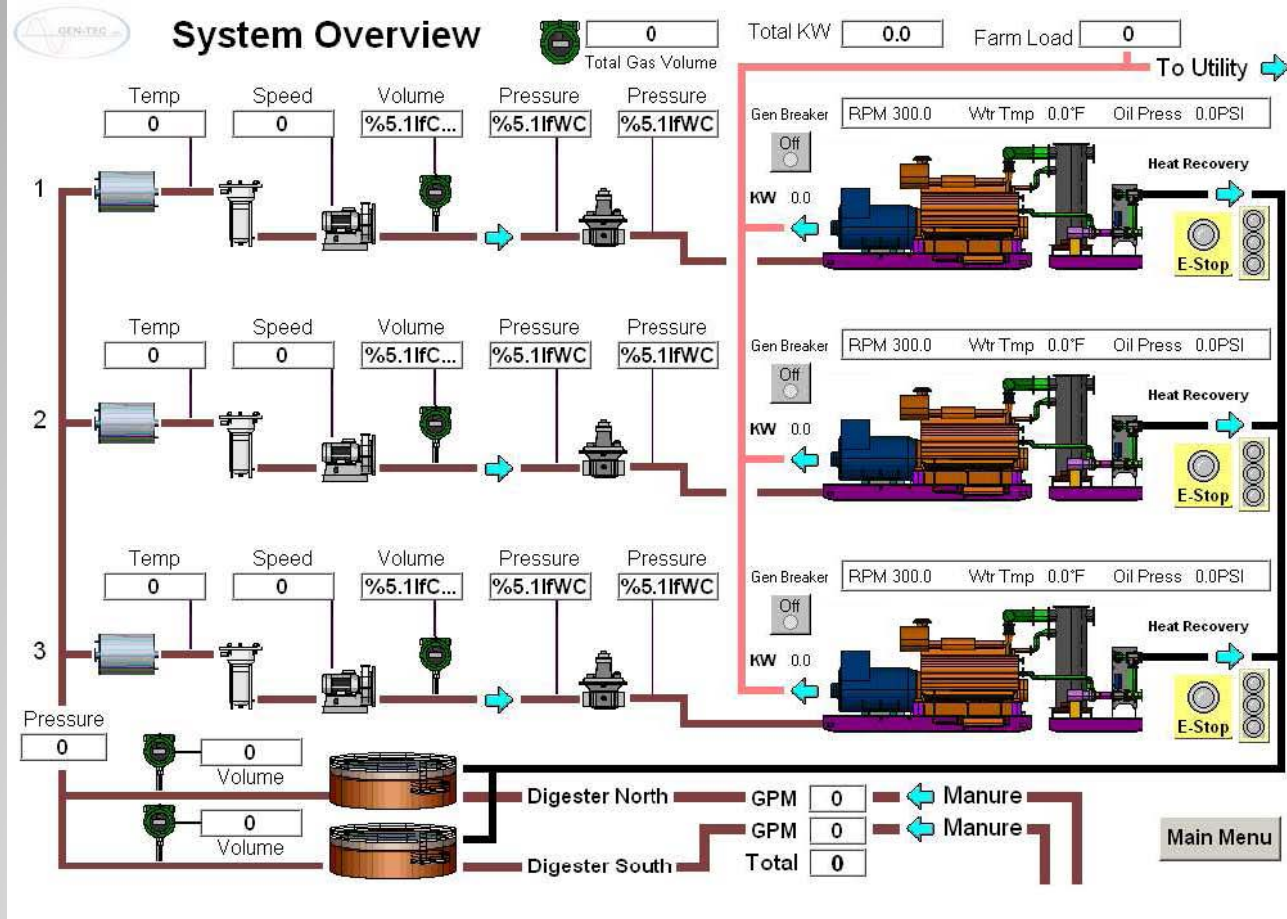


# AgSTAR '09

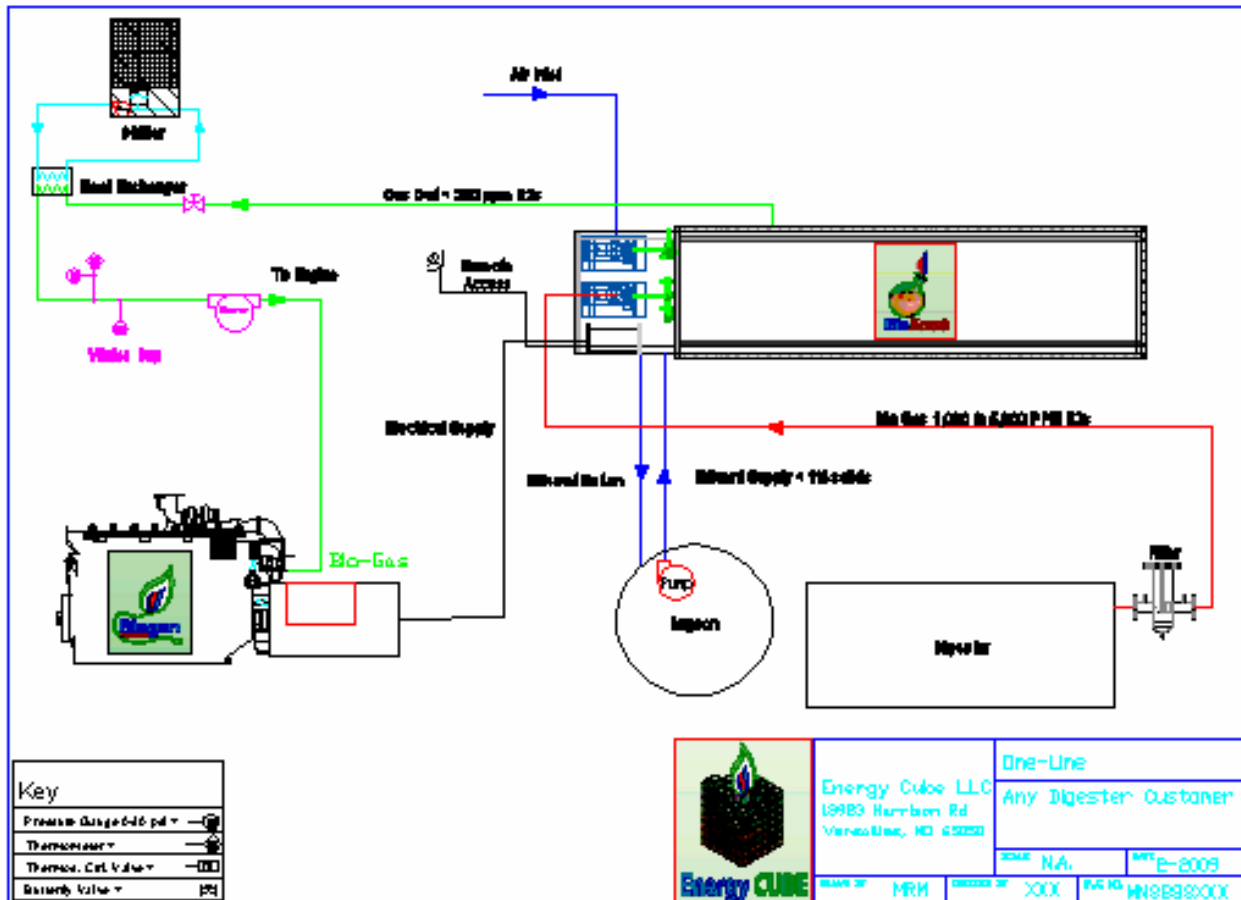
New Generator sets and  
On-farm Use of Biogas

- Canada
  - Jenbacher, Deutz, MAN, and Schnell (diesel+gas)
- Europe
  - Guascor +40% electrical efficiency engine for sale
  - Jenbacher, +44% electrical efficiency
  - MWM (Deutz) is becoming more aggressive
- USA
  - EPA Ruling
  - European engines (above)
  - Caterpillar G3520 +41% efficiency, Waukesha, Cummins

## Frontiers in Power Gen



# Gas to Generator sets



Get the H<sub>2</sub>s OUT-2009

- Boilers
- Heat recovery
  - Cheese plants (Gallo)
  - Yogurt Plant (Joseph Heinzle)
  - Manure drying
  - Chillers for cooling



**Other uses**