Approved: April 1, 2011
Date

MINUTES OF THE HOUSE ENERGY AND UTILITIES COMMITTEE

The meeting was called to order by Chairman Carl Holmes at 9:00 A.M. On March 7, 2011, in Room 785 of the Docking State Office Building.

All members were present except:
Representative Mike Burgess-excused
Representative Annie Kuether-excused
Representative Reynaldo Mesa-excused
Representative Mike Slattery-excused
Representative Tom Sloan-excused

Committee staff present:
Matt Sterling, Office of the Revisor of Statutes
Cindy Lash, Kansas Legislative Research Department
Corey Carnahan, Kansas Legislative Research Department
Renae Hansen, Committee Assistant

Conferees appearing before the Committee:
Larry Biles, State Forester
Allen Moore, Director of Engineering and Maintenance, Frito Lay Wood Energy Project

Others attending:
Fifteen including the attached list.

Informational Hearing on:
Wood Energy Initiative

Larry Biles, State Forester, (Attachment 1), spoke to the committee about the Wood Energy Initiative in the state of Kansas. He also gave an overview of the Kansas Forest Service. He presented a power point to the committee to explain their initiative in Kansas.

Questions were asked and comments made by Representatives: Vern Swanson, Joe Seiwert, Don Schroeder, Richard Proehl, and Forrest Knox.

Informational Hearing on:
Wood Energy Project

Allen Moore, Director of Engineering and Maintenance, Frito Lay Wood Energy Project, (Attachment 2), presented a power point to the committee on their environmental sustainability portion of the operation. He spoke specifically about their biomass to energy system that is in operation in Topeka, Kansas.

Questions were asked and comments made by Representatives: Stan Frownfelter, Don Hineman, Forrest Knox, and Nile Dillmore.

The committee received an update (Attachment 3) from the Prairie Wind Transmission regarding plans to build a new high-capacity transmission line. A map was included providing a rough picture of where this proposed line will be built.

The next meeting is scheduled for March 8, 2011.

The meeting was adjourned at 10:20 A.M.

HOUSE ENERGY AND UTILITIES COMMITTEE
GUEST LIST

DATE: March 7, 2011

NAME	REPRESENTING
Allen Moore	Frito-Lay, Inc.
Lonn Eccles	KS Chamber of Commerce
TOM DAY	KCC
Melissa Ward	Hein Law Firm
Colin Custer	Sandstone Group
Dave Holthaus	KEC
Dan Murray	Federico Consalt

Kansas Forest Service

Wood Energy Initiative*

Heavy dependence on fossil fuels obtained from politically volatile areas, an emerging consensus that carbon emissions must be substantially reduced, and dramatically increasing fossil fuel costs are driving the need for alterative energy sources, both in Kansas and nationally.

Further, rising energy costs are negatively impacting Kansas's rural communities, many of which are already facing serious economic declines. Woody biomass is a carbon neutral, clean burning, renewable energy resource that can help solve these problems.

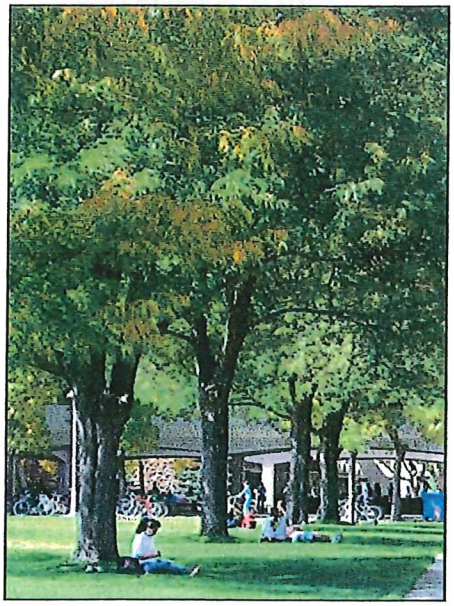
Kansas woody biomass can be used for energy production that can stimulate and revitalize rural economic conditions as well as help Kansas become more energy independent and environmental friendly.

Objective

"Grow a, niche based, wood energy and bio-based products industry in Kansas"

Outcomes

- **Jobs and new sources of income in rural areas**
- **Reduced energy dependence on fossil fuel**
- **Ecological Restoration of range and pastures**
- **Forest Management**
  - Markets for low value, conventionally non-commercial, trees and tree species (Eastern red cedar)
  - More productive, healthier forests and revitalized rural communities



Approach and Effort

- Are you planning on upgrading or replacing your existing energy system?
- Are you considering alternative fuels?
- Is wood one of those fuels?
- Might the Kansas Forest Service, Kansas State University be of assistance?

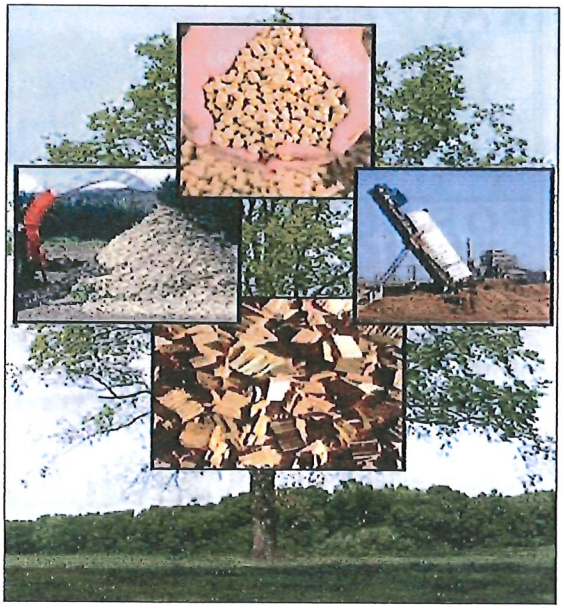
HOUSE ENERGY AND UTILITIES

DATE: 3/7/2011

ATTACHMENT 1-1

Existing wood energy industries/ business

- Alfalfa Dehydrators
- Wood Pellet Manufacturers
- Wood Briquetting Manufacturers
- Food Industry---Frito Lay
- Superior Boiler
- Alternative Energy Solutions International
- Earth Care Products



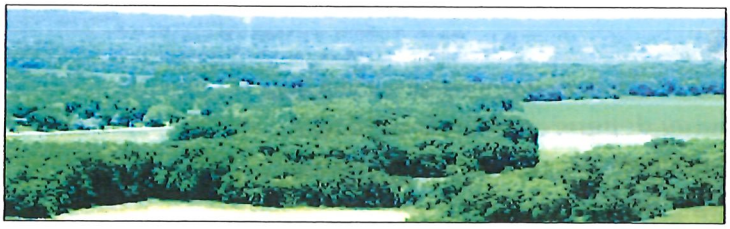
Clients to date CONTACTS

- Winfield High School/ Middle School
- Southwestern College (Winfield)
- Morris County Schools
- Riley County School District
- Coffee County Health System
- Forthcoming meetings
  - Hayden High Topeka
  - East Kansas Agri-Energy

  (Low Carbon Fuel Standards, Carbon Intensity Rule)

Services

- Prefeasibility technical assistance
- Arrange tours of operating systems
- System manufacturer references
- Engineering service provider references
- Air permitting references
- Funding references
- Case studies
- Information and education



Future Promotional Events

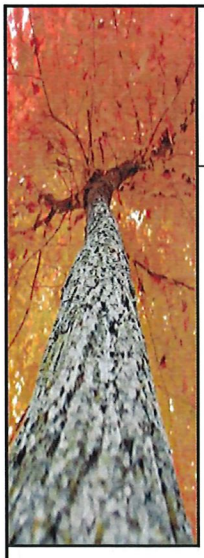
- Kansas Association of School Administrators
- Kansas Health Care Engineer's Association
- Kansas Municipal Utilities

Targeted Audiences

- Schools
- Hospitals
- Prisons
- Nursing facilities

Contact Information:
Larry Biles, State Forester
lbiles@ksu.edu
785-532-3300
Kansas Forest Service, KSU
2610 Claflin Rd, Manhattan, Ks 66502
www.KansasForests.org

* Sabina Dhungana , Biomass Forester
sdhungan@ksu.edu



Legislative Authority

K.S.A. 76 – 425 (a,b,c,d,e,f)

- **16 powers and duties (76-425d)**
  - **Service and Education**
    - Forest Management & Tree Planting
    - Community Forest Management & Tree Planting
    - Marketing & Utilization of Forest Products
    - Prevention and Suppression of Wildfire
    - Protection of Forestland
    - Provision of Tree Seedlings & Seed

K-STATE Kansas State University, Research and Extension

KANSAS FOREST SERVICE KANSAS STATE UNIVERSITY

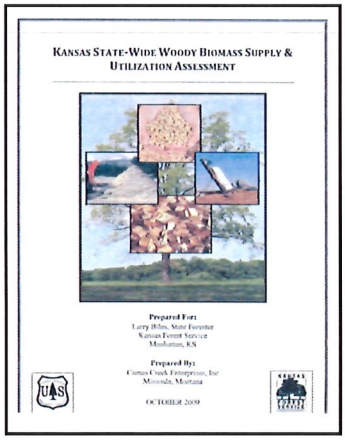
Issues & Opportunities

Woody Biomass: An Alternative Fuel for Kansas

K-STATE Kansas State University. Research and Extension

KANSAS FOREST SERVICE

Wood Waste Survey 2009



- Wood processing by products
  - Primary
  - Secondary
- Community tree waste
  - Municipal Arborist
  - Commercial Arborist
  - Electric utility tree waste
- Landfills and burn sites

K-STATE Kansas State University. Research and Extension

KANSAS FOREST SERVICE

833 Entities Surveyed

- 716 Wood waste supply sources
  - 410 individual businesses
  - 105 counties
  - 201 cities
- 117 Organizations and individuals
- 50% response rate

K-STATE Kansas State University Research and Extension

KANSAS FOREST SERVICE

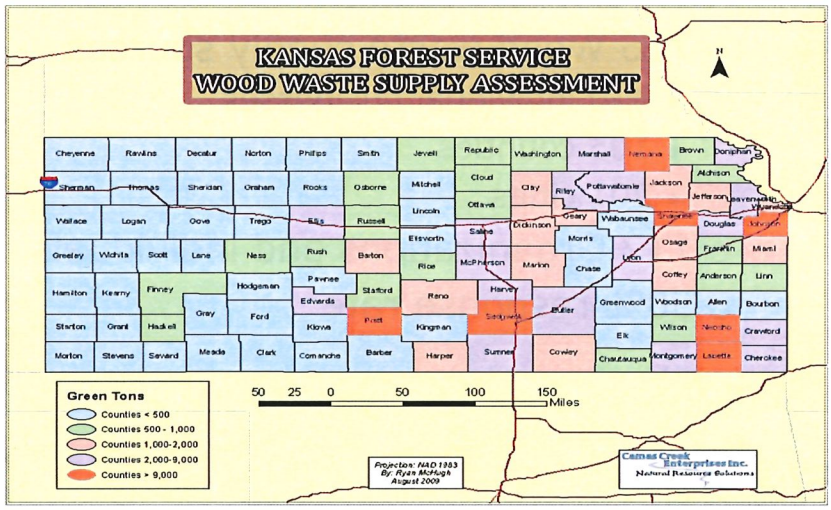
Available material

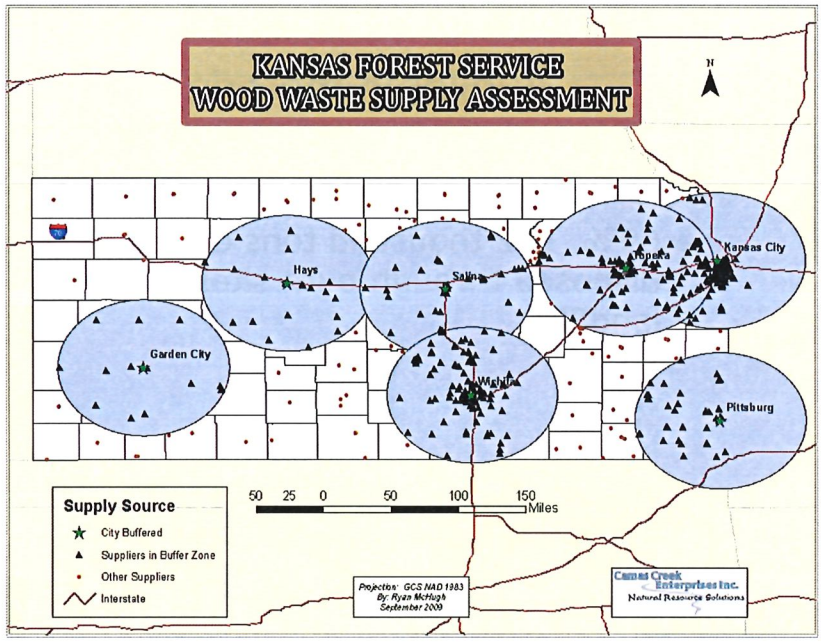
- 262,000 green tons
  - 69%, 182 thousand tons currently disposed through burn sites and landfills

K-STATE Kansas State University Research and Extension

KANSAS FOREST SERVICE

Wood Waste Supply
All Sources





Suppliers Within 50 Mile Radius

CITY	TOTAL WOOD WASTE	POTENTIALLY AVAILABLE	SUPPLIER COUNT	DISPOSAL SITES
KANSAS CITY	79,222	70,785	162	11
WICHITA	70,594	62,534	129	10
TOPEKA	39,624	29,388	137	14
PITTSBURG	29,783	16,177	39	15
SALINA	10,948	8,435	57	11
HAYS	7,223	6,086	28	10
GARDEN CITY	4,078	3,351	15	13

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KANSAS FOREST SERVICE

Wood Waste by Supply Group

GROUP	GREEN TONS	PERCENT OF TOTAL
Primary Processors	15,774	6%
Secondary Processors	33,565	13%
Utility	33,639	13%
Commercial Arborists	30,948	12%
Municipal Arborists	51,090	19%
Waste Disposal Sites	46,047	18%
Other sources	51,048	19%
TOTAL	262,112	100%

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KANSAS FOREST SERVICE

Wood Waste Types

GROUP	PROCESSED	UN-PROCESSED	PERCENT PROCESSED
Primary Processors	14,574	1,200	92%
Secondary Processors	19,102	14,463	57%
Utility	33,639	0	100%
Commercial Arborists	13,236	17,712	43%
Municipal Arborists	23,254	27,836	46%
Waste Disposal Sites	20,628	25,419	45%
Other sources	50,050	998	98%
TOTAL	**174,483**	**87,629**	**67%**

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Kansas Boiler Survey

- 400 boilers more than 40 years old
- 24 – 7 operations
- Oil and propane

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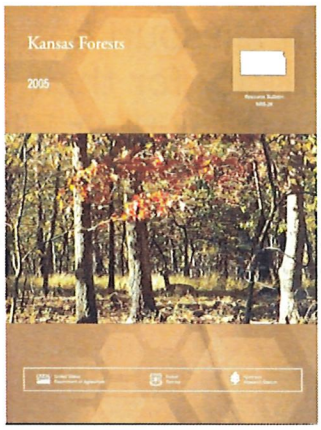
KANSAS FOREST SERVICE

Forest Inventory and Analysis



- 115 million green tons in native forests
- Annual growth - 2.7 million green tons
- 1.2 million green tons low quality, non-commercial

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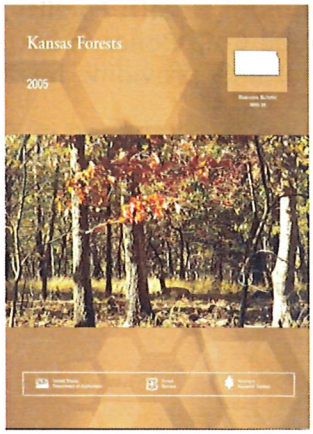
KANSAS FOREST SERVICE

Eastern Red Cedar



- 23,000% increase in volume 1965 – 2005
- 65 million cu. ft.
- 94,000 acres – cedar type
- 430,000 acres with cedar present

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Wood Energy Use Stories

- Smith Sawmill in Missouri is generating electricity for their machines and heat for their kilns.
- Five schools in Missouri are transforming existing conventional heating system to wood-fired boiler system

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KANSAS FOREST SERVICE

Hospitals Utilizing Wood for Energy

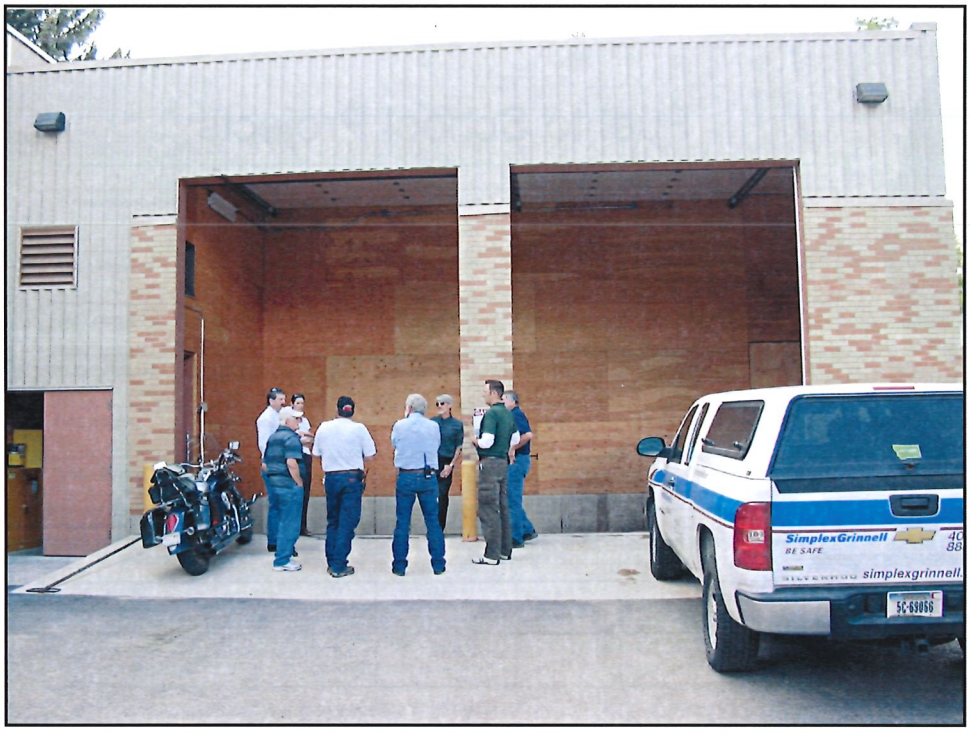
- **Elk County Regional Health Facility, PA**
  - Installed Wood Chip Boiler in 2007
  - System is not only providing heat but also domestic hot water
  - Savings for a 6 month period in 2007-2008 were **$94,000**
  - Savings in 2008-2009 **$300,000**
- **Vermont North County Hospital, VT**
  - Is now operational
  - saving the hospital as much as **$250,000** each year.

Kansas' Wood Energy Systems / Energy Businesses

- Alfalfa Dehydrators
- Wood Pellet / Briquetting plants
- Frito Lay
- Superior Boiler Works
- Earth Care Products
- Alternative Energy Systems International

Fuel to School Projects

Facility	Square Footage	Annual Wood Consumption Green Tons	Estimated Annual Energy Cost Savings	Date Operational
Derby, MT Public Schools	82,000	750	$90,000	November 2003
Ely, NV Public Schools	36,400	300	$35,000	February 2005
Council, ID Public Schools	60,000	300	$59,000	September 2005
Thompson Falls, MT Public Schools	60,500	400	$60,000	October 2005
University MT, Western Campus	471,000	3800	$118,000	February 2007
Townsend, MT Elementary and High Schools	120,000	170 (Wood Pellets)	$19,000	March 2007
Deer Lodge, MT Elementary	38,000	730	$35,500	October 2008
TOTAL		**6280**		



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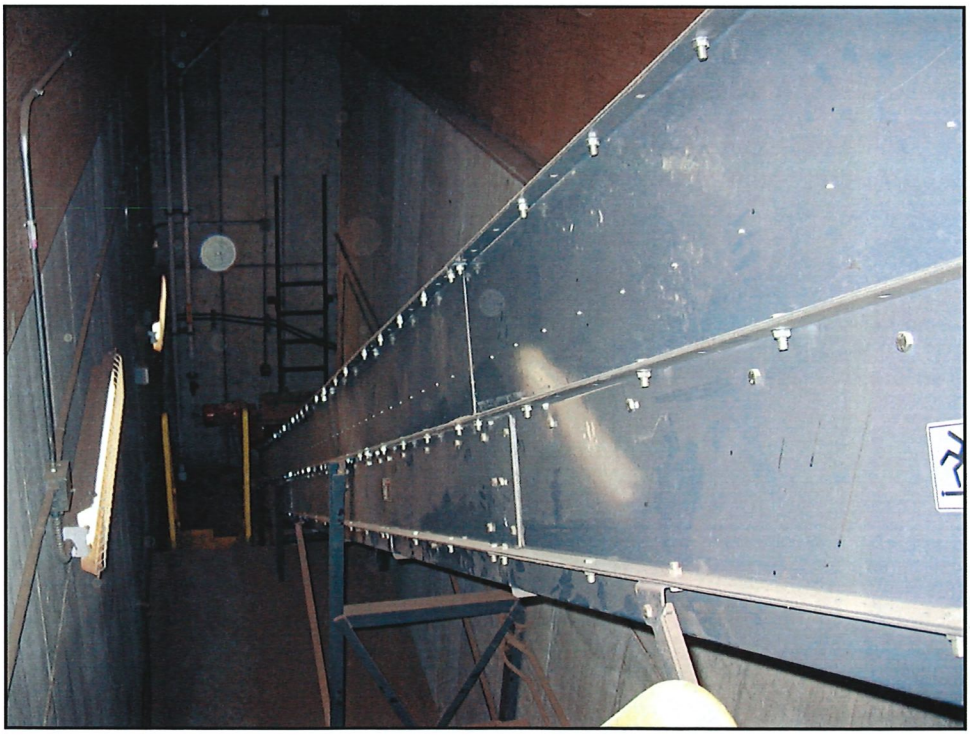
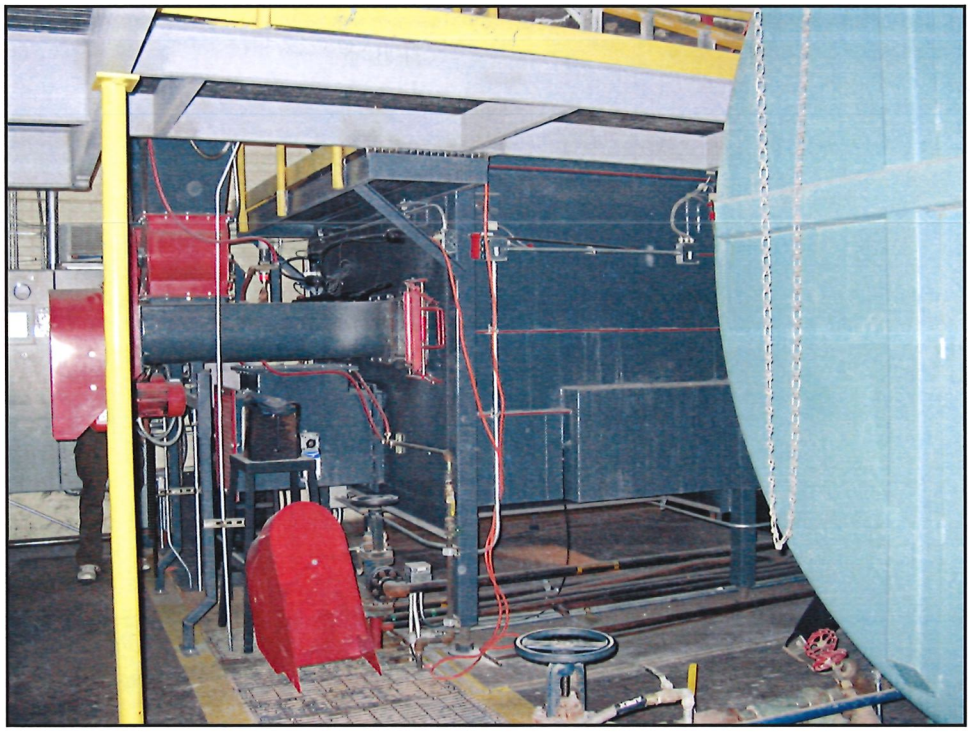
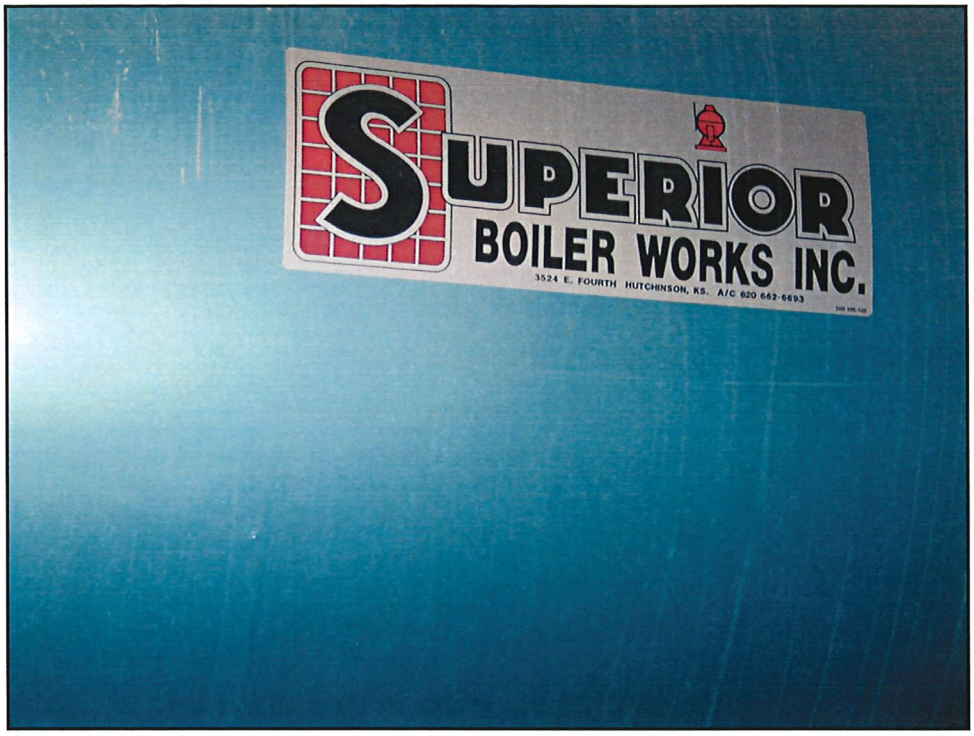
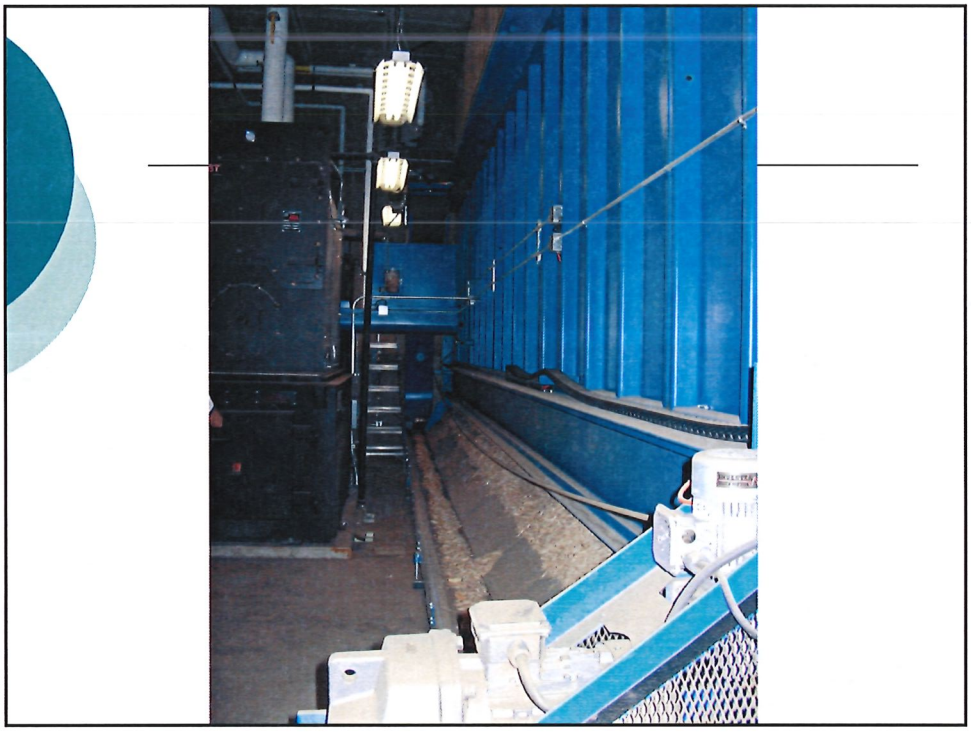



PROPANE GAS

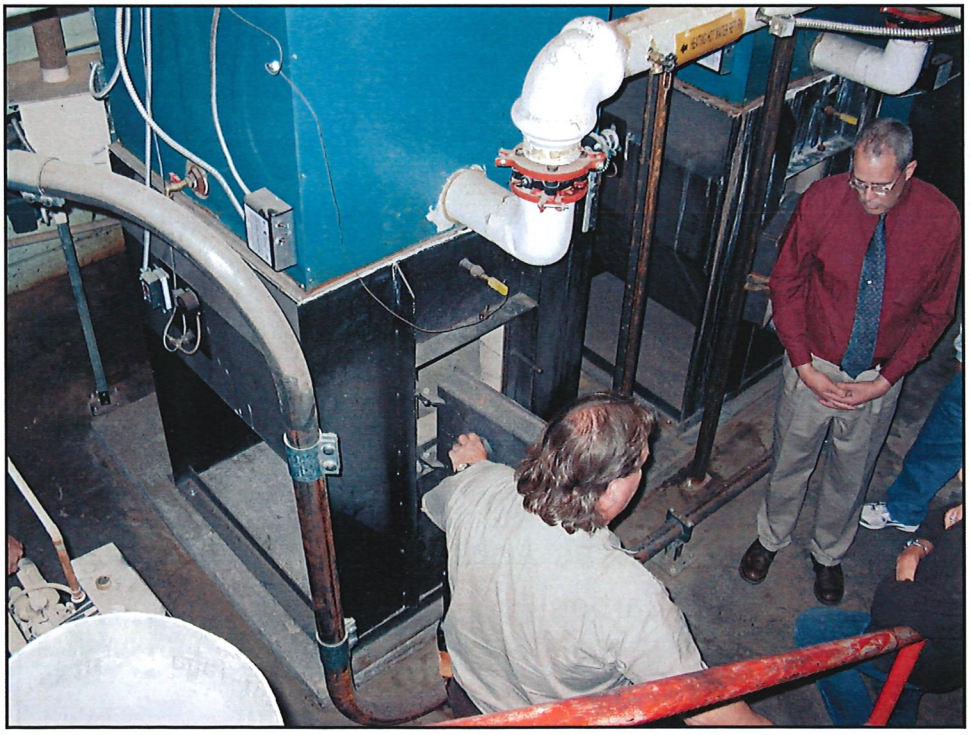



SUPERIOR
BOILER WORKS INC.
3524 E. FOURTH HUTCHENSON, KS. A/C 620 662-6693




HURST
EXIT


B66



Community of Interest

- FS
- NRCS
  - RC&D
- RD
- Commerce
- SBDC
- Energy
  - FCIP / ESPC / ESCO
- KSU - Extension
- KSU CECD
- KACD
- KLA
- TLA
- Queal Ent.
- Ranchland Dev.

Contacts

- Winfield High School/ Middle School
- Southwestern College (Winfield)
- Morris, Riley and Bourbon County Schools, and Hayden High - Topeka
- Coffee County Hospital
- Franklin County Courthouse, and
- East Kansas Agri – Energy
  - Low Carbon Fuel Standards

K-STATE Kansas State University Research and Extension

KANSAS FOREST SERVICE

We have contacted

- Kansas Municipal Utilities
  - Municipal systems with in-house electric power generation
- Kansas Association of School Administrators
- Kansas Health Care Engineer's Association

K-STATE Kansas State University Research and Extension

KANSAS FOREST SERVICE

Marketing Approach

- Are you planning to install new or upgrade / replace your existing energy system?
- Are you considering alternative fuels?
- Is wood one of those fuels?
- Might the KFS – KSU be of assistance?

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KANSAS FOREST SERVICE

How KFS can help?

- Prefeasibility technical assistance
- Arrange tours of operating systems
- System manufacturer references
- Engineering service provider references
- Air permitting references
- Funding references
- Case studies
- Information and education

K-STATE Kansas State University Research and Extension

KANSAS FOREST SERVICE

Prefeasibility Report Includes

- A description of the system
- An estimate of annual fuel costs
- Design of one potential option
- A site plan including access and storage
- Estimated installation costs

Kansas Forest Service Wood Energy Program

PRE-FEASIABILITY ASSESSMENT FORM*

Date: _____

Person filling out form: _____

Institution: _____

City: _____

County: _____

State: _____

Phone number: _____

Fax: _____

Mailing Address _____

_____

_____

Contact Person: _____

Phone Number: _____

Fax: _____

I. Facility Information

- ☐ Elementary school:
- ☐ Middle school/ Junior High:
- ☐ High school:
- ☐ Hospital:
- ☐ Prison:
- ☐ Others:

(describe)_____

Size of facility: _____(Sq. ft heated space)

Number of people in building:_____

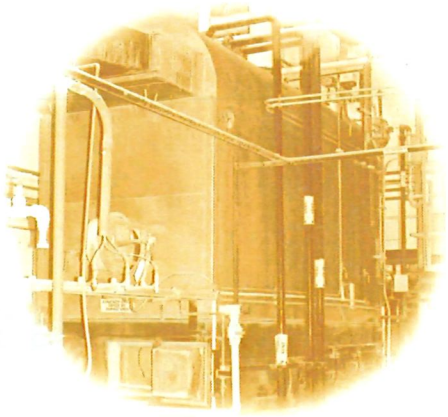
Year of Construction: _____

Year(s) of major renovations:_____

Next planned renovation:_____

No. of floors: _____

No. of Buildings: _____



WOOD FUELED BOILER FINANCIAL FEASIBILITY USER'S MANUAL

Research and Extension

Financial Resources

- USDA Rural Development
- EPA
- Dept. of Energy
- Carbon Offset Traders
  - The Climate Trust
  - Eco Securities
  - Native Energy
- Community Connections
- K-12

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KANSAS FOREST SERVICE

Questions ?

K-STATE Kansas State University. Research and Extension

KANSAS FOREST SERVICE

PEPSICO

pepsi Frito-Lay Tropicana Quaker Gatorade

Environmental Sustainability

Allen Moore
Director Eng./Maint.

Frito-Lay Good fun!

PEPSICO Corporate Structure

PepsiCo Americas Foods

- ***Frito-Lay North America***
- Quaker
- Sabritas
- Gamesa
- Latin American food businesses
- Power of One retail sales teams

PepsiCo Americas Beverages

- Pepsi-Cola North America
- Gatorade
- Tropicana
- Latin American beverage businesses
- North America foodservice

PepsiCo International

Our food, snack and beverage businesses in:

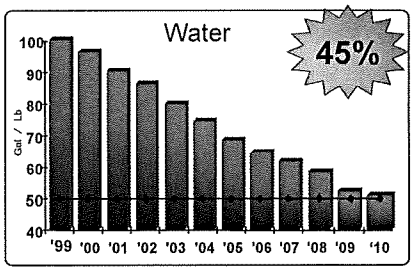
- U.K.
- Europe
- Asia
- Middle East
- Africa

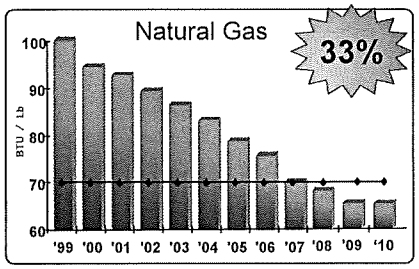
HOUSE ENERGY AND UTILITIES

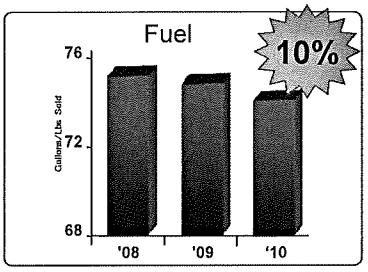
DATE: 3/7/2011

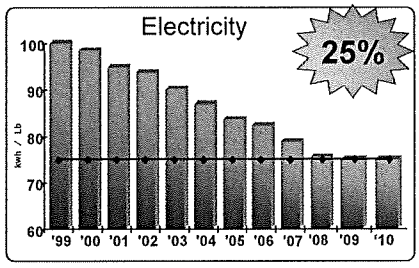
ATTACHMENT 2-1

Frito-Lay has Reduced our Environmental Footprint Significantly and Consistently for Eleven Consecutive Years

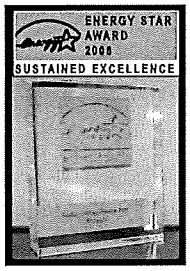


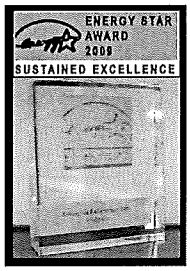


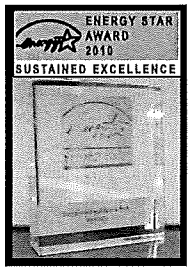


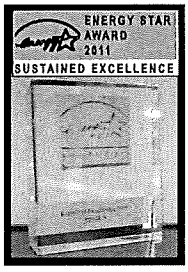


We Continue to Receive the Highest External Recognition and Validation as World Class









Fast Company Magazine Recognizes Frito-Lay as a World Class Innovator

Our Sustainability Vision: To Become a Preeminent Green Company

Sustainability Strategy

1 Bold Goal

3 Targeted Natural Assets

3 Headline Objectives

Goal

Leave No Trace

Strategy

Conserve And Preserve The Earth's Natural Assets

FL's Eco-Footprint

Water **Energy** **Land**

Strategic Objectives

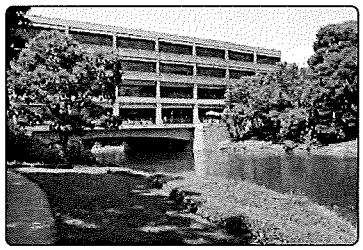
- **Perpetually reduce consumption of non-renewable natural assets**
- **Step function change in consumer loyalty and customer intimacy**
- **Embed sustainability within the cultural DNA of Frito-Lay**

Frito-Lay is Leading the Food Manufacturing Industry in LEED Gold Certifications

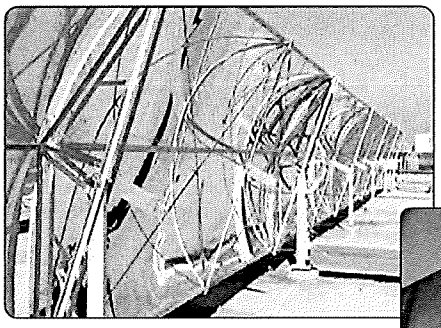
2009 - 2011
LEED Gold Sites

- ☑ Plano HQ
- ☑ Casa Grande
- ☑ **Topeka**
- ☑ Perry
- ☑ Modesto
- ☑ Beloit
- ☑ Jonesboro
- ☑ Killingly
- • Irving
- • Frankfort
- • Lynchburg
- • Aberdeen
- • Kern
- ☑ Rochester NY, DC
- • Hawaii DC

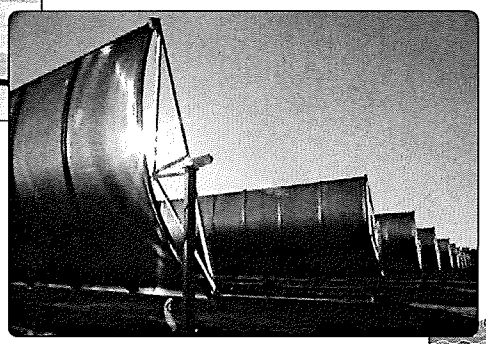
Topeka


Plano Headquarters

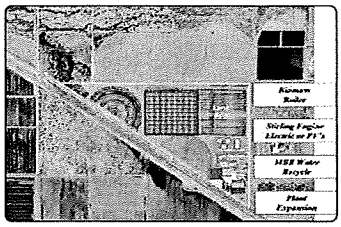
Modesto Solar Field... April, 2008 Earth Day



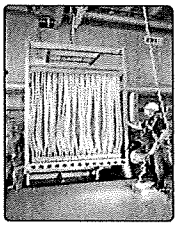
Producing Industrial Grade 400 PSI Steam

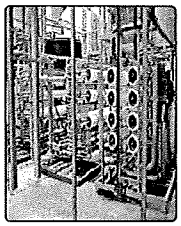


Casa Grande Near Net Zero is a Showcase of Frito-Lay's Commitment to Innovation and Forward Thinking

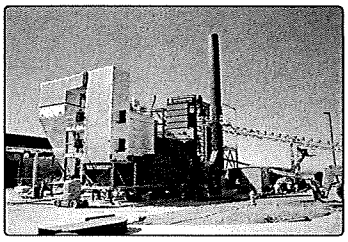


Casa Grande Potential Layout

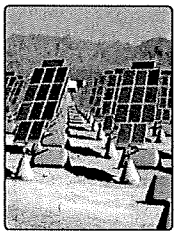




MBR



Bio Mass Boiler

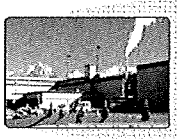


Solar PV Trackers

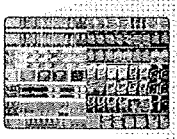
Stirling Engine

Our Strategic Scope Includes Our Entire Operating Footprint, Extending to Every Partner to Whom We "Write a Check"

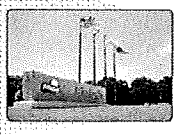
Make



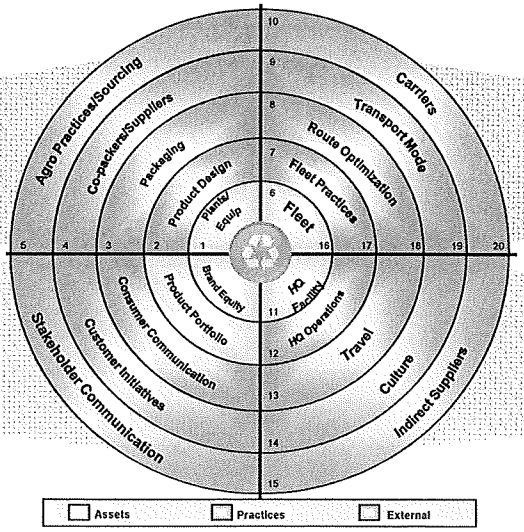
Move



Sell



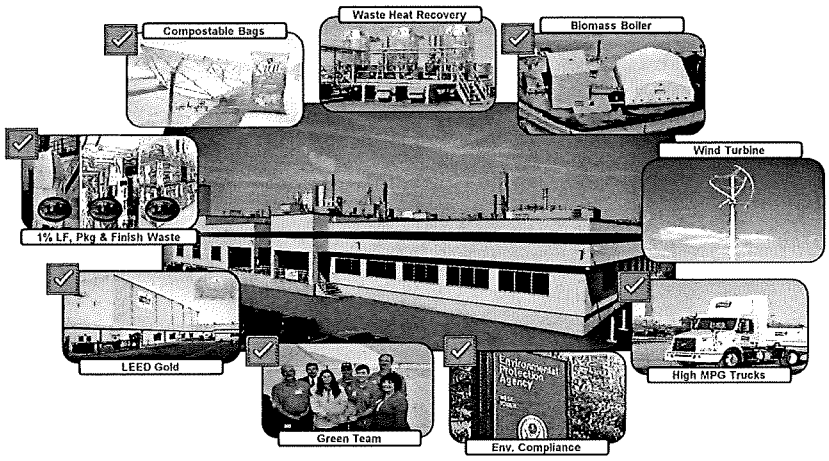
Support



Frito-Lay Topeka - Background

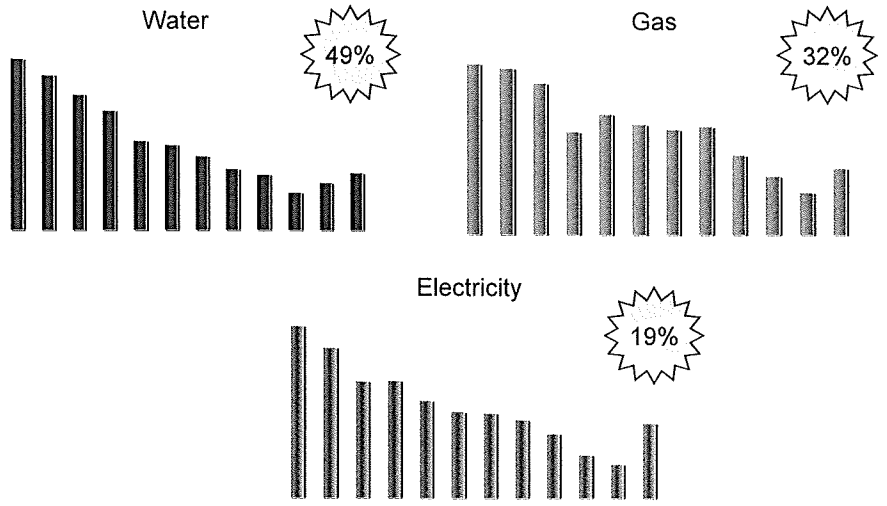
- 3rd Largest FLNA Facility; 750,000ft²; 850 employees; 175,000,000 lbs
- Produce all "core" brands; Lay's, Doritos, Tostitos, Cheetos, Sunchips, Fritos, Tostitos Scoops
- "Full Mix" facility that receives and ships all products including Rold Gold Pretzels, Grandma's Cookies, Cracker Jacks, dips, etc.
- Steam Fired Site, 75%+ natural gas is used to heat process oil.
- 0.25% of Solid Waste Goes to Landfill
- 2nd Existing Food Manufacturing Facility in the US to Achieve LEED Gold

Topeka "Near Net Zero" Strategy



Topeka Results

PEPSICO

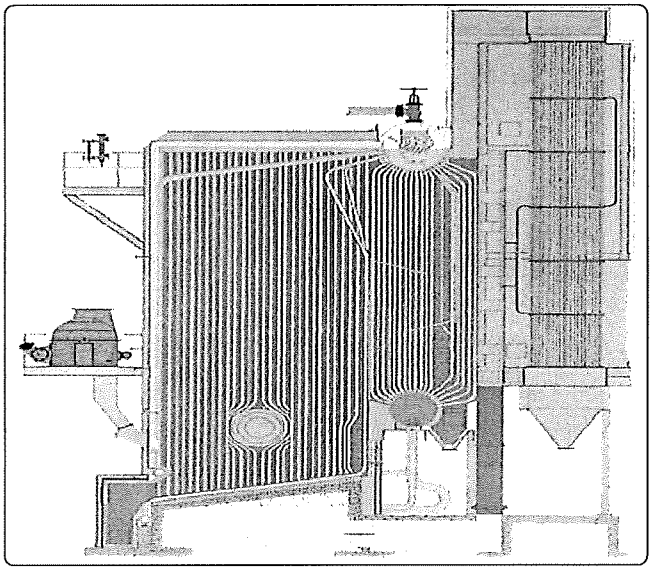


Innovation & Engagement Have Enabled Our Results

PEPSICO

- Low Water Corn Cook Pilot
- Steam Stop Block Valve for LBCSS and Fryers
- Removable Insulation Blankets
- Zero Landfill Processes
- Pollution Prevention Interns
- Biomass Boiler
- Facility wide communication and engagement

Topeka Biomass Boiler.....2010 Start Up



Frito-Lay Topeka - Biomass to Energy

- Oct. 2005, the beginning of discussions
- Nov. 2005, "Where are you going to get trees in Kansas?"
- 2006 Investigation
  - Wet or Dry Fuel ?
  - What Type of Boiler ?
  - Fuel Sourcing Strategies
- 2007 Feasibility Study
  - Fuel Supply Source, Storage and Handling
  - Combustion Technology Evaluation
  - Permitting Requirements
  - Ash Disposal
  - Estimated Cost

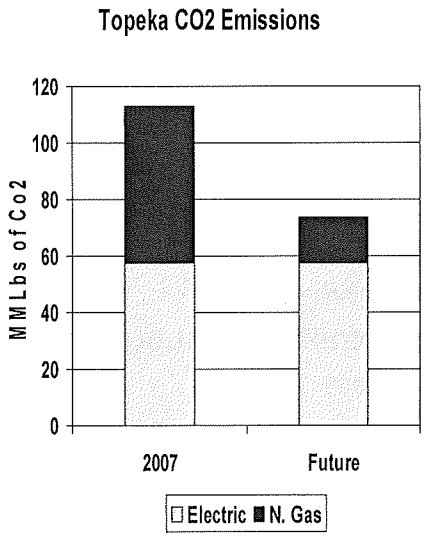
Frito-Lay Topeka - Biomass to Energy

- 2008
  - Project Development, Submittal and Approval
  - Awarding of Contract
- Project Kickoff: March 2009
- Design Completion: August 2009
- Installation Activities Begin: September 2009
- Plant Steam Tie-ins: Thanksgiving 2009
- Startup & Commissioning Completed: August 2010
- Plant Steam Supply: September 2010
- Performance Assessment: Through January 2012

Frito-Lay Topeka – Project Specifics

- 60,000 pph Stoker, Fixed Grate, Field Erected
- Tensioned Fabric Fuel Storage Facility
- Fuel Transfer: drag conveyor, sizer, incline belt, magnet, storage hopper w/ feed screws
- ID fan, Over-fire and under-fire combustion fans
- 70% efficient
- Bottom Ash drag conveyor
- Electrostatic Precipitator
- Fly Ash Handling System
- Wheel Loader

Biomass Boiler Impact



- CO2 Emissions
  2007 – 27,808 tons
  Post Project – 8066 tons
  72% Reduction for site
- Reduction in CO2 emissions represents **2.9% reduction in CO2 emissions from all combustion sources in FLNA**
- Reduction is equal to removing 3,442 automobiles from highway.

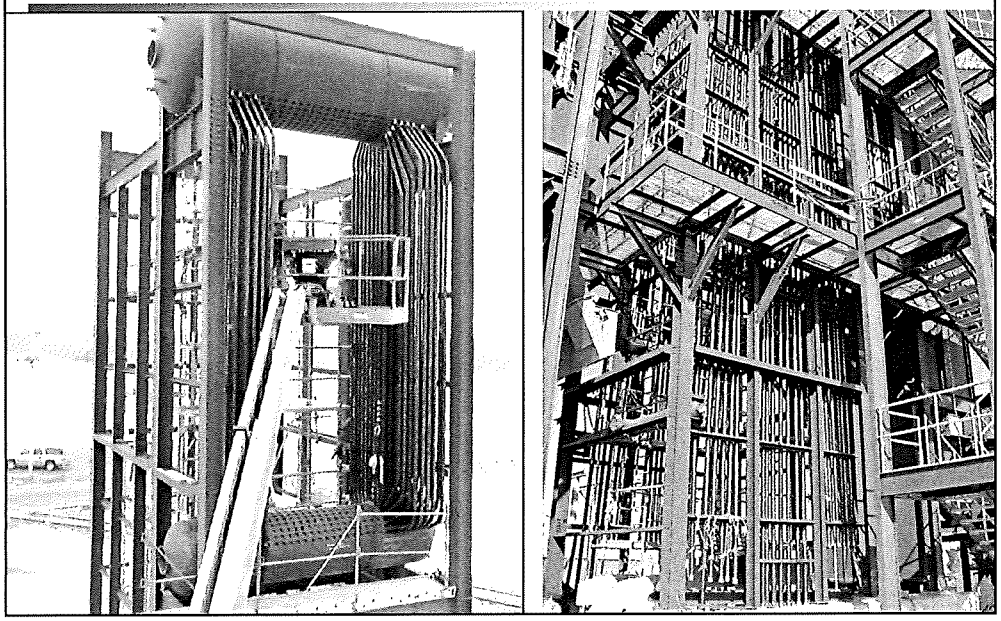
Department of Energy Funding Grant

- Research, Development and Demonstration of Biomass Boiler Applications in the Food Industry
  - **DOE Target is displacement of 3% – 7% of natural gas by 2012**
  - **Biomass steam generation is low-risk approach**
  - **Conventional industrial boilers consume ~ 20% of natural gas used in industry and ~ 237 TBTU of energy annually**
  - **Food industry consumes ~ 73% of natural gas in conventional boilers**
  - **Promote wider adoption of technology in food industry**
- Technical Performance Metrics
  - **Successful installation, start-up, and commissioning**
  - **Demonstrate operation for 18 months post start-up**
- **$1.4MM Grant Awarded to Install and Study Performance**

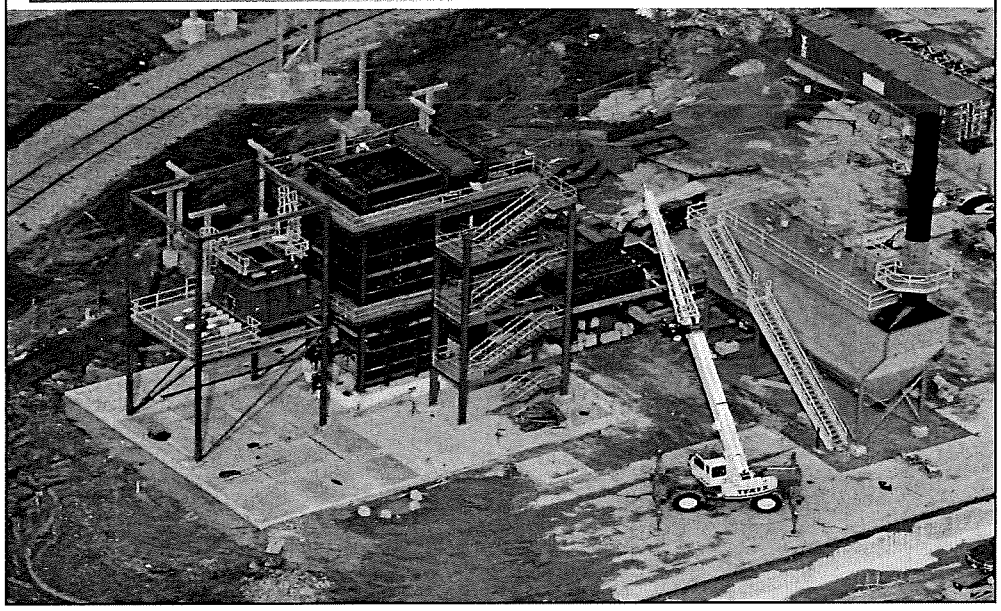
Construction Progress – Oct. 2009

Construction Progress – Jan. 2010

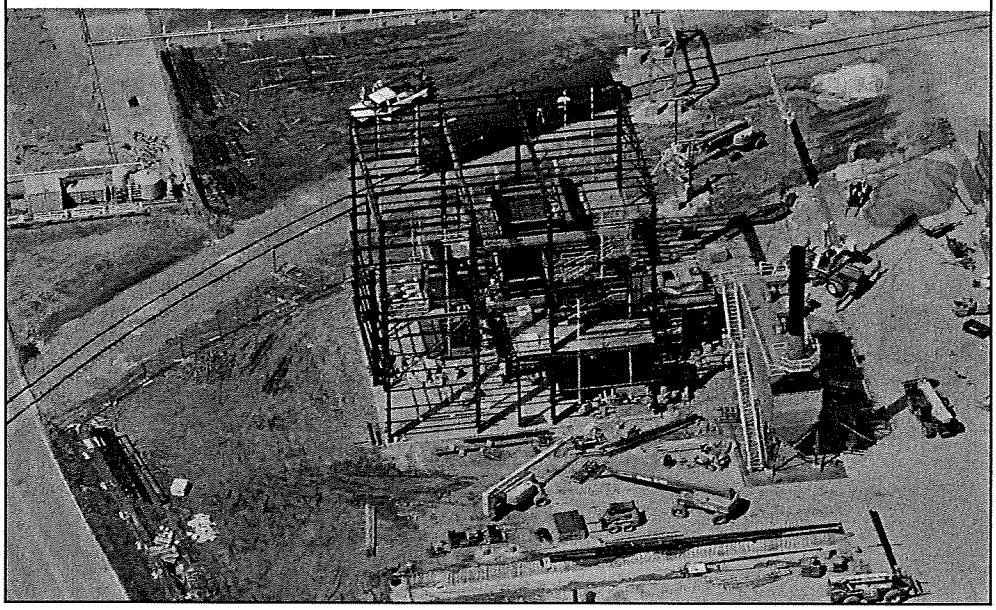
Construction Progress – Jan. 2010



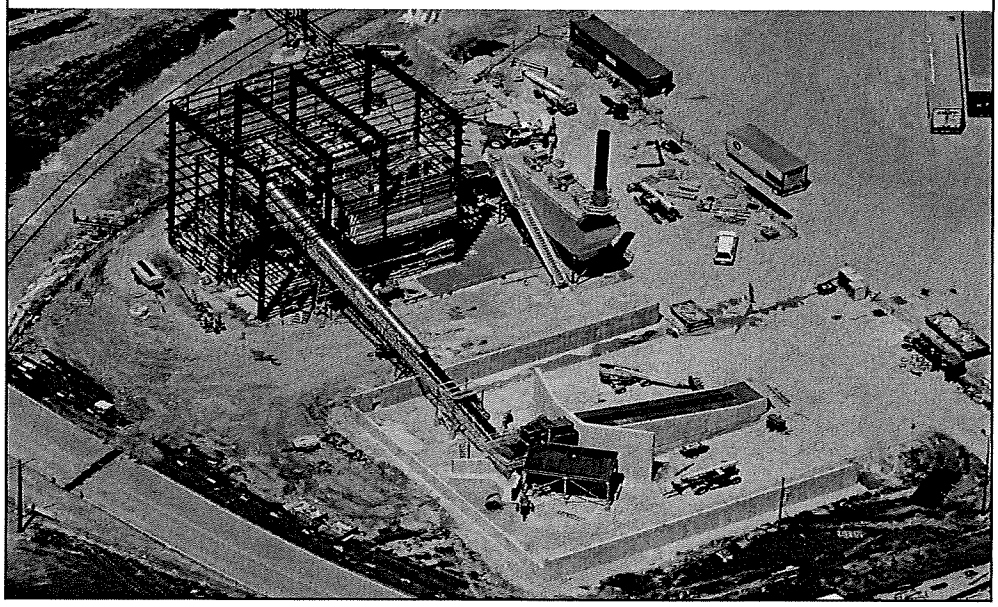
Construction Progress – March 2010



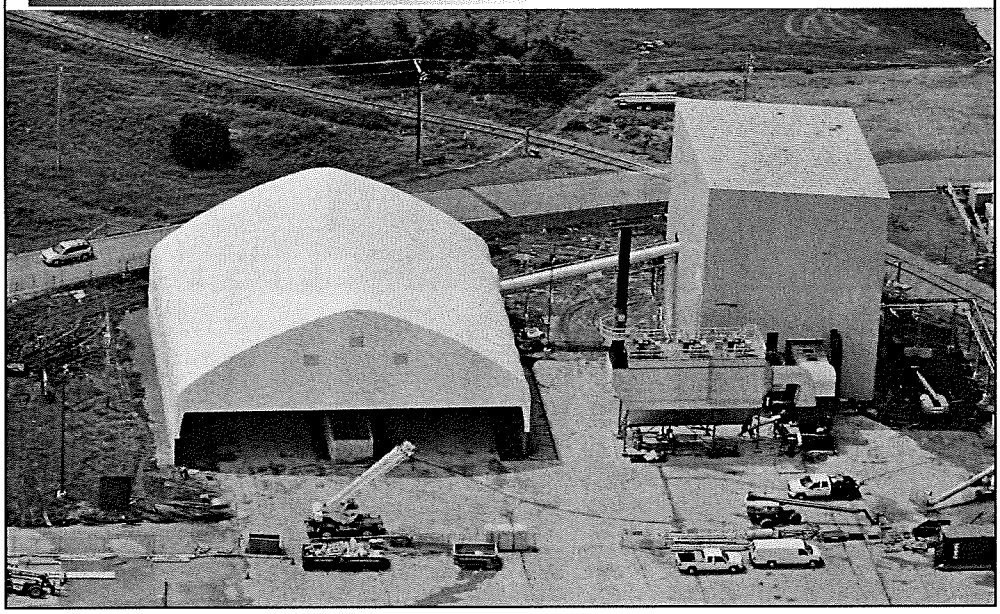
Construction Progress – April 2010



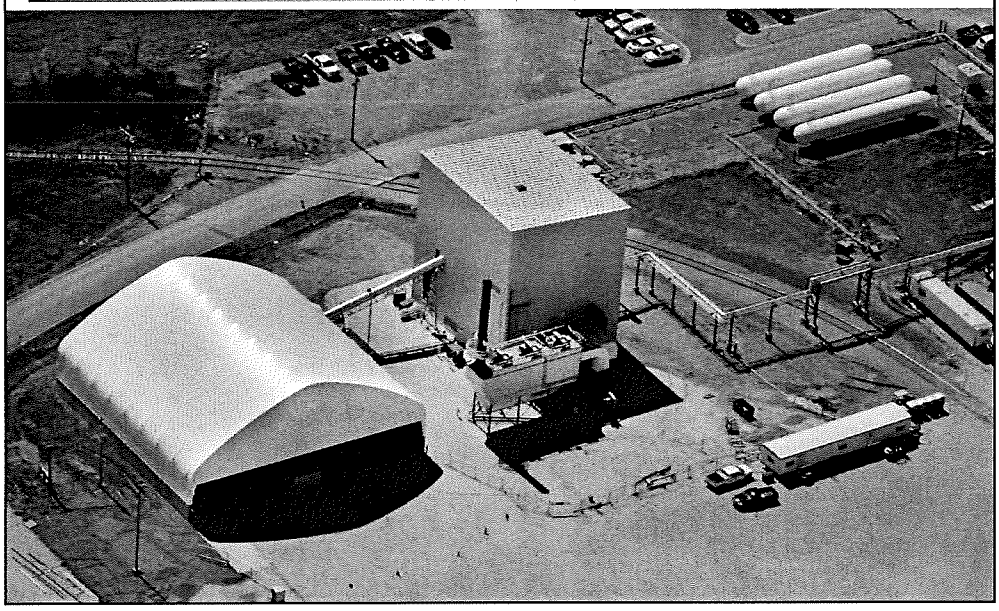
Construction Progress – June 2010



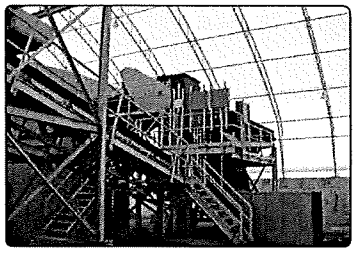
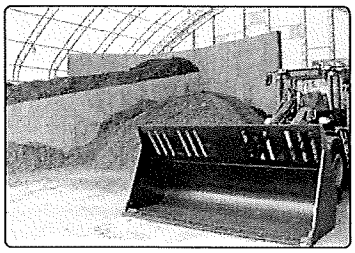
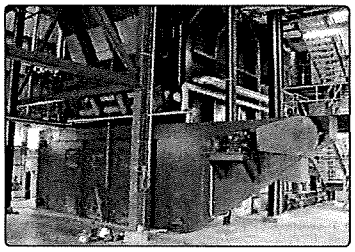
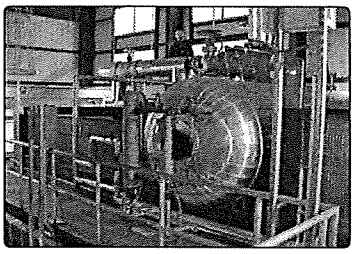
Construction Progress – July 2010



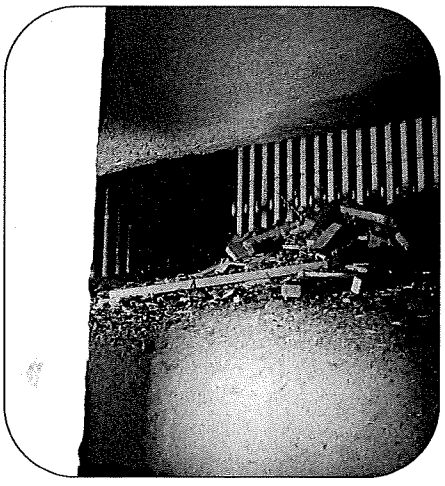
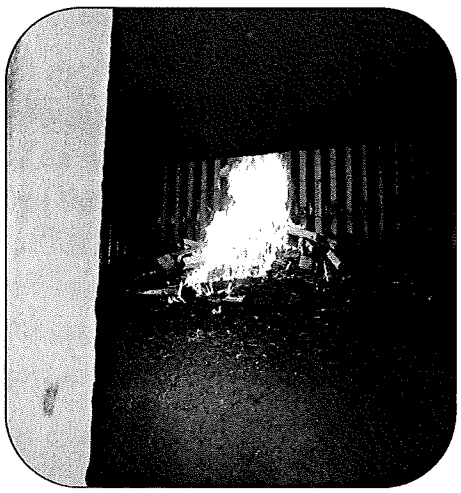
Construction Progress – August 2010



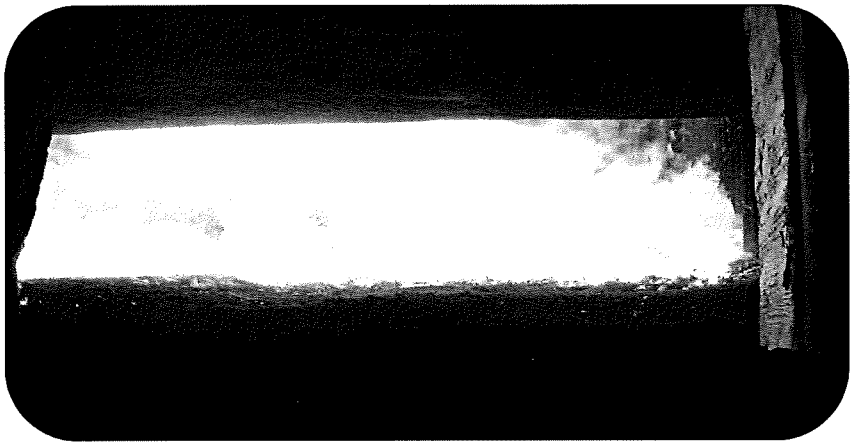
Start-Up – Sept. 2010

Start-Up – Sept. 2010

Start-Up – Sept. 2010



60,000 lb/hr Steam 1600 degrees Farenheit

Project & Start-up Learning's

- Partnerships have been key to project implementation
- Don't pick the worst winter to construct outdoors
- What are we going to do with 1500 tons of fly ash?
- What about the bottom ash?
- Lot's still to learn about fuel composition and preparation
  - Wet/dry blend, screen size, sifting
- Anyone want to buy some used nails?
- Site erected boiler requires custom controls and operation
- No one is an expert!

Frito-Lay Topeka - Biomass to Energy

THANK YOU

Post or Distribute Immediately

Employee Update

Feb. 28, 2011

PRAIRIE WIND TRANSMISSION REQUESTS PERMISSION TO BUILD NEW, HIGH-CAPACITY TRANSMISSION LINE

Prairie Wind Transmission, LLC, a joint venture between Westar Energy and Electric Transmission America, filed its siting permit application with the Kansas Corporation Commission today to request permission to build a new, double circuit 345 kilovolt transmission line from Westar Energy's Wichita 345 kV Substation, about one mile northeast of Colwich, to a new substation just east of Medicine Lodge, Kansas, and then south to the Kansas-Oklahoma border. Oklahoma Gas and Electric (OGE) will continue the line from the Kansas-Oklahoma border to its Woodward Substation, about 10 miles south of Woodward, Okla. The project is part of the Y-Plan that the Southwest Power Pool approved last year. This high-capacity transmission line will improve the regional electric grid by better integrating the east and west regions and facilitating the addition of renewable generation to the electric grid.

Late last year and early this year, Prairie Wind Transmission conducted six open houses to exchange information with landowners near several routes being considered for the transmission line. About 294 completed questionnaires were received from landowners and area residents who attended open houses or contacted Prairie Wind Transmission regarding the line.

"We encourage landowners to be a part of the process, and the open houses and questionnaires promote that by bringing landowners into the conversation and giving them the opportunity to provide valuable input," said Kelly Harrison, Prairie Wind Transmission president.

Prairie Wind Transmission enlisted the services of an outside engineering firm to perform a routing study and analyze the feedback received from the open houses. The results of this analysis were used to complete a comprehensive summary of all the route segments that were being considered for this line and ultimately led to the selection of a preferred route. Landowners generally indicated they preferred a route that would minimize the proximity to residences, maintain reliable electric service, minimize length across tilled agricultural land, maximize the distance from public facilities, and maximize the distance from businesses.

With the KCC's approval expected in late June 2011, Prairie Wind transmission will begin working with landowners to acquire easements in the July-August 2011 time frame. Once easements have been acquired, construction is estimated to begin in the summer of 2012. The company anticipates the project will be complete at the end of 2014. Prairie Wind currently estimates that it will cost about $225 million to construct the proposed line.

For more information about Prairie Wind Transmission, please visit the website at http://www.prairiewindtransmission.com/.

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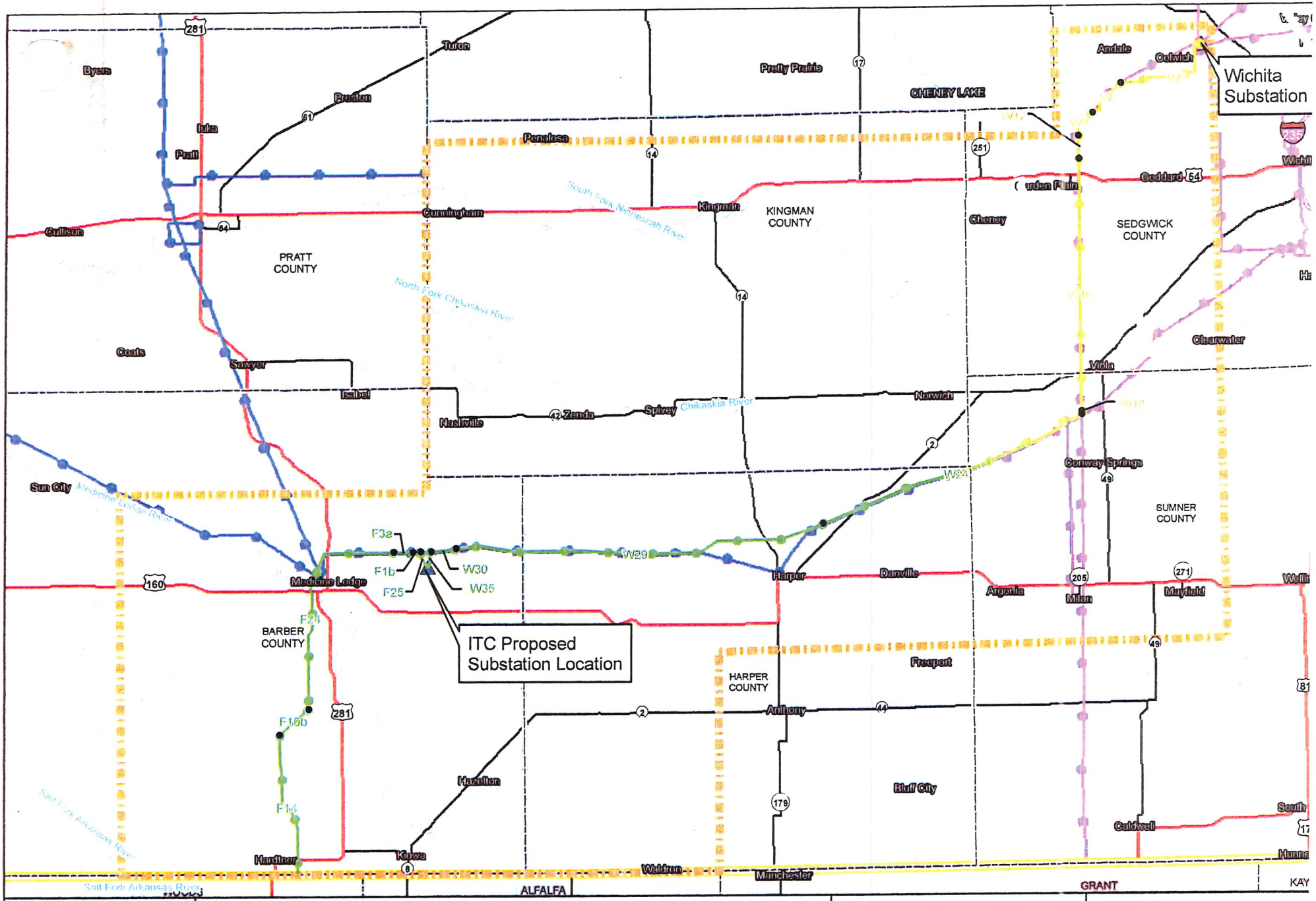
Wichita Substation
ITC Proposed Substation Location
F3a
F1b
F25
W30
W35
W29
W24
F24
F10b
F14
Byers
Iuka
Pratt
Preston
Turon
Pretty Prairie
CHENEY LAKE
Andale
Colwich
Penalosa
Cunningham
Kingman
KINGMAN COUNTY
Cheney
SEDGWICK COUNTY
Goddard
Cullison
PRATT COUNTY
Coats
Sawyer
Isabel
Nashville
Zenda
Spivey
Norwich
Clearwater
Viola
Conway Springs
Sun City
Medicine Lodge
BARBER COUNTY
Harper
Danville
Argonia
Milan
Mayfield
SUMNER COUNTY
Freeport
HARPER COUNTY
Anthony
Hazelton
Bluff City
Caldwell
Hardtner
Kiowa
Waldron
Manchester
ALFALFA
GRANT
Salt Fork Arkansas River
North Fork Chikaskia River
South Fork Ninnescah River
Chikaskia River
Medicine Lodge River
0 4.25 8.5 Miles
N
Legend
Study Area
Endpoints
Segment Endpoint
Preferred Routes
Existing Transmission Lines
Interstate
US Highway
State Highway
Municipality
County Boundary
State Boundary
Prairie Wind Transmission
A joint venture between Westar Energy and ITC
Prairie Wind Transmissio
Wichita to Woodward Proje
Preferred Routes