

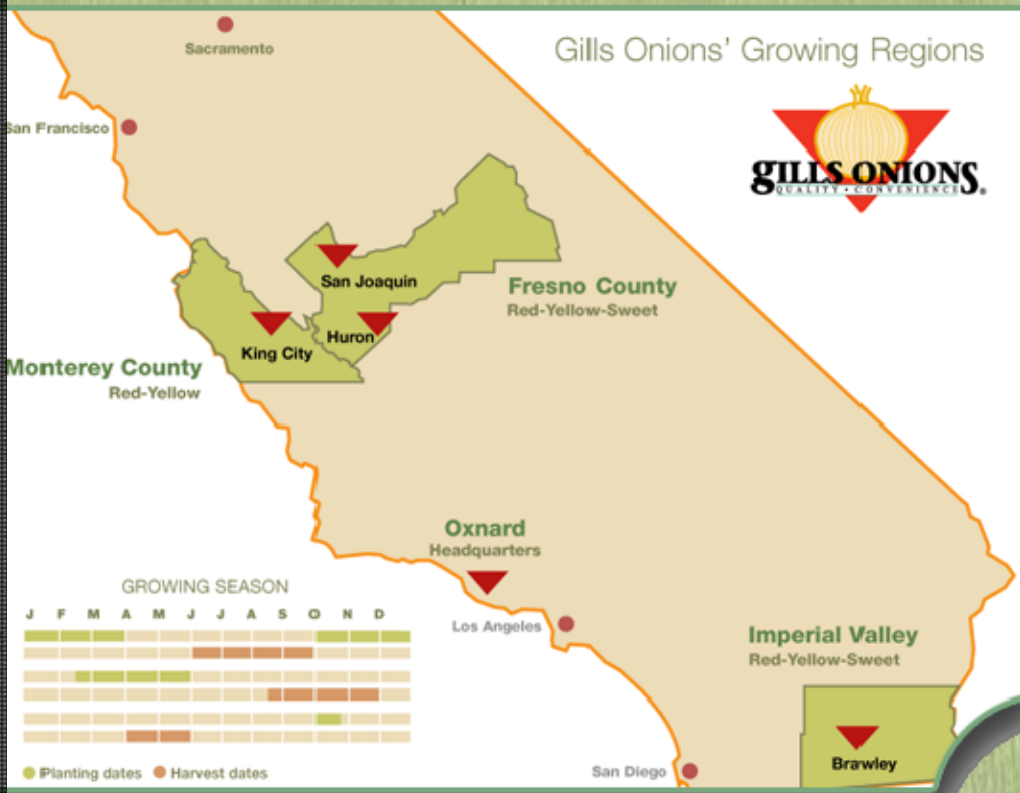


HYDROGEN LEARNING FOR LOCAL LEADERS

GILLS ONIONS ADVANCED ENERGY RECOVERY SYSTEM

MAY 17, 2011

GILLS STORY





- GENERATED UP TO 300,000 LBS OF ONION WASTE PER DAY (TOP, TAIL AND PEEL)
- WASTE BECAME UNMANAGEABLE AND COST-PROHIBITIVE
- CREATED ODOR PROBLEMS, POTENTIAL GROUND WATER CONTAMINATION



SOLUTION

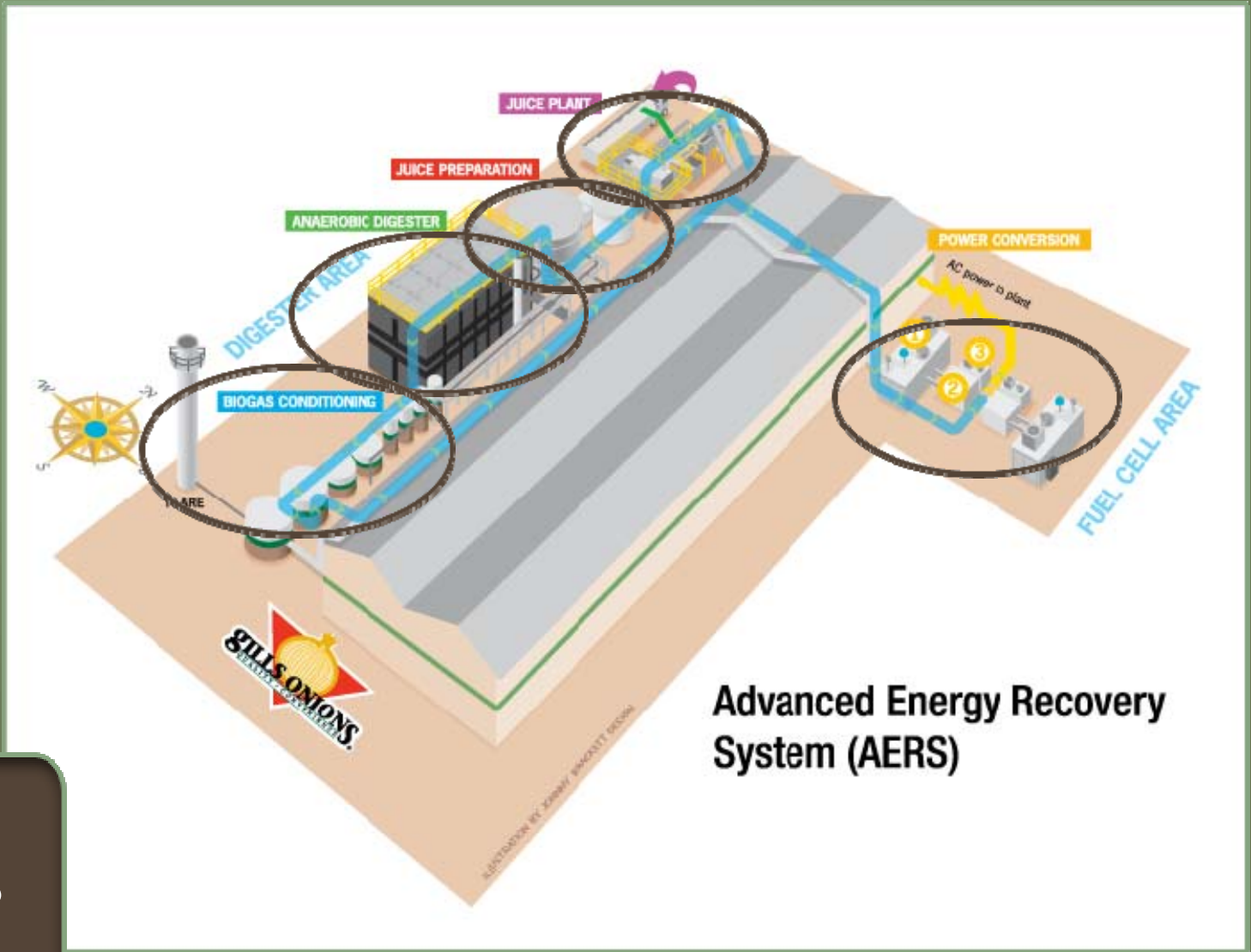
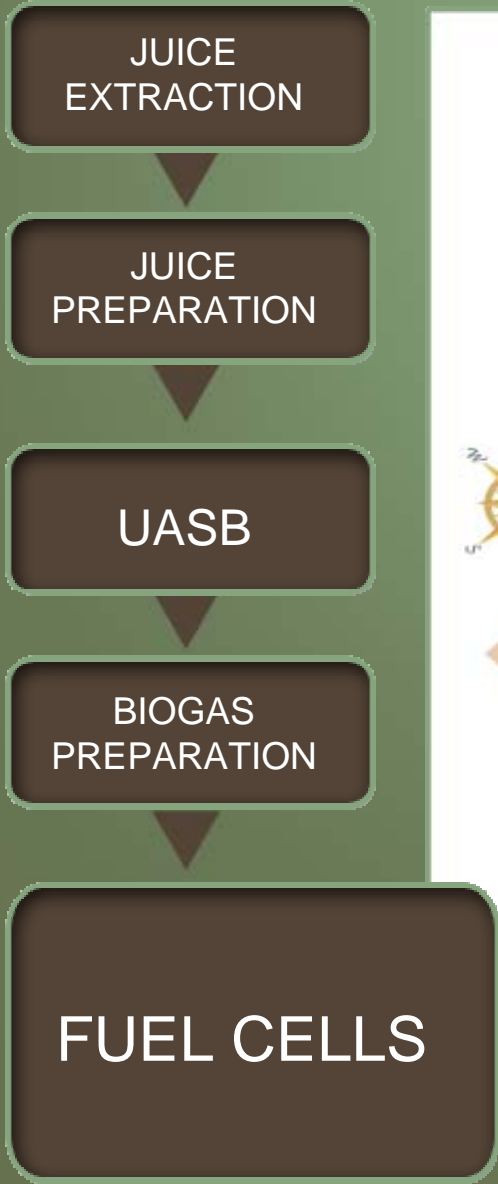
ONION WASTE TO ENERGY

ADVANCED ENERGY RECOVERY SYSTEM (AERS)

- CONVERTS ONION WASTE TO RENEWABLE ENERGY, ULTRA-CLEAN BIOGAS AND CATTLE FEED
- MEETS OUR GOALS FOR AIR QUALITY, ZERO WASTE AND RENEWABLE ENERGY
- WASTE NOW BECOMES A RESOURCE VS. LIABILITY



SIMPLIFIED PROCESS SCHEMATIC



FUEL CELLS BECOME THE MOST INNOVATIVE PRACTICAL SOLUTION TO FULFILL OUR NEEDS



- MEETS OUR GOALS FOR AIR QUALITY, ZERO WASTE, AND RENEWABLE ENERGY
- HIGH FUEL-TO-ELECTRICITY CONVERSION RATE: 47-50% EFFICIENCY
- ELIMINATION OF 40,000 GALLONS DIESEL FUEL TO HAUL ONION WASTE TO FIELDS
- REDUCES GHG AND KEEPS US AHEAD OF AB 32 REGULATIONS



8717
July 17, 2009
\$ 2,700,000
DOLLARS
Gillis Bros.
2009 Midway State Humane Museum
Hot 25

- \$10.8 MILLION PROJECTION ANTICIPATED PAYBACK BETWEEN 5-6 YEARS
- IMMEDIATE SAVINGS IN HAULING AND ENERGY COSTS OF \$1.1 MILION ANNUALLY
- GILL'S GENERATES UP TO 300,000 LBS/DAY OF ONION WASTE – CONVERTED TO BIOGAS
- 2 FUEL CELL ENERGY FUEL CELLS – 600 KW
- PROVIDES 100% OF BASE-LOADED ELECTRICITY REQUIREMENT



BOTTOM LINE FOR GILLS

“WE ARE TRULY HONORED TO HAVE OUR SUSTAINABILITY EFFORTS EXTENSIVELY VALIDATED THROUGH THESE PRESTIGIOUS AWARDS SIMPLY BY DOING THE RIGHT THING.”



- HIGH SULFUR CONTENT - REMOVE IMPURITIES AND MOISTURE FROM BIOGAS

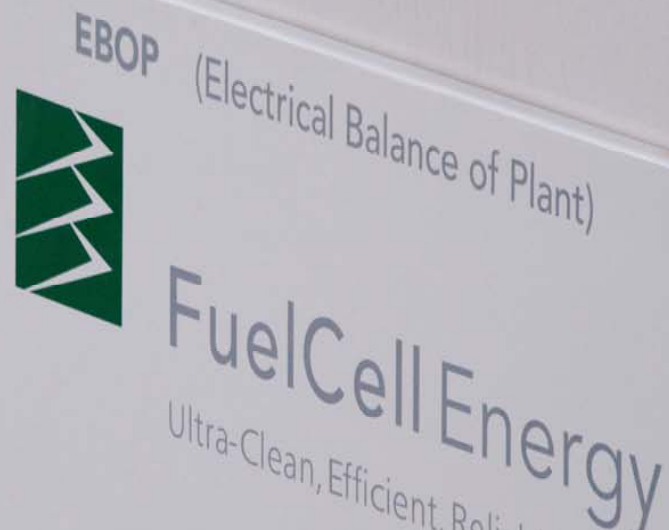
- PERMITTING OF NEW TECHNOLOGY – NO STANDARDS EXISTED FOR REFERENCE

- FIRE & SAFETY - EXTRA ALARMS, LIABILITY WAIVER

- FINANCING – HAD TO DEVELOP A GOOD ECONOMIC MODEL



WHAT CAN BE DONE TO MAKE IT EASIER TO USE FUEL CELLS?



- EDUCATION FOR LENDERS
- EDUCATION FOR GOVERNMENT, REGULATORS AND CONTRACTORS

