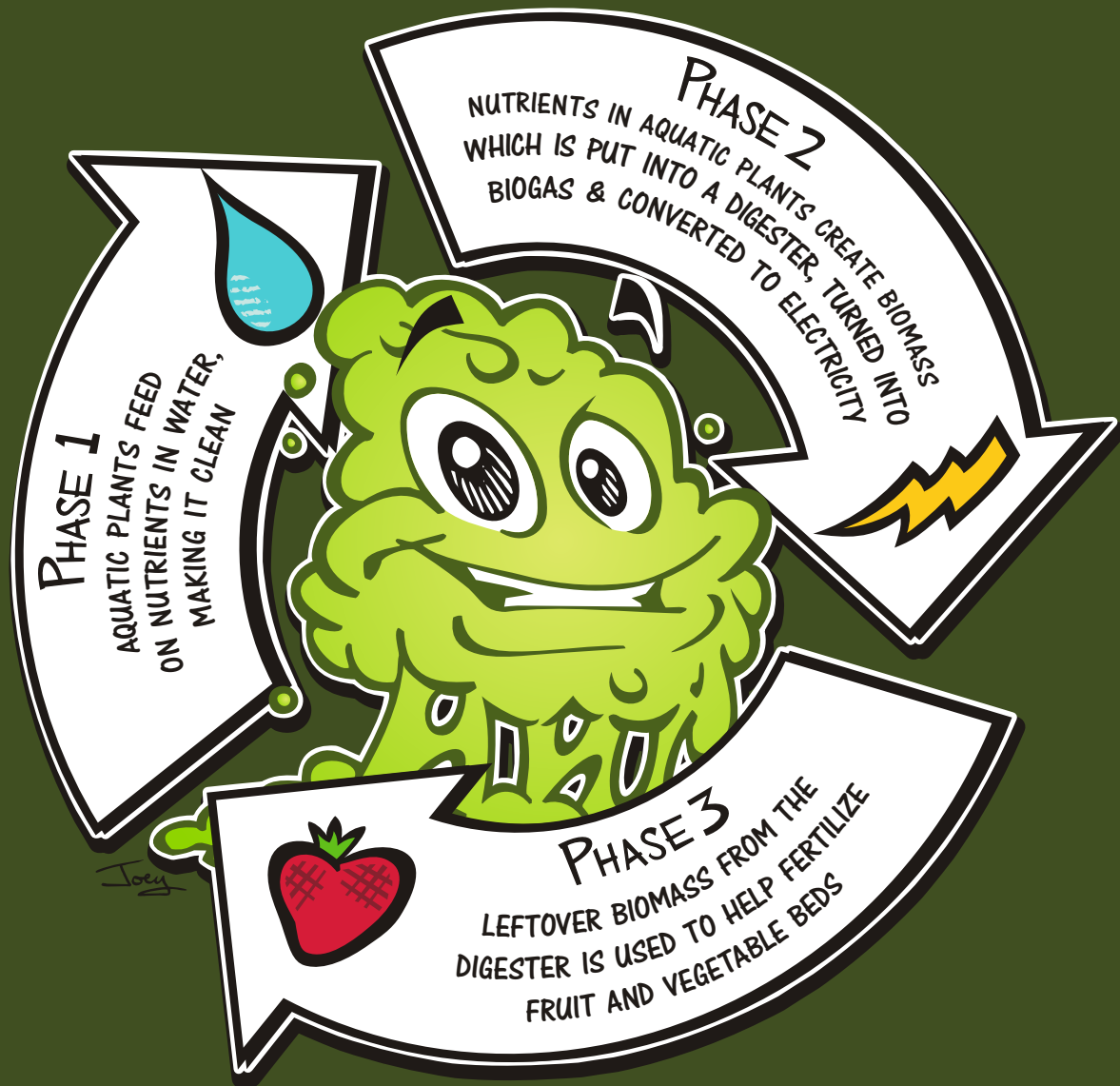


PRODUCING ENERGY & MORE FROM TREATED WATER!

FUEL FROM AQUATIC BIOMASS





SPECIAL THANKS TO:

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Hanna Winery
Harmony Farms
Joey Manfre, Comic Illustrator

Awards

- ICLEI Climate Innovation Award 2008
- Interstate Renewable Energy Council (IREC) 2008 Innovation Award
- Pearson Education Sustainability Award 2009
- Association of California Water Agencies (ACWA) Theodore Roosevelt Award 2009

The FAB Project was made possible by:



HI, I'M ALGAE. WELCOME TO THE FAB PROJECT, A CITY OF SANTA ROSA/SONOMA STATE UNIVERSITY COLLABORATIVE EFFORT.



THE **FAB** PROJECT STANDS FOR:

FUEL from
AQUATIC
BIO MASS

AQUATIC BIOMASS IS MADE BY AQUATIC VEGETATION LIKE ALGAE!

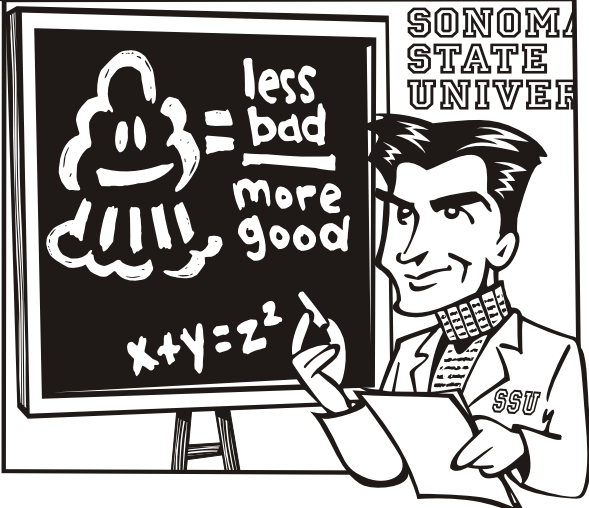


IN THE PAST, AQUATIC VEGETATION LIKE MYSELF WERE CONSIDERED A NUISANCE AND NOT WANTED AROUND...



SCIENTISTS FROM THE CITY OF SANTA ROSA & SONOMA STATE UNIVERSITY KNEW I COULD REMOVE POLLUTANTS FROM THE WATER...

...AND BE USED TO PRODUCE ENERGY. THEY WERE ABLE TO CREATE THIS RESEARCH FACILITY TO SHOW HOW I CAN DO IT!



TO FIND OUT HOW... TURN THE PAGE!

PHASE 1:

WASTEWATER FLOWS FROM LOCAL HOMES AND BUSINESSES TO OUR WASTEWATER TREATMENT PLANT. SOME OF THE WATER IS DIVERTED TO THESE SIX CHANNELIZED WETLANDS

THESE WETLANDS ARE WHERE I & OTHER AQUATIC PLANTS LIVE

AS THE WATER FLOWS THROUGH THESE CHANNELS, WE PLANTS CLEANSE THE WATER BY ABSORBING POLLUTANTS THAT MAKE US GROW.

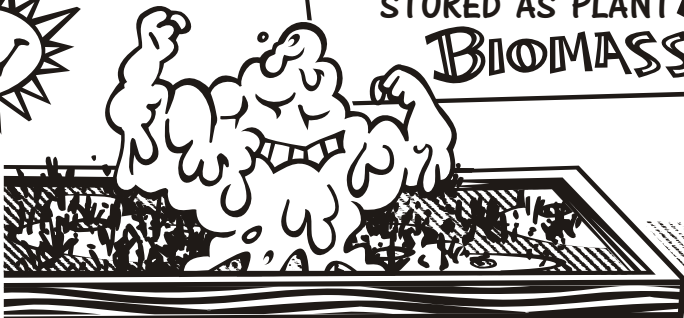
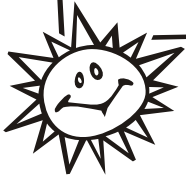
TWO IMPORTANT THINGS HAPPEN WHEN THIS OCCURS:

FIRST: CLEANER WATER COMES OUT

SECOND: I ABSORB SOLAR ENERGY AS I GROW...

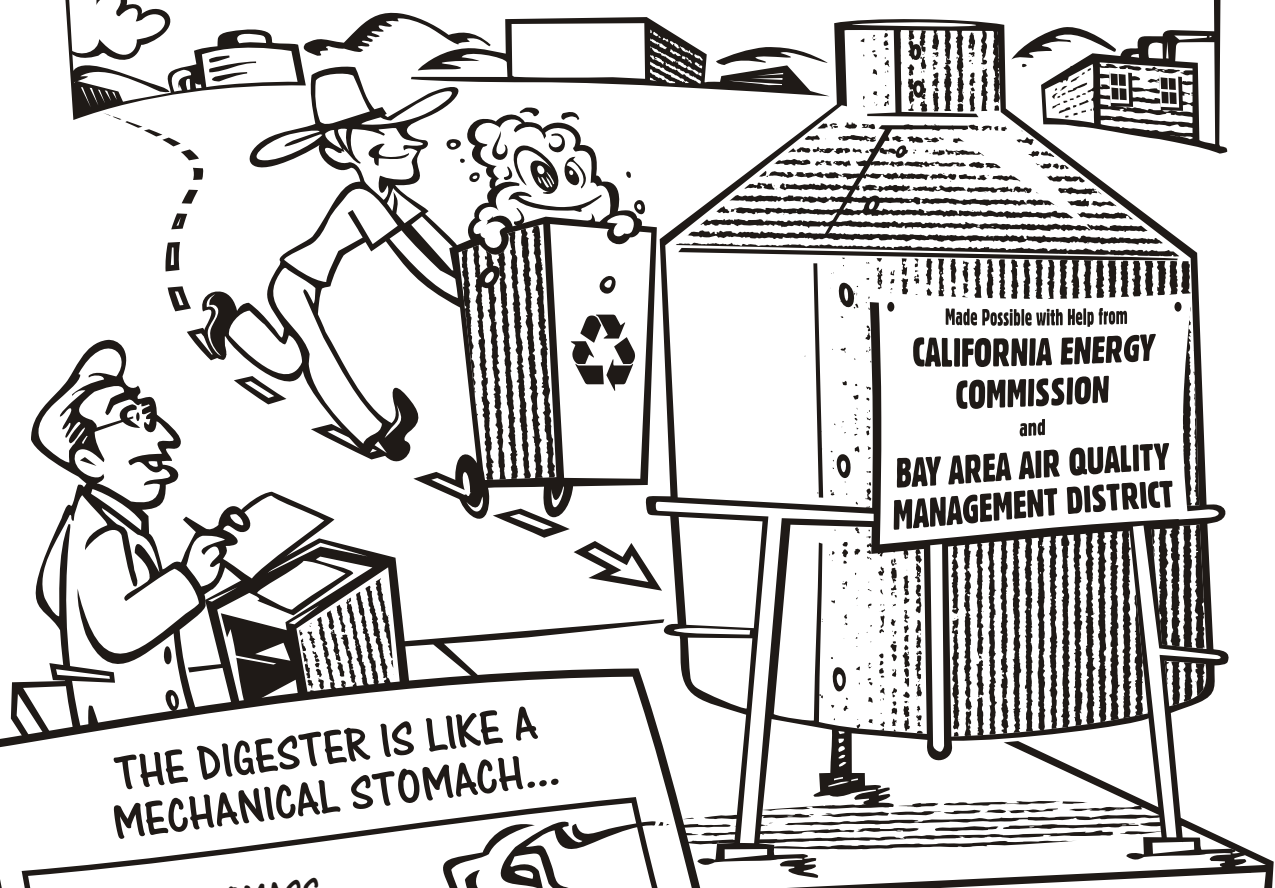
...THIS ENERGY IS STORED AS PLANT BIOMASS

AFTER I'M LOADED WITH ENERGY, THEY HARVEST ME. I'M PLACED INTO BINS & MOVED TO THE NEXT PHASE



PHASE 2:

ONCE I AM HARVESTED, I AM TAKEN TO A DIGESTER, WHICH IS A PIECE OF EQUIPMENT THAT WILL TURN MY BIOMASS INTO ENERGY-RICH **BIOGAS**



THE DIGESTER IS LIKE A MECHANICAL STOMACH...

MY SOLID BIOMASS GETS "METABOLIZED" ...WHICH HELPS ME BREAK DOWN THE SOLID MASS AND CONVERT IT INTO **METHANE** ...AN ENERGY-RICH

BIOGAS



WHICH PROPELS US TO THE NEXT PHASE!

MY **BIOGAS** GENERATES ELECTRICITY WHICH THE CITY USES TO POWER ELECTRIC VEHICLES

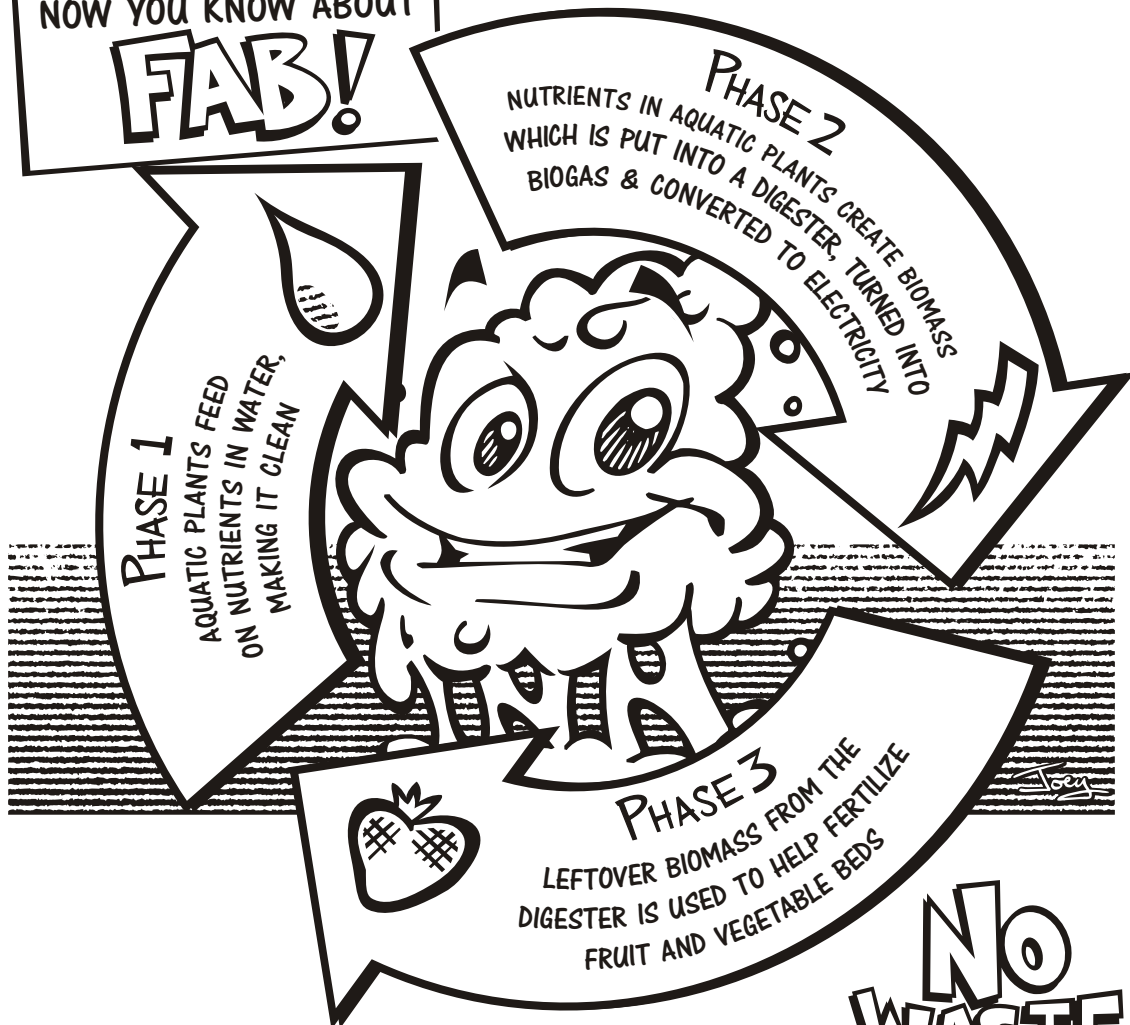


PHASE 3

WHAT'S LEFT OF ME IS USED AS A COMPOST TO HELP GROW CROPS LIKE BEANS & STRAWBERRIES!

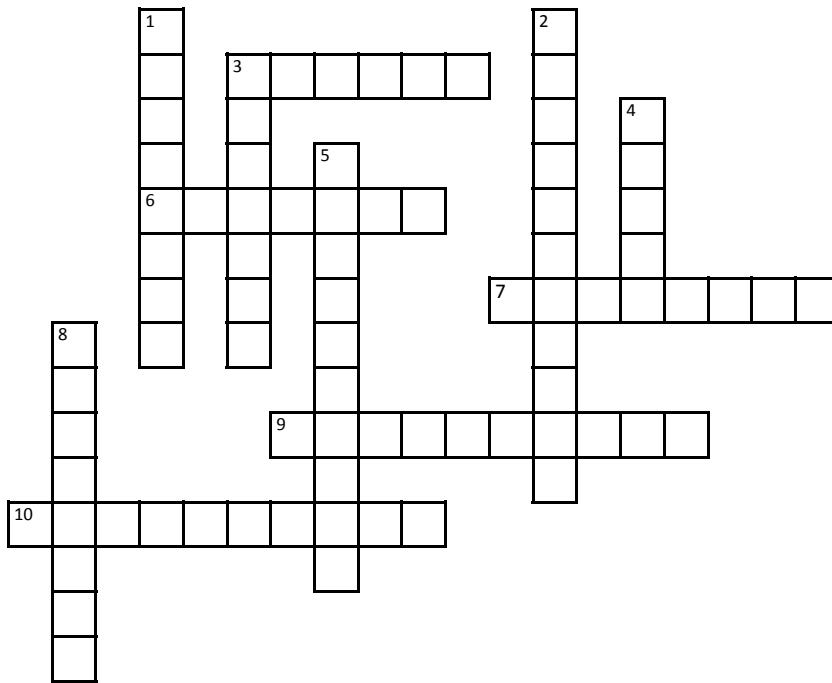


NOW YOU KNOW ABOUT **FAB!**



EVERYTHING IS USED AND REUSED! **NO WASTE!**

F.A.B. CROSSWORD



WORDS

Electricity
 Digester
 Wetlands
 Pollutants
 Wastewater
 Biomass
 Vehicles
 Compost
 Algae
 Harvested
 Biogas

DOWN

1. The City uses the electricity produced to power electric _____.
2. My biogas generates _____.
3. The energy I absorb from the sun is stored as plant _____.
4. _____ and other Aquatic Vegetation grows in channelized wetlands.
5. As I grow I cleanse the water by absorbing _____.
8. While I grow in the channelized _____ I clean the water.

ACROSS

3. My biomass is turned into energy-rich _____.
6. What's left of me is used as _____.
7. A _____ is like a mechanical stomach.
9. When I am _____ my biomass is removed from the channelized wetlands.
10. _____ flows from local homes and businesses to the Treatment Plant.



F.A.B. PROJECT

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F.A.B. Project
Laguna Subregional Treatment Plant

