

# Texas/Louisiana

## Save Energy Now Workshop Convert Wastes to On-Site Heat and Power



# Things we need to review and discuss

- ◆ What's going on with Energy Prices
  - ◆ This is the bad news
  - ◆ Below is the good news
- ◆ Assistance available on the internet
- ◆ Assistance available from the Industrial Assessment Centers
  - Texas—Texas A&M
  - Louisiana—University of Louisiana Lafayette
- ◆ Gulf Coast CHP Application Center
  - CHP may be the only way to fight global warming and keep business close to as usual

# What's going on with Energy Prices

- ◆ Most (if not all) energy is going to cost more in the future
- ◆ Because:
  - We import more energy each year
  - With less than 4-1/2% of the world's population, we consume more than 25% of the world's energy and produce more than 22% of the man-made green-house gasses
  - Electricity price is dependent upon the price of fossil fuels (particularly Natural Gas)
  - New Technologies:
    - ◆ Bio-fuels (Ethanol, Bio-diesel, etc.)
    - ◆ LNG (law of supply and demand)
    - ◆ CHP and microturbines/Fuel Cells
  - Conservation may be the only way you can reduce your cost
  - Conservation can begin with **CHP**

# 20 ways

<http://www.eere.energy.gov/consumer/industry/20ways.html>

## ◆ All combustion systems

- Operate furnaces and boilers close to the design capacity
- Reduce excess air for combustion
- Clean heat transfer surfaces
- Reduce radiation losses from openings
- Use proper furnace or boiler insulation to reduce wall heat losses
- Adequately insulate air or water-cooled surfaces exposed to the furnace or steam lines leaving the boiler
- Install air preheat or other heat recovery equipment

## ◆ Steam Generation Systems

- Improve water treatment to minimize boiler blowdown
- Optimize deaerator vent rate
- Repair steam leaks
- Minimize vented steam
- Implement effect steam trap maintenance
- Use high-pressure condensate to make low-pressure steam
- Utilize backpressure turbines instead of pressure reducing valves
- Optimize condensate recovery

## ◆ Process heating systems

- Minimize air leakage into the furnace by sealing openings
- Maintain, slightly positive furnace pressure
- Reduce weight of or eliminate material handling fixtures
- Modify the furnace system or use a separate heating system to recover furnace exhaust gas heat
- Recover furnace exhaust heat for use in lower temperature processes

# Idea

**Why not invest your income tax rebate on improving your energy efficiency?**

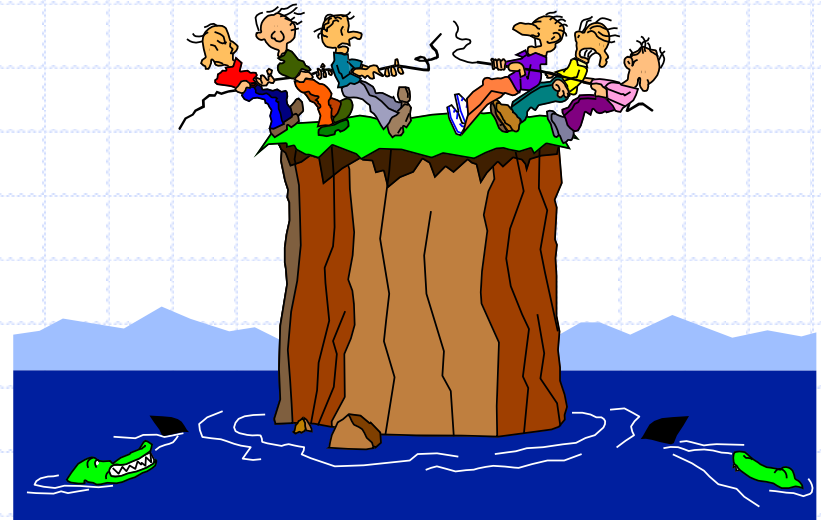
Newer more efficient auto

More insulation for your house

Newer more efficient appliances

CFL

Thermal windows



# For this Workshop

8:00 Quick mathematical model

Ted Kozman-University of Louisiana Lafayette

8:30 What are Opportunity Fuels

Dr. Cornelis de Hoop--LSU

9:00 Selecting a Technology

Dr. Gongtao Wang-University of Louisiana Lafayette

# Workshop (continued)

10:00 Evaluating Project Economic Tradeoffs  
and Considerations

Dan Clark-Mobius Risk Group, LLC

10:30 Issues in Distributed Generation in  
Louisiana

David McGee-Louisiana Department of Natural Resources

11:00 Lessons Learned in LA

Michael Short—Blue Point Energy

# 12:45 Equipment Vendor Panel

Dr. Will Emblom-University of Louisiana Lafayette

American Heat and Power

Darren Habetz

MaxWest Environmental Systems, Inc.

Richard Helen

The Southwest Group

Jim Poche

Primenergy LLC

Bill Tietze

## 2:30 Case Studies

### Landfill Gass Case Study

Michael Boswell

### Digester Gas Case Study

Dr. Mark Zappi

### Developing a Landfill Gas to Energy Project Case Study

Luke Conner

# Special Thank You to other staff—non-speakers and

## Sponsors

### **Jeanese Carrier**

University of Louisiana Lafayette

### **Dan Bullock**

Gulf Coast CHP Application Center

### **Sarah Weingarden**

Gulf Coast CHP Application Center

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Louisiana Department of Natural Resources

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OAR/COMM Engineering, USA

### **John Pechon**

UL L Industrial Assessment Center

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# Boudreaux archaeologist

- ◆ **An archaeologist in New York found old telephone cables buried 10 feet deep on Long Island, so he concluded that 100 years ago New Yorkers already had a basic working telephone system.**
- ◆ **Not to be outdone, a California archaeologist found some wires buried at a depth of 20 feet. He published his conclusion that Californians had telecommunications networks at least 200 years ago, predating the earliest documented New York telecommunications systems by at least 100 years.**
- ◆ **Determined not to be outdone, Boudreaux, from Lafayette, LA, did some excavating on Pecan Island, going as deep as 30 feet and finding nothing. That week he published his conclusion that as far back as at least 300 years ago, 100 years before the Californians had introduced networking, and fully 200 years before the New Yorkers had even basic telephone service, the Acadian peoples of south Louisiana had already gone wireless.**