

MINUTES OF THE HOUSE ENERGY AND UTILITIES COMMITTEE

The meeting was called to order by Chairman Carl Holmes at 9:00 A.M. on January 17, 2007 in Room 241-N of the Capitol.

All members were present except:

Vern Swanson- excused
Tom Sloan- excused
Margaret Long- excused
Tom Hawk, excused

Committee staff present:

Mary Galligan, Kansas Legislative Research
Dennis Hodgins, Kansas Legislative Research
Mary Torrence, Revisor's Office
Jason Long, Revisor's Office
Renaë Hansen, Committee Assistant

Conferees appearing before the committee:

Bruce Snead, State Extension Specialist in Residential Energy
Trudi Aron and Bradly Nies, American Architects
Larry Dolci, KCPL/Westar/KEPCo
Sandie Bayless, Westar
Larry Dolci, KCPL
Whitney Damron, Empire District Electric
Dave Holthaus, KS Elec Cooperatives
Captain Darrell Haynes, Wichita Police Dept.
Detective Aaron Harrison, Wichita Police Dept.
Jeff Westeman, Triumph Structure-Wichita
Randy Downing, Scrap Dealers

Others attending:

See attached list.

Hearing on:

HB 2036: Thermal efficiency standard for new buildings.

Proponents:

Bruce Snead, (Attachment 1) , presented testimony in support of **HB 2036** with recommendations for amendments that would improve the bill.

Amendments address the disclosure form and its contents and comments, updating the disclosure form to reflect the code changes that have occurred. Home buyers would then have an appropriate basis for buying a home. He presented three versions of amendments. (Attachments 2,3, &4)

Trudy Aron introduced Bradley Nies, AIA LEED, (Attachment 5), who presented testimony that supported this bill with amendments that would help further the energy efficiency and help to save precious resources.

The high performance standards they are requesting are going above and beyond what this bill asks for. Included was supporting documentation of results of other states who have gone to these more stringent standards and how they improved efficiency and saved energy using the standards for a more high performance building. While this bill is an important change for the energy code they feel Kansas should be more stringent to help with other natural resources.

Questions were asked by Representatives: Tom Moxley, Don Myers,

Hearing was closed on **HB 2036**.

CONTINUATION SHEET

MINUTES OF THE House Energy and Utilities Committee at 9:00 A.M. on January 17, 2007 in Room 241-N of the Capitol.

Hearing on:

HB 2034: Removal of sunset provision of public utility recovery of security expenditures.

Proponents:

Larry Dolci, (Attachment 6), representing, KCPL, Westar Energy , and KEPCo, spoke in support of **HB 2034** that would remove the sunset on a bill that would help with recovering costs associated with security measures for nuclear power plants.

Questions were asked by: Representative Tom Moxley, Josh Svaty, Bill Light, and Terry McLachlan.

Chair Holmes gave background information on **HB 2034** noting the intent of the original bill was to keep the facilities investment in security from the public record so that potential terrorists would have no access to the information to determine the most vulnerable plant based on costs spent on security.

Hearing was closed on **HB 2034.**

Hearing on:

HB 2035: Registration of copper of aluminum obtained by purchase or trade.

Sandie Bayless, Westar, Senior facilities security representative (Attachment 7), spoke in support of **HB 2035.** Theft of copper is a threat to the power supply and creates outages.

Larry Dolci, KCP&L, (Attachment 8), spoke in favor of **HB 2035**, noting some specific incidences of metal thefts in Kansas and told of deaths nation wide that happened during these thefts. KCP&L reported 50 thefts or attempted thefts in 2006.

Whitney Damron, The Empire District Electric Company, (Attachment 9), spoke in favor of **HB 2035** and included media releases about the issue that have been released.

Dave Holthaus, Kansas Electric Cooperatives, (Attachment 10), spoke in favor of **HB 2035**, and included examples from managers in the cooperative groups who gave cited incidences in their individual division areas.

Captain Darrell Haynes, Wichita Police Department, (Attachment 11), presented testimony in favor of **HB 2035**, giving specific examples of what the theft of these metals involve, noting that primarily these thieves are trying to get quick money for methamphetamine and crack cocaine. Theft of air conditioner wires is monumental and occurs in off season time. The Wichita Police Department suggests one way to change this theft is that the sellers have a valid EPA refrigerant handlers license. The thieves are involved in rings of theft that travel the whole nation with some of them being located in Wichita. There is an ongoing investigation into the false identities that are being used for the sales. They are in agreement with the "right thumb print" provision but feel in cases of loss of digits that an order of fingerprints should be included in the statute.

Detective Aaron Harrison continued with testimony that was included with Captain Haynes testimony. (Attachment 11) . He spent time covering some of the specific problems in Wichita. About \$100,000 dollar loss of metals in the aerospace industry happens yearly. Titanium, nickle and tungsten and their alloys need to be included in this bill. He also spoke on problems to the railroads from loss of scrap metal, noting that when the railroad shuts down because of this problem it costs the railroad roughly \$115,000 an hour.

Jeff Westeman, Triumph Structures-Wichita, (Attachment 12), spoke in support of **HB 2035**, and gave information on the problem in the aerospace industry. Included in the testimony, was a picture of one of the thieves who was caught on security camera. The company he represents is asking for inclusion in this bill

CONTINUATION SHEET

MINUTES OF THE House Energy and Utilities Committee at 9:00 A.M. on January 17, 2007 in Room 241-N of the Capitol.

of the aerospace industry.

Written Proponents:

Ed Klumpp, Chief of Police/ retired, Topeka, Kansas, (Attachment 13), submitted written testimony to the committee in support of **HB 2035**.

Opponents:

Randy Downing, Scrap Dealers, (Attachment 14), spoke against **HB 2035**, noting the extra costs to the individual scrap metal dealers if this bill should pass. The cost of holding materials on site is significant for them. They do not have the space to hold that much metal or have the administrative overhead to keep up with the demands in this bill.

Questions were asked and comments made by: Representatives Peggy Mast, Judy Morrison, Don Myers, Bill Light, Oletha Faust-Goudou, Carl Holmes, and Josh Svaty.

It was noted that the actual biometric thumb print identifier is extremely important to identifying the thieves as they are using manufactured illegal identification.

Chairman Holmes asked the scrap metals industries to offer some sort of legislation that would be workable for the problem.

Hearing Closed on **HB 2035**.

Rep Vaughn Flora moved to request a bill that would require a 2 year moratorium on coal fired plants in Kansas. During this two year period , Post Audit would be directed to conduct an audit studying the effects of coal fired plants on the usage and depletion of Kansas water, including the emissions of Carbon Dioxide and Mercury. Before more plants are built, we must determine the long term health impact to Kansans. This bill would also calculate the cost to residents living near construction sites or plants, a factor that will effect the livelihood of thousands of Kansans. Second Peggy Mast. Motion Carried.

The next meeting is scheduled for January 18, 2007.

Meeting Adjourned.

HOUSE ENERGY AND UTILITIES COMMITTEE GUEST LIST

DATE: January 17, 2007

NAME	REPRESENTING
Mark Schrober	Westar Energy
Sandie Baylous	Westar Energy
DRACY JENKINS	WESTAR ENERGY
LARRY Dolci	KANSAS CITY POWER & LIGHT
Paul Snider	KCPL
Dave Erbe	wc uoc
Trudy ARON	Am Inst of Architects
Hans Nettelblad	American Institute of Architects
BRAD NIES	American Institut Architects
Marienne Galamba-Brown	Galamba Metals Group, LLC
JEROLD T. FLETCHER	Galamba METALS GROUP LLC
RANDY DOWNING	XXXXXXXXXXXX JSRI
BOB BARTUNEK	GALAMBA METALS
John Kissel	Pisunelli Law
Martha Ann Smith	KMATH
DARRELL L. HAYNES	WICHITA POLICE DEPARTMENT
AARON E. HARRISON	CITY OF WICHITA POLICE DEPT.
Jeff Westeman	Triumph Structures - Wichita
DAN O'BREEN	KAW VALLEY ELECTRIC

HOUSE ENERGY AND UTILITIES COMMITTEE GUEST LIST

DATE: January 17, 2007

NAME	REPRESENTING
DAVE HOLTHAUS	KEC
JOHN C. BOTTENBERG	WESTAR
Kyle Malone	intern
LARRY BERG	MIDWEST ENERGY
TOM DAY	KCC
ALEO ZADINA	SIERRA CLUB
PHIL WAGES	KEPCO
Russ Rudy	KANSAS ENERGY OFFICE
Tom Thompson	Sierra Club
HON STANTON	NORTHERN NATURAL GAS CO.
Stan Morris	Lan Norshide Recycling
CURT LEWIS	AAA AUTO AND TRUCK PARTS INC
JEROLD T. FLETCHER	Galamba METALS Group, LLC
Jeff Ross	Lanalex Recycling Inc.
Dave Proctor	Lanalex Recycling
Tim Garkner	AT&T

Utilities Committee
Kansas House
Written Testimony of Bruce Snead
State Extension Specialist in Residential Energy
Engineering Extension at K-State
Manhattan, Kansas
January 17, 2007

HB 2036

Mr. Chair and members of the committee, thank you for the opportunity to testify on this bill. I support it but I believe it needs improvement through a potential amendment. I would like to present background information first, then potential amendments.

The 2006 International Energy Conservation Code (IECC) was adopted during the 2005 International Code Council (ICC) code cycle and is currently available to the states for adoption. It is published by the International Code Council. The IECC is the national model energy standard certified by the U.S. Department of Energy pursuant to the Energy Policy Act (EPAAct). EPAAct requires that all states review and consider adopting the IECC as the state building energy code. The 2003 IECC was adopted by the state in 2003 as HB 2131 at that time and this proposed legislation is consistent with that, in that it updates with changes in codes and compliance methods which have occurred in the last few years.

Why are energy codes important in new construction? Energy codes establish minimum insulation and efficiency component requirements for both commercial and residential buildings. Residential codes provide insurance to homeowners that newly constructed homes make use of modern techniques and products that make houses energy-efficient. By complying with energy code requirements, energy bills are lower and comfort levels are often improved. Codes also level the playing field for builders by requiring a standard level of quality in areas that homeowners might not see when they are buying a house, such as the insulation in the walls.

There are several key differences between the 2003 IECC and 2006 IECC:

ENERGY AND HOUSE UTILITIES

DATE: 1-17-07

ATTACHMENT 1-1

- Under the 2003 code, Kansas was divided into five separate climate zones with different insulation requirements for each. The 2006 code combines the entire state into a two climate zones with appropriate differences.
- A cursory comparison of the requirements shows five categories with better (4) or the same (1) specifications, one with a slight decrease, and one which requires less insulation for crawl space walls in areas of the state where there are fewer crawl space foundations typically constructed.
- All sizes, shapes, and glazing areas use the same requirements
- Requirements never vary within county boundaries
- Primary requirements expressed as R-values, not U-factors
- 2006 IECC efficiency increases
 - Multifamily homes
 - Homes with average to below-average glazing percentages
 - Duct insulation (always R8)
 - Air handler must be sealed
- 2006 IECC efficiency reductions
 - Homes with above-average glazing percentages
- The 2006 IECC is much simpler and easier to understand, comply with, and enforce
- In general there is more consistency across building types, construction types, building designs and within jurisdictions
- Single family and multifamily buildings use exactly the same requirements
- New construction and addition/remodel use the same requirements

Proposed Amendments

My amendments address the disclosure form and its content and requirements. First, why should we change the disclosure form? Generally to:

- Provide timely, quantitative information about the energy efficiency of new housing, so people know what the energy components are in their new home, and have a basis for evaluating that component.
- Raise homebuyer awareness of energy efficiency issues.
- Raise homebuilder awareness of energy efficiency issues.

In addition, the form needs to be revised to present the energy efficiency information in a quantitative and comparative way, and to reflect latest national standards and codes. These changes will ensure that Kansas consumers receive useful, quantitative data about the energy performance of new houses.

Amendment Version #1

This amendment simply updates the criteria to be current without changing any requirements for action or the compliance options. This is similar to what was done in 2003, but revising the components list and adding the comparison to Energy Star criteria, along with information and definitions about components and ratings criteria on the back.

Amendment Version #2

The second version has incorporated the Kansas Energy Council recommendations, except for the change requiring disclosure when the property is listed for sale. This version requires the builder to specify all the energy efficiency elements in Part 1, and in addition, permits the builder to provide additional information in Part 2 certifying the house has been or will be built to meet the 2006 IECC, or has achieved a certain Home Energy Rating Index Score in a standardized national energy audit program.

Amendment Version #3

This amendment is consistent with most of the Kansas Energy Council (KEC) Energy Conservation and Efficiency Program Recommendation #2 you heard yesterday. The primary change is to the time of disclosure requirement. This version requires disclosure “at listing and prior to closing,” replacing the current text of “upon request or prior to closing”. This change is in the initial paragraph at the top of the form.

This makes available the information which is important to prospective buyers at the time of listing, in addition to at closing. Having energy efficiency information available to prospective buyers at listing is comparable to having mileage rating stickers when

prospective buyers look at new cars. Builders would know what they plan to install in the home at time of permit application, or when they ask a realtor to list the home. Providing the form at closing assures that the actual components used are disclosed to the prospective buyer.

Other changes to the legislation are recommended in the KEC Recommendations but do not affect the form directly. They are changes which would (1) allow standards for commercial and industrial structures to be routinely updated through the Rules and Regulations process and (2) include a provision authorizing the Kansas Energy Office at the KCC to propose guidelines through the Rules and Regulations process for local residential energy efficiency standards. I believe these changes are included in the legislation which will be introduced in the Senate.

Thank you for your interest and I will try to answer any questions.

Bruce Snead

810 Pierre St.

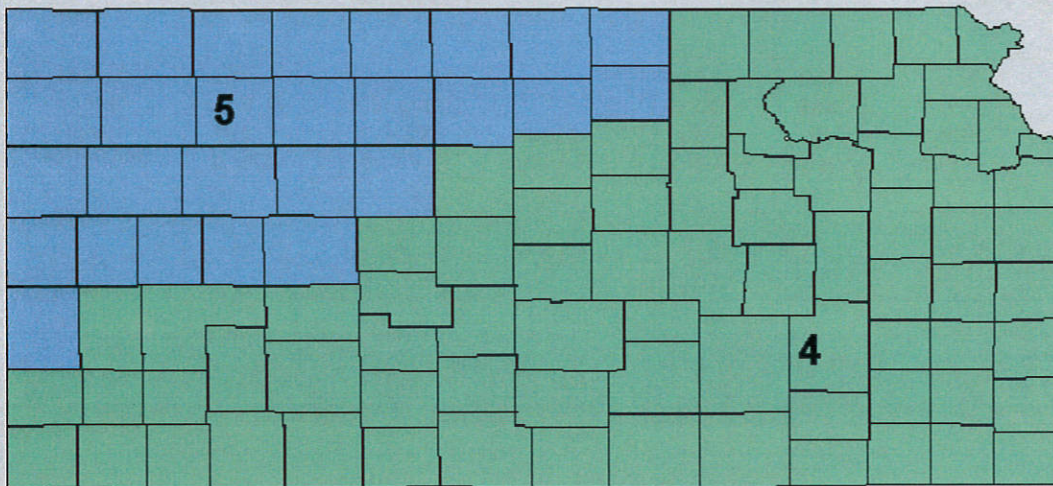
Manhattan, KS 66502

785-537-7260 Home 785-532-4992 Work

bsnead@ksu.edu

IECC Compliance Guide for Homes in Kansas

Code: 2006 International Energy Conservation Code



The IECC assigns the counties in the state of Kansas into two climate zones. The envelope performance requirements vary for each zone as detailed in the building requirements found on the back of this sheet.

Example: If you are constructing a home in Sedgwick County, you will comply with the 2006 IECC if you follow the requirements for Climate Zone 4.

Step-by-Step Instructions

1. Use the color-coded map or list of counties to locate the IECC climate zone in which construction is taking place.
2. Use the "Table of IECC Building Envelope Requirements for Kansas" (on the back of this sheet) to determine the envelope performance requirements associated with the climate zone.
3. Construct the building according to the envelope performance requirements and comply with certain other basic code requirements, which include:
 - a. providing preventative maintenance manuals
 - b. attaching a permanent certificate listing insulation, window and HVAC performance information
 - c. installing temperature controls
 - d. limiting window and door leakage
 - e. caulking or sealing joints and penetrations
 - f. installing vapor retarders (in certain circumstances)
 - g. sealing and insulating ducts

The 2006 International Energy Conservation Code

The 2006 IECC was adopted during the 2005 International Code Council (ICC) code cycle and is currently available to states for adoption. It is published by the International Code Council. For additional details or to obtain a copy of the 2006 IECC, contact the ICC by phone or visit their website at www.iccsafe.org

The IECC is the national model energy standard certified by the U.S. Department of Energy pursuant to the Energy Policy Act (EPAAct). EPAAct requires that all states review and consider adopting the IECC as the state building energy code.

Limitations

This guide is an energy code compliance aid for Kansas based upon the 2006 IECC. It does not provide a guarantee for meeting the IECC. The guide is not designed to reflect the actual energy code, if any, in Kansas and does not, therefore, provide a guarantee for meeting the state energy code. For details on Kansas' energy code, please contact your local building code official.

IECC Climate Zone 4

Allen	Edwards	Labette	Reno
Anderson	Elk	Leavenworth	Rice
Atchison	Ellsworth	Lincoln	Riley
Barber	Finney	Linn	Rush
Barton	Ford	Lyon	Russell
Bourbon	Franklin	Marion	Saline
Brown	Geary	Marshall	Sedgwick
Butler	Grant	McPherson	Seward
Chase	Gray	Meade	Shawnee
Chautauqua	Greenwood	Miami	Stafford
Cherokee	Harper	Montgomery	Stanton
Clark	Harvey	Morris	Stevens
Clay	Haskell	Morton	Sumner
Coffey	Hodgeman	Nemaha	Wabaunsee
Comanche	Jackson	Neosho	Washington
Cowley	Jefferson	Osage	Wilson
Crawford	Johnson	Ottawa	Woodson
Dickinson	Kearny	Pawnee	Wyandotte
Doniphan	Kingman	Pottawatomie	
Douglas	Kiowa	Pratt	

IECC Climate Zone 5

Cheyenne	Hamilton	Osborne	Sherman
Cloud	Jewell	Phillips	Smith
Decatur	Lane	Rawlins	Thomas
Ellis	Logan	Republic	Trego
Gove	Mitchell	Rooks	Wallace
Graham	Ness	Scott	Wichita
Greeley	Norton	Sheridan	

Table of IECC Building Envelope Requirements for Kansas

Prescriptive Path for Compliance with the 2006 IECC

WINDOWS AND INSULATION

FOUNDATION TYPE

Package	WINDOWS AND INSULATION					FOUNDATION TYPE			
	Window U-factor	Skylight U-Factor	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall R-Value	Floor R-Value	Basement Wall R-Value	Slab R-Value and Depth	Crawl Space Wall R-Value
Climate Zone 4	0.40	0.60	R-38	R-13	R-5	R-19	R-10/13	R-10, 2 ft.	R-10/13
Climate Zone 5	0.35	0.60	R-38	R-19 or 13+5	R-13	R-30	R-10/13	R-10, 2 ft.	R-10/13

NOTES:

- This table applies to new construction, as well as all additions, alterations and replacement windows and is based upon the envelope performance requirements for Climate Zones 4-5, Table 402.1.1 in the 2006 IECC, and does not reflect any state-specific amendments to the IECC. This table applies to residential buildings, as defined in the IECC, with wood framing and/or mass walls. For steel-framed buildings, refer to Section 402.2.4 of the IECC.
- Window refers to any translucent or transparent material (i.e., glazing) in exterior openings of buildings, including skylights, sliding glass doors and glass block, along with the accompanying sashes, frames, etc.
- Window and skylight U-factor values are maximum acceptable levels. An area-weighted average of fenestration products shall be permitted to satisfy the U-factor requirements. Window U-factor must be determined from a National Fenestration Rating Council (NFRC) label on the product or from a limited table of product default values in the IECC. Up to 15 square feet of glazed fenestration is permitted to be exempt from the U-factor requirement.
- The code requires that windows be labeled in a manner to determine that they meet the IECC's air infiltration requirements; specifically, equal to or better than 0.30 cfm per square foot of window area (swinging doors below 0.50 cfm) as determined in accordance with NFRC 400 or AAMA/WDMA/CSA 101/I.S.2/A440 by an accredited, independent laboratory.
- Opaque exterior doors must meet the window U-factor requirements. One exempt door is allowed.
- Insulation R-values are minimum acceptable levels; R-19 shall be permitted to be compressed into a 2x6 cavity. R-values for walls represent the sum of cavity insulation plus insulated sheathing, if any.
- If structural sheathing covers 25% or less of the exterior, insulated sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25% of the exterior, structural sheathing shall be supplemented with insulated sheathing of at least R-2.
- Supply and return ducts shall be insulated to a minimum of R-8. Ducts in floor trusses shall be insulated to a minimum of R-6. Exception: Ducts or portions thereof located completely inside the thermal building envelope.
- Where there are two different values for basement and crawl space insulation requirements, the first R-value applies to continuous insulation, the second to framing cavity insulation. Crawl space wall R-value shall only apply to unventilated crawl spaces; R-5 shall be added to the required slab edge R-values for heated slabs; and floors over outside air must meet ceiling requirements.
- Prescriptive packages are based upon normal HVAC equipment efficiencies (NAECA minimums). The code also requires the HVAC system to be properly sized using a computational procedure like the ASHRAE Handbook of Fundamentals.

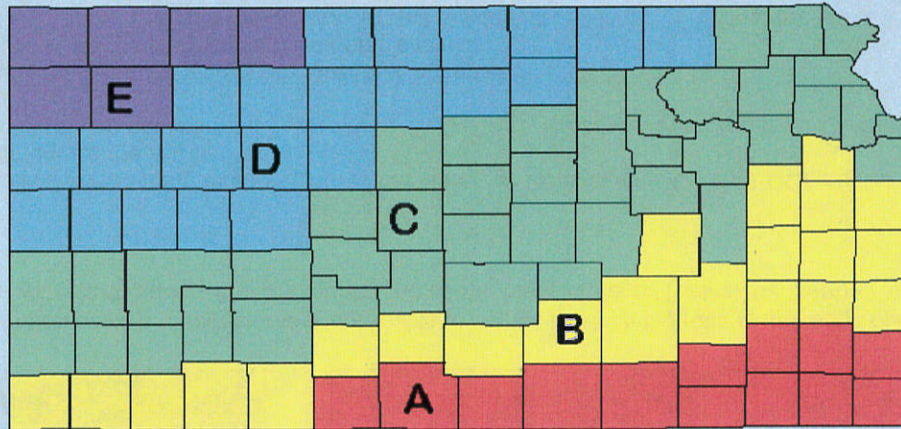
IECC Compliance Guide for New Homes in Kansas

2003 International Energy Conservation Code (IECC)

First Edition

How to Use This Guide

This pamphlet contains five generic packages designed to simplify compliance with the IECC as it relates to residential occupancies in Kansas. Each county is assigned to one of the five packages (A through E), which vary according to the different climate zones in Kansas.



Step-by-Step Instructions

- Use the color-coded map to locate the county in which construction is taking place and find the package, A through E, associated with that county.
- Use the "Table of IECC Building Envelope Requirements for Kansas" (on the back of this sheet) to find the set of construction options or "path" associated with the package selected above.
- Construct the building according to the corresponding path and comply with certain basic code requirements, which include:
 - providing preventative maintenance manuals
 - installing temperature controls
 - limiting window and door leakage
 - caulking or sealing joints and penetrations
 - installing vapor retarders
 - sealing and insulating ducts

Example:

If you are constructing a home in Sedgwick County, you will comply with the IECC in Kansas if you follow the path listed in Package B.

Obtaining the IECC

The IECC is the national model energy standard certified by the US Department of Energy pursuant to the Energy Policy Act (EPAAct). EPAAct requires that all states review and consider adopting the IECC as the state building energy code.

The IECC is published by the International Code Council (ICC). For additional details on the IECC, contact the ICC by phone at (703) 931-4533 or visit their website at www.iccsafe.org.

Limitations

This guide is an energy code (IECC based) compliance aid for Kansas. It does not provide a guarantee for meeting the IECC. The guide has not been customized to reflect any state-specific amendments to the IECC that Kansas may adopt or has adopted, and does not, therefore, provide a guarantee for meeting the state energy code. For additional details on Kansas' energy code, please contact your local building code official.

Kansas Counties by Package

A 4,000 - 4,499 HDD		
Barber	Crawford	Neosho
Chautauqua	Elk	Sumner
Cherokee	Harper	Wilson
Comanche	Labette	
Cowley	Montgomery	

B 4,500 - 4,999 HDD		
Allen	Franklin	Osage
Anderson	Greenwood	Pratt
Bourbon	Kingman	Sedgwick
Butler	Kiowa	Seward
Chase	Linn	Stevens
Clark	Meade	Woodson
Coffey	Miami	
Douglas	Morton	

C 5,000 - 5,499 HDD		
Atchison	Harvey	Ottawa
Barton	Haskell	Pawnee
Brown	Hodgeman	Pottawatomie
Clay	Jackson	Reno
Dickinson	Jefferson	Rice
Doniphan	Johnson	Riley
Edwards	Kearny	Rush
Ellsworth	Leavenworth	Russell
Finney	Lincoln	Saline
Ford	Lyon	Shawnee
Geary	Marion	Stafford
Grant	McPherson	Stanton
Gray	Morris	Wabaunsee
Hamilton	Nemaha	Wyandotte

D 5,500 - 5,999 HDD		
Cloud	Marshall	Sheridan
Ellis	Mitchell	Smith
Gove	Ness	Trego
Graham	Osborne	Wallace
Greeley	Phillips	Washington
Jewell	Republic	Wichita
Lane	Rooks	
Logan	Scott	

E 6,000 - 6,499 HDD		
Cheyenne	Norton	Sherman
Decatur	Rawlins	Thomas

HDD = Heating Degree Days

Table of IECC Building Envelope Requirements for Kansas

Simplified Prescriptive Paths for Compliance with the IECC in Kansas

8-1

WINDOWS AND INSULATION

FOUNDATION TYPE

Package		Window U-factor	Ceiling	Wall	Floor	Basement Wall	Slab Perimeter	Crawl Space Wall
A	4,000 - 4,499 HDD	0.45	R-38	R-13	R-19	R-8	R-5, 2 ft.	R-11
B	4,500 - 4,999 HDD	0.45	R-38	R-16	R-19	R-9	R-6, 2 ft.	R-17
C	5,000 - 5,499 HDD	0.45	R-38	R-18	R-19	R-9	R-6, 2 ft.	R-17
D	5,500 - 5,999 HDD	0.40	R-38	R-18	R-21	R-10	R-9, 2 ft.	R-19
E	6,000 - 6,499 HDD	0.35	R-38	R-18	R-21	R-10	R-9, 4 ft.	R-20

HDD = Heating Degree Days

* This table of prescriptive requirements is applicable to homes in which the ratio of the rough opening of windows to the gross wall area, expressed as a percentage, is 15%. For homes with glazing areas that are greater than 15%, please refer to Tables 502.2.4(4) - (6) in the IECC.

NOTES:

1. This table is based upon the 2003 International Energy Conservation Code (IECC), published by the International Code Council, and does not reflect any state-specific amendments to the IECC.
2. Source of requirements for the Table: 2003 IECC, Ch. 5, Prescriptive Packages for Climate Zones 9-13. Alternate compliance approaches must be used for glazing areas over 25%.
3. Window area % and U-factors are maximum acceptable levels.
4. Insulation R-values are minimum acceptable levels.
5. This table applies to single-family, wood-frame residential buildings. For steel-framed wall construction or high-mass wall construction refer to Chapter 5 of the IECC.
6. "Window" refers to any translucent or transparent material (i.e., glazing) in exterior openings of buildings, including skylights, sliding glass doors, the glass areas of opaque doors, and glass block, along with the accompanying sashes, frames, etc.
7. Window U-factor must be determined from a National Fenestration Rating Council (NFRC) label on the product or from a limited table of product "default" values in the IECC.
8. Window area % is the ratio of the rough opening of windows to the gross wall area, expressed as a percentage.
9. Opaque doors must have a maximum U-factor of 0.35. One exempt door allowed.
10. The code requires that windows be labeled in a manner to determine that they meet the IECC's air infiltration requirements; specifically, equal to or better than 0.30 cfm per square foot of window area (swinging doors below 0.50 cfm) as determined in accordance with AAMA/WDMA 101/I.S.2 (ASTM E 283).
11. R-2 shall be added to the requirements for heated slabs.
12. Floors over outside air must meet ceiling requirements.
13. R-values for walls represent the sum of cavity insulation plus insulated sheathing, if any. Crawl space wall R-value shall only apply to unventilated crawl spaces.
14. Prescriptive packages are based upon normal HVAC equipment efficiencies (see Chapter 5 of the IECC). The code also requires the HVAC system to be properly sized using a computational procedure like ACCA Manual J.

Amendment Version #1

KANSAS ENERGY EFFICIENCY DISCLOSURE

As required by KSA 66-1228

Kansas law requires the person building or selling a previously unoccupied new residential structure to disclose to the buyer or a prospective buyer, upon request or prior to closing, information regarding the thermal efficiency of the structure (single or multifamily units, three floors and under).

Common Address or Legal Description of Residence:

This residence (select one of the following options):

- 1. Has been built to meet the energy-efficiency standards of the International Energy Conservation Code 2006 (IECC 2006),
- 2. This residence has received a Home Energy Rating (HERS) index score of 100 or less based on an energy audit performed in accordance with the Mortgage Industry National Home Energy Rating Systems Standards (July 1, 2006) by a rater certified by Residential Energy Services Network (RESNET) or,
- 3. Has been built to include the following energy-efficiency elements:

	<u>Actual Value</u>	<u>Energy Star*</u>
Wall Insulation R-Value	_____	18
Attic Insulation R-Value	_____	42
Foundation Insulation R-Value		
Basement Walls	_____	10
Crawlspace Walls	_____	15
Slab-on-Grade	_____	8
Floors over Unheated Spaces R-Value	_____	30
Window U-Value	_____	.34
Water Heater		
Gas or Propane (Energy Factor)	_____	.60
Electric (Energy Factor)	_____	.92
Heating and Cooling Equipment		
Warm-Air Furnace (AFUE)	_____	.93
Air Conditioner or Heat Pump - Cooling (SEER)	_____	14
Air-Source Heat Pump (HSPF)	_____	8.5
Ground-Loop Heat Pump – Heating (COP)	_____	3.9
Ground-Water Heat Pump – Cooling (EER)	_____	22
Ground-Water Heat Pump – Heating (COP)	_____	4.4

Additional information: (Attach additional sheet if necessary.)

Seller signature: _____ Date: _____

Seller name/address: _____

Buyer signature: _____ Date: _____

Buyer signature: _____ Date: _____

*See reverse for more information on existing standards and explain *ENERGY AND HOUSE UTILITIES*

DATE: 1-17-2007

ATTACHMENT 2-1

R-value = Thermal Resistance Rating of insulation materials. The higher the R-value, the better the material resists heat flow (i.e., the better it insulates).

U-value = Heat Loss Rating of windows. The lower the U-value, the less the window loses heat (i.e., the better it prevents heat loss).

Equipment Performance Ratings (the higher the number, the more efficient the equipment)

AFUE = Annual Fuel Utilization Efficiency: used to rate gas or propane warm-air furnaces and small boilers.

SEER = Seasonal Energy Efficiency Ratio: performance indicator for residential air conditioners and air source heat pumps.

HSPF = Heating Seasonal Performance Factor: measures heating performance of air-source heat pumps.

EER = Energy Efficiency Ratio: used to rate window air conditioners and ground-loop or ground-water heat pumps in the cooling mode.

COP = Coefficient of Performance: used to rate ground-loop or ground-water heat pumps in the heating mode.

Energy Star qualified homes are at least 15% more energy efficient than homes built to the 2006 International Energy Conservation Code (IECC). Energy Star is a joint program of the U.S. Environmental Protection Agency and Department of Energy.

The International Energy Conservation Code (IECC), developed by the International Code Council, sets standards for energy efficiency in homes and commercial and industrial buildings. It is revised on a three-year cycle, with a supplement issue midway through each cycle.

The HERS Index is a scoring system established by the Residential Energy Services Network (RESNET) in which a home built to the specifications of the HERS Reference Home (based on the 2006 International Energy Conservation Code) scores a HERS Index of 100, while a net zero energy home scores a HERS Index of 0. The lower the score, the more energy efficient a home is in comparison to the HERS Reference Home. Each 1-point decrease in the HERS Index corresponds to a 1% reduction in energy consumption compared to the HERS Reference Home. Thus a home with a HERS Index of 85 is 15% more energy efficient than the HERS Reference Home and a home with a HERS Index of 80 is 20% more energy efficient.

RESNET Standards ensure that accurate and consistent home energy ratings are performed by accredited home energy rating systems nationwide; increase the credibility of the rating systems with the mortgage finance industry; and promote voluntary participation in an objective, cost-effective, sustainable home energy rating process. This accreditation process will be used by the mortgage industry to accept home energy ratings and by the states to assure accurate, independent information upon which a state may recognize the home energy ratings as a compliance method for state building energy codes; as qualification for energy programs designed to reach specific energy saving goals; and as a way to provide its housing market the ability to differentiate residences based on their energy efficiency. The Mortgage Industry National Home Energy Rating Systems Standards (July 1, 2006) can be found at http://www.natresnet.org/standards/mortgage/RESNET_Standards-2006.pdf.

Amendment Version #2

KANSAS ENERGY EFFICIENCY DISCLOSURE

As required by KSA 66-1228

Kansas law requires the person building or selling a previously unoccupied new residential structure to disclose to the buyer or a prospective buyer, upon request or prior to closing, information regarding the thermal efficiency of the structure (single or multifamily units, three floors and under).

Common Address or Legal Description of Residence:

Part 1: Builder *must* describe the following energy efficiency elements of this house:

	<u>Actual Value</u>	<u>Energy Star*</u>
Wall Insulation R-Value	_____	18
Attic Insulation R-Value	_____	42
Foundation Insulation R-Value		
Basement Walls	_____	10
Crawlspace Walls	_____	15
Slab-on-Grade	_____	8
Floors over Unheated Spaces R-Value	_____	30
Window U-Value	_____	.34
Water Heater		
Gas or Propane (Energy Factor)	_____	.60
Electric (Energy Factor)	_____	.92
Heating and Cooling Equipment		
Warm-Air Furnace (AFUE)	_____	.93
Air Conditioner or Heat Pump - Cooling (SEER)	_____	14
Air-Source Heat Pump (HSPF)	_____	8.5
Ground-Loop Heat Pump – Heating (COP)	_____	3.9
Ground-Water Heat Pump – Cooling (EER)	_____	22
Ground-Water Heat Pump – Heating (COP)	_____	4.4

Part 2: Builder *may* provide the following additional information about this house:

_____ This residence has been/will be built to meet the energy-efficiency standards of the International Energy Conservation Code of 2006 (IECC 2006).

_____ This residence has received a Home Energy Rating (HERS) index score of 100 or less based on an energy audit performed in accordance with the Mortgage Industry National Home Energy Rating Systems Standards (July 1, 2006) by a rater certified by Residential Energy Services Network (RESNET).

Seller signature: _____ Date: _____

Seller name/address: _____

Buyer signature: _____ Date: _____

Buyer signature: _____ Date: _____

*See reverse for more information on existing standards and explanation of abbreviations.

ENERGY AND HOUSE UTILITIES
 DATE: 1/17/2007
 ATTACHMENT 3-1

R-value = Thermal Resistance Rating of insulation materials. The higher the R-value, the better the material resists heat flow (i.e., the better it insulates).

U-value = Heat Loss Rating of windows. The lower the U-value, the less the window loses heat (i.e., the better it prevents heat loss).

Equipment Performance Ratings (the higher the number, the more efficient the equipment)

AFUE = Annual Fuel Utilization Efficiency: used to rate gas or propane warm-air furnaces and small boilers.

SEER = Seasonal Energy Efficiency Ratio: performance indicator for residential air conditioners and air source heat pumps.

HSPF = Heating Seasonal Performance Factor: measures heating performance of air-source heat pumps.

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Amendment Version #3- KEC

KANSAS ENERGY EFFICIENCY DISCLOSURE

As required by KSA 66-1228

Kansas law requires the person building or selling a previously unoccupied new residential structure to disclose to the buyer or a prospective buyer, at listing and prior to closing, information regarding the thermal efficiency of the structure (single or multifamily units, three floors and under).

Common Address or Legal Description of Residence:

Part 1: Builder *must* describe the following energy efficiency elements of this house:

	Actual Value	Energy Star*
Wall Insulation R-Value	_____	18
Attic Insulation R-Value	_____	42
Foundation Insulation R-Value		
Basement Walls	_____	10
Crawlspace Walls	_____	15
Slab-on-Grade	_____	8
Floors over Unheated Spaces R-Value	_____	30
Window U-Value	_____	.34
Water Heater		
Gas or Propane (Energy Factor)	_____	.60
Electric (Energy Factor)	_____	.92
Heating and Cooling Equipment		
Warm-Air Furnace (AFUE)	_____	.93
Air Conditioner or Heat Pump - Cooling (SEER)	_____	14
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Seller signature: _____ Date: _____

Seller name/address: _____

Buyer signature: _____ Date: _____

Buyer signature: _____ Date: _____

*See reverse for more information on existing standards and explanation of abbreviations.

ENERGY AND HOUSE UTILITIES
 DATE: **7-17-2007**
 ATTACHMENT **4-1**

R-value = Thermal Resistance Rating of insulation materials. The higher the R-value, the better the material resists heat flow (i.e., the better it insulates).

U-value = Heat Loss Rating of windows. The lower the U-value, the less the window loses heat (i.e., the better it prevents heat loss).

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January 17, 2007

TO: House Committee on Energy and Natural Resources

FROM: Bradley Nies, AIA, LEED™ AP

RE: Support and Amendment to HB 2036



Good Morning Chairman Holmes and Members of the Committee, I am Brad Nies, Director of Elements, the sustainable design consulting division of BNIM Architects. I am here on behalf of the American Institute of Architects in Kansas and to testify in support of HB 2036 with amendments.

President
Douglas R. Cook, AIA
Olathe

President Elect
C. Stan Peterson, FAIA
Topeka

Secretary
David S. Heit, AIA
Topeka

Treasurer
J. Michael Vieux, AIA
Leavenworth

Directors

Jan Burgess, AIA
Lawrence

Corey L. Dehn, AIA
Topeka

Dale R. Duncan, AIA
Olathe

John Gaunt, FAIA
Lawrence

Gary Grimes, AIA
Topeka

Josh Herrman, AIA
Wichita

Chris C. Kiewer, AIA
Wichita

Craig W. Lofton, AIA
Lindsborg

Bruce E. McMillan, AIA
Manhattan

Hans Nettelblad, AIA
Overland Park

Don I. Norton, P.E.
Wichita

Wendy Ornelas, FAIA
Manhattan

Zachary Snethen,
Associate AIA
Topeka

Daniel (Terry) Tevis, AIA
Lenexa

Jerry E. Volesky, AIA
Topeka

Eric Wittman,
Associate AIA
Wichita

Nadia Zhiri, AIA
Lawrence

Executive Director
Trudy Aron, Hon. AIA

AIA Kansas is a statewide association of architects and intern architects. Most of our 700 members work in over 120 private practice architectural firms designing a variety of project types for both public and private clients. The rest of our members work in industry, government and education where many manage the facilities of their employers and hire private practice firms to design new buildings and to renovate or remodel existing buildings.

We agree with the language in HB 2036, however, we feel there is an immediate need to strengthen the State of Kansas' commitment to high performance buildings beyond the measures currently stated in the bill.

The crux of our concern is the lack of a comprehensive high performance building standard. While we applaud the move to IECC 2006 it is not strong enough because it only addresses new buildings and one aspect of energy conservation, efficiency.

Since buildings make-up 76% of all electrical energy consumption in the United States targeting efficiency of new buildings will have benefits. However, renovations and upgrades of existing buildings must also have similar targets. Every kilowatt-hour saved in our region has a great impact in reducing green house gas emissions. Of the ten Environmental Protection Agency Emission Regions ours emits the second most Carbon Dioxide and the most Nitrogen Oxide.

In addition to electricity, other resources are utilized thru the design, construction and operation of buildings that require intense energy consumption. Just a few are delivering reliable potable water, providing end users transportation to and from the building and the many processes involved in harvesting, manufacturing and installing products.

A comprehensive high performance building standard will provide significant reductions in the use of natural resources, non-renewable energy sources, waste production and promote regeneration of natural resources. Additionally such a standard should require documentation of the measurable contributions towards resource use reduction much like is currently outlined in HB 2036 for residential efficiency.

700 SW Jackson, Suite 503
Topeka, Kansas 66603-3758
Telephone: 785-357-5308
800-444-9853
Facsimile: 785-357-6450

ENERGY AND HOUSE UTILITIES
DATE: 1-17-2007
ATTACHMENT 5-1

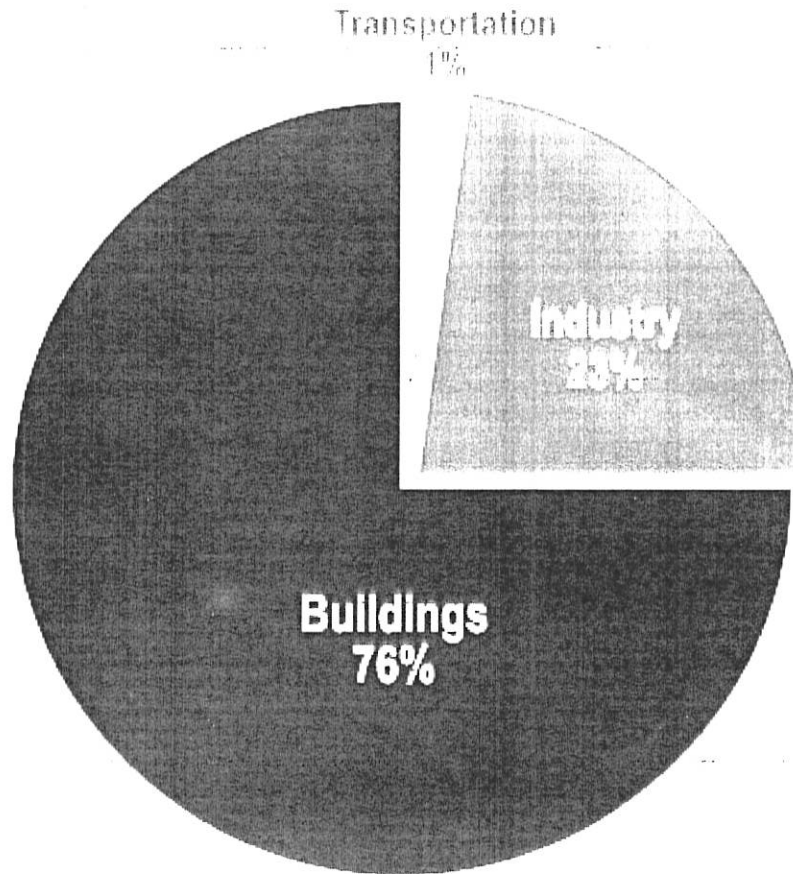
The General Services Administration, 12 states (Arizona, California, Connecticut, Colorado, Hawaii, Maine, Michigan, Nevada, New Mexico, Rhode Island, Washington, and Wisconsin) and more than 20 major cities have adopted the United States Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED™) series of guidelines as their high performance building standard. Less than 30 days ago the District of Columbia officially made meeting that standard required for private development.

Studies on the first cost of meeting high performance standards such as LEED are showing little to no premium. In *"The Costs and Financial Benefits of Green Buildings"*, 2003, Greg Kats, Capital E data on 33 LEED buildings built in California revealed an average first cost premium of 1.84%. In *"Costing Green: A Comprehensive Cost Database and Budgeting Methodology"*, 2004, Lisa Fay Matthiessen, Peter Morris, Davis Langdon data revealed market rate buildings that did not target the LEED standard, but met it unknowingly. *"The David and Lucile Packard Foundation Building For Sustainability Matrix"*, 2002 by BNIM Architects shows that high performance buildings are the best social, economic and environmental choice especially for a long-term owner such as the State of Kansas.

Last year the state of Missouri's new Lewis and Clark State Office building received a LEED Platinum Certification, LEED's highest. It was constructed on outdated dollars that were appropriated seven years prior to project start. The building is 50% more efficient than the baseline energy code.

AIA Kansas urges you to consider adopting a comprehensive high performance building standard to go along with the updates shown in HB 2036. Furthermore, we will be happy to work with this committee to draft a bill that would do just that. I will be happy to answer any questions you may have.

U.S. Electrical Energy Consumption

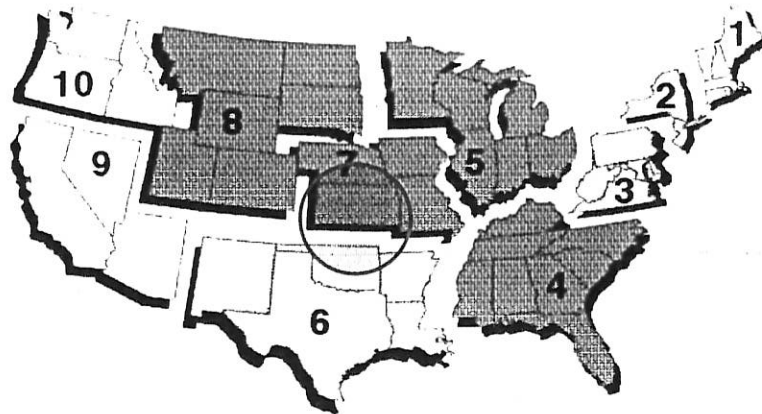


"Unknowingly, the architecture and building community is responsible for almost half of all U.S. greenhouse gas emissions annually. Globally the percentage is even greater."

U.S. ELECTRICAL ENERGY CONSUMPTION

Source: U.S. Energy Information Administration

EPA Pollution Emission Regions



Map of pollution prevented per 1,000 kWh saved.

EPA Pollution Emission Region	Carbon Dioxide pounds/year	Sulfur Dioxide pounds/year	Nitrogen Oxide pounds/year
1	1,100	8.8	3.1
2	1,200	7.5	2.9
3	1,600	7.1	5.5
4	1,500	15.2	5.5
5	1,800	22.9	7.7
6	1,700	4.9	5.5
7	2,000	7.7	8.6
8	2,200	7.3	7.1
9	1,000	2.4	3.3
10	100	1.1	0.7

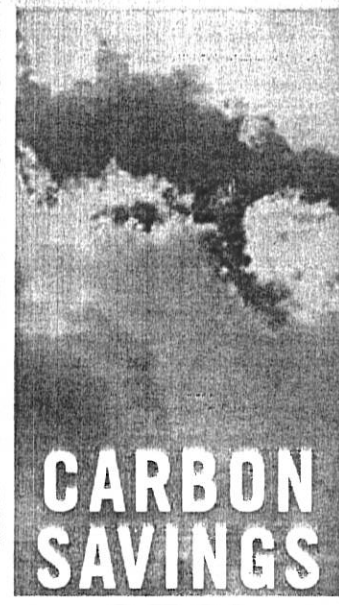
47% of Kansas CO₂ emissions comes from electrical power generation

OVERVIEW **RATIONALE**

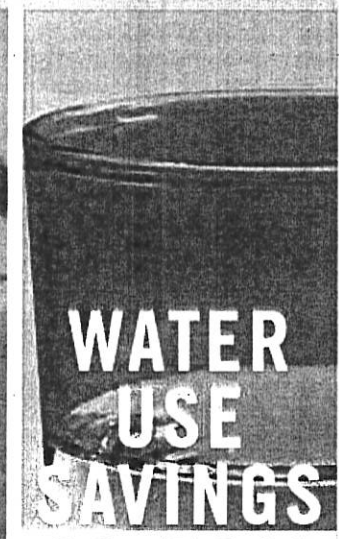
Average Savings of Green Buildings



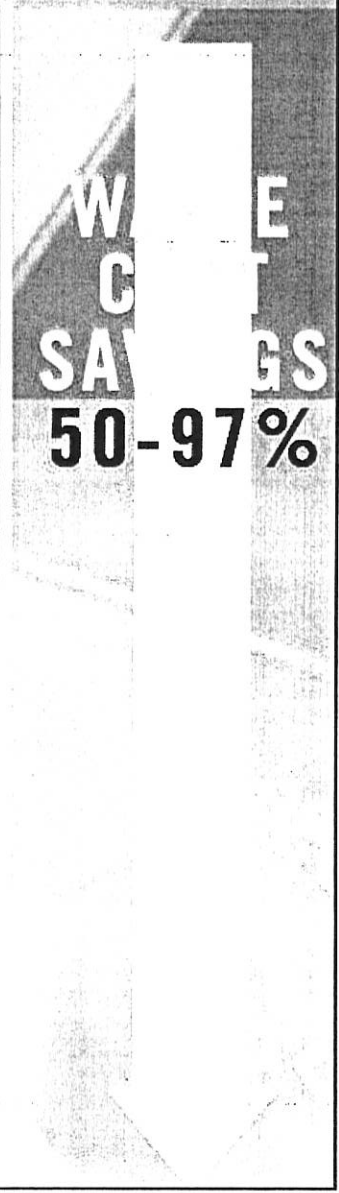
30%



CARBON SAVINGS 35%



WATER USE SAVINGS 30-50%

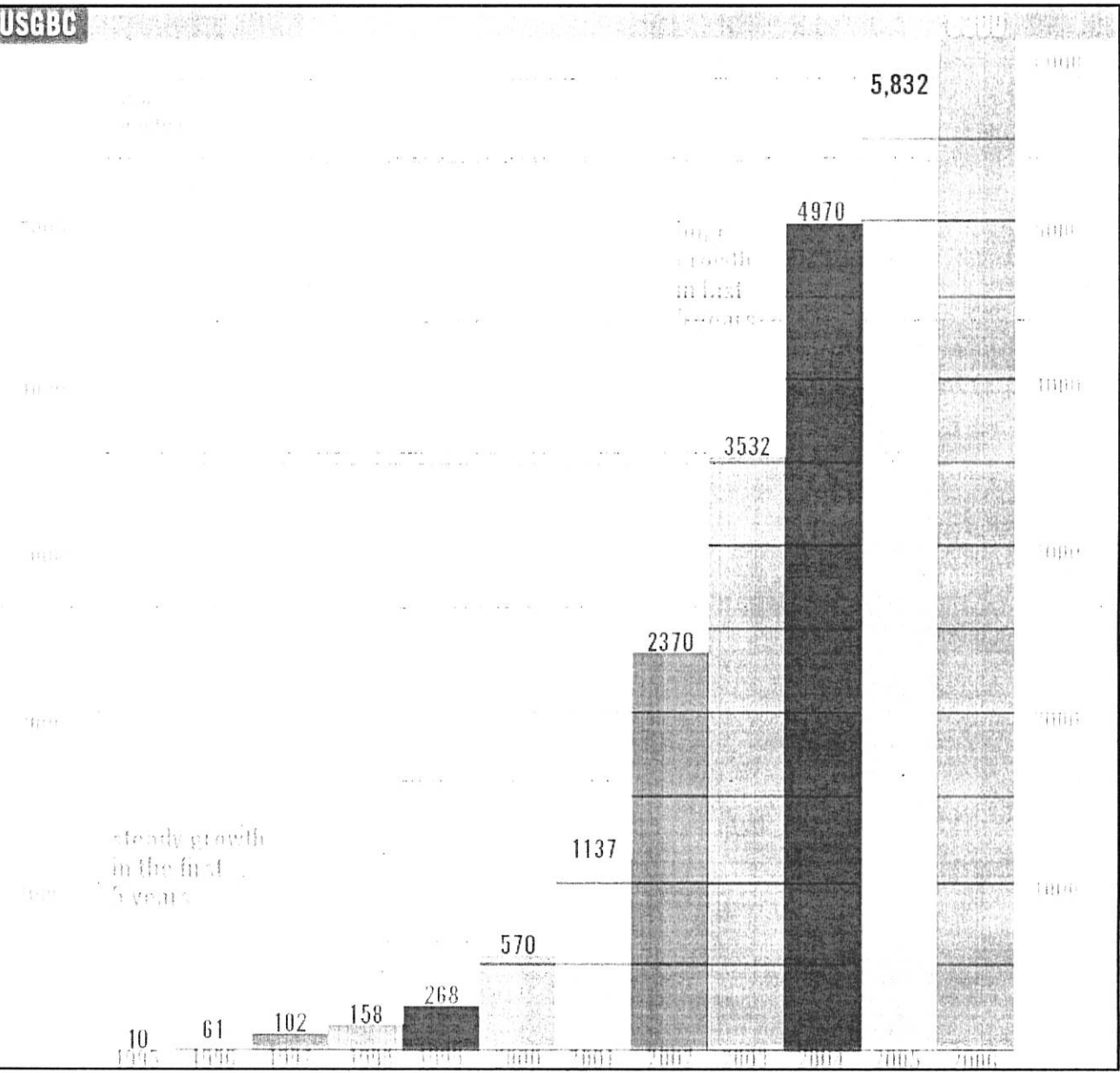


WATER SAVINGS 50-97%



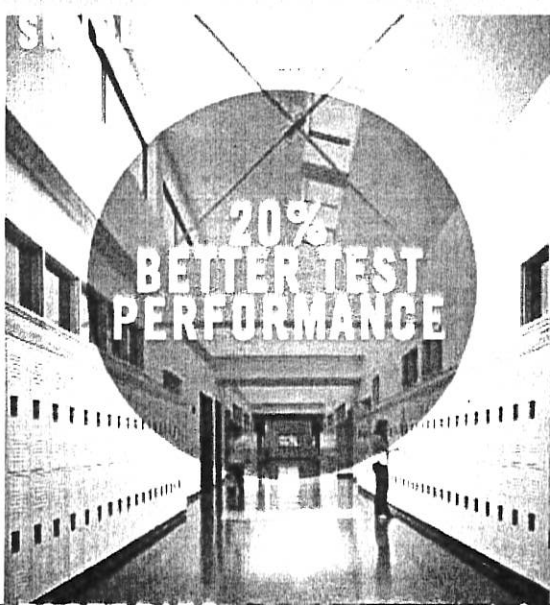
Source: Capital E

USGBC membership growth reflects the expansion of green buildings in the market.

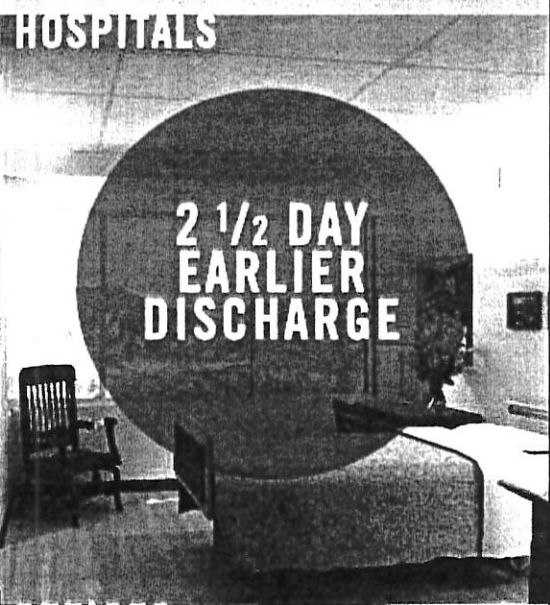


OVERVIEW RATIONALE

Increased Productivity.



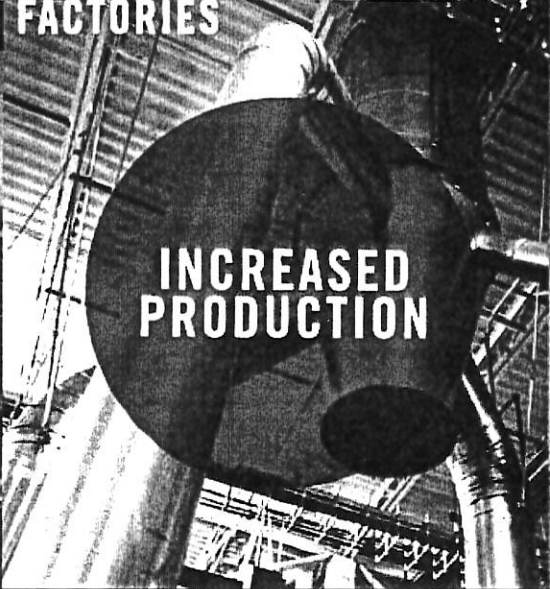
**20%
BETTER TEST
PERFORMANCE**



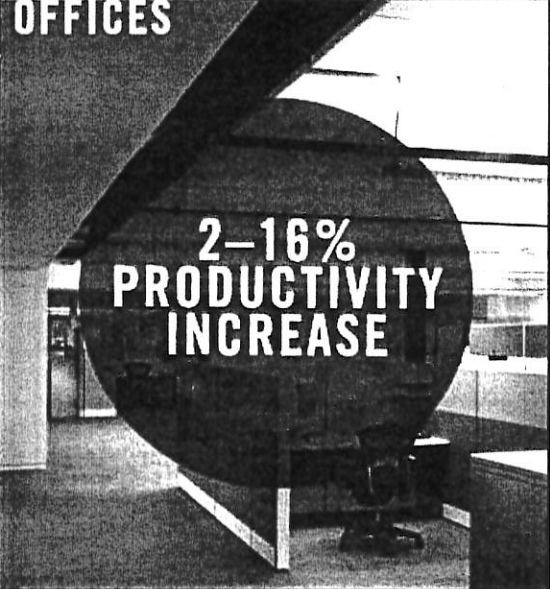
**2 1/2 DAY
EARLIER
DISCHARGE**



**INCREASE
IN SALES
PER SQUARE
FOOT**



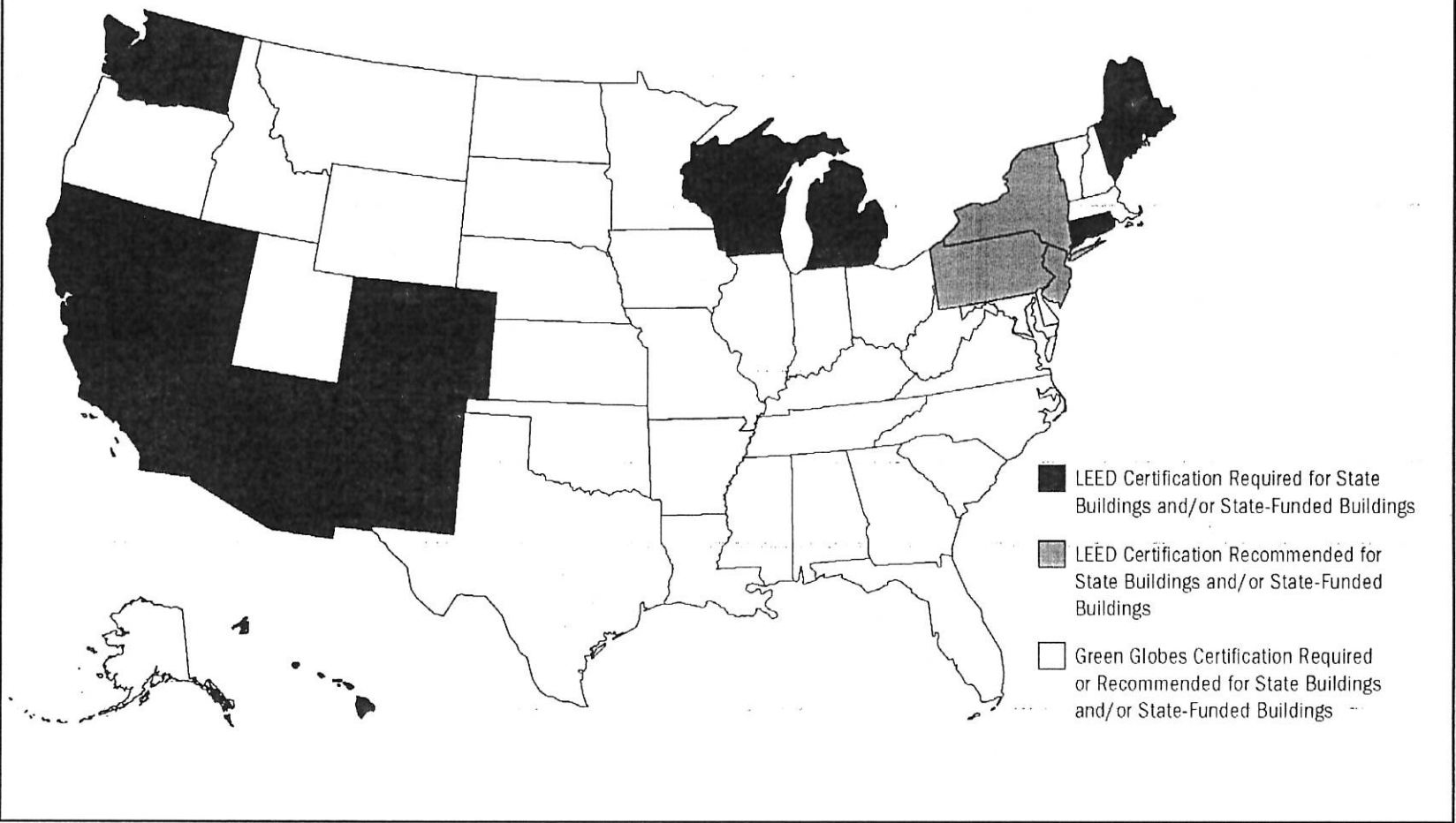
**INCREASED
PRODUCTION**



**2-16%
PRODUCTIVITY
INCREASE**

Green Building Standards at the State Level

Data from Pew Center on Global Climate Change - www.pewclimate.org



Cities that have adopted the USGBC's LEED Standard

More than 20 municipalities are requiring or plan to require LEED Certification of their projects

Seattle

Chicago

Portland

New York

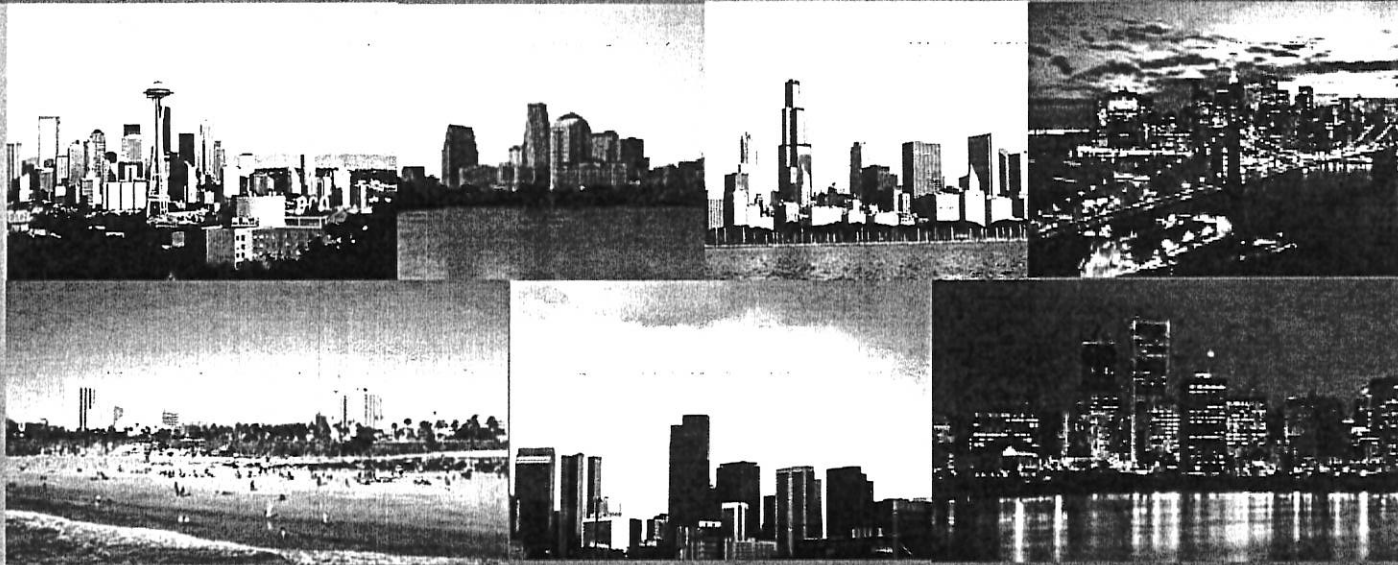
Austin

Santa

Monica

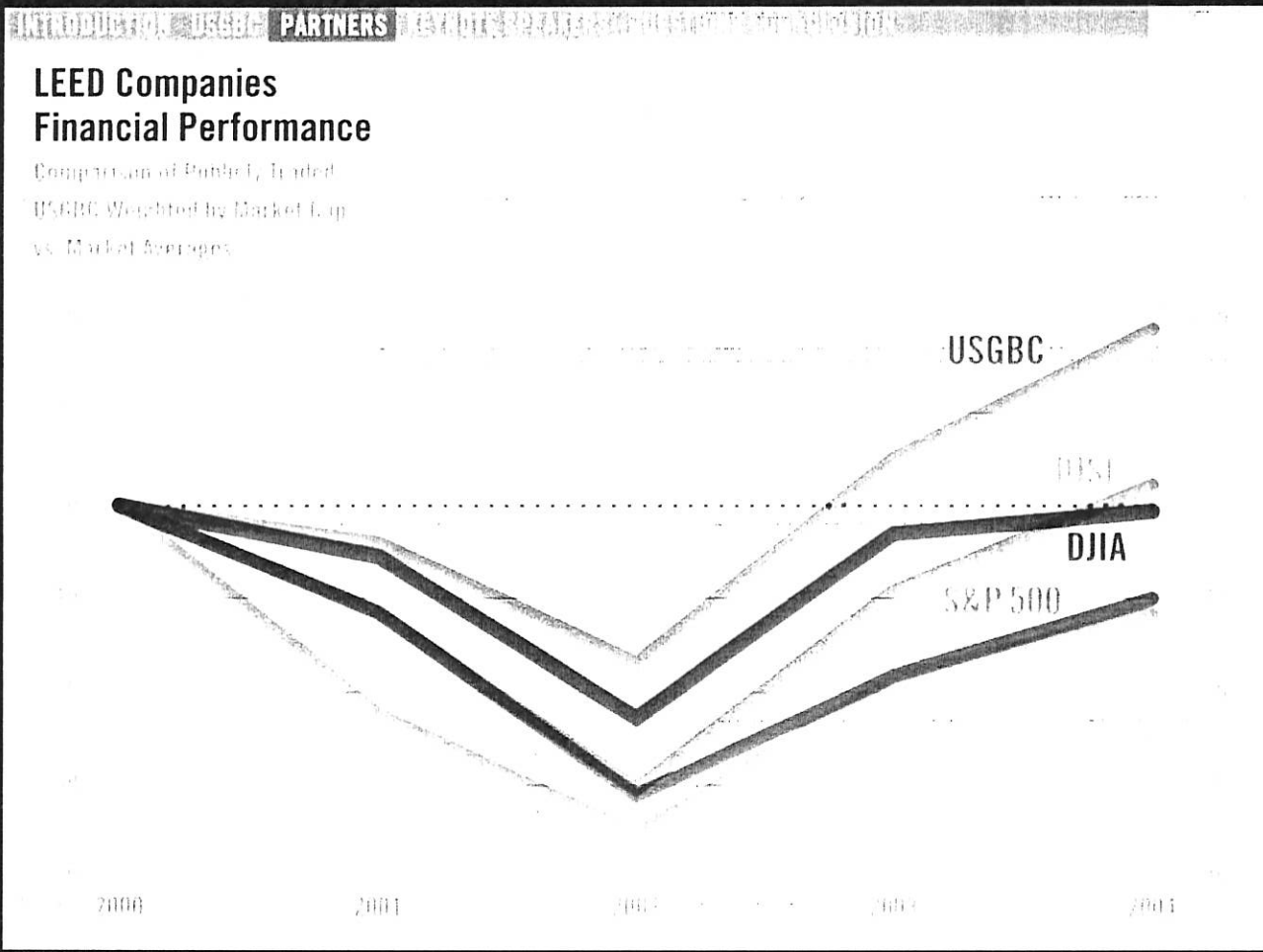
Denver

Kansas City



Mayor Daley's vision of making Chicago the greenest city in the nation is about providing healthy air and water, being wise in our energy use, and conserving resources. But it's also about increasing Chicago's competitive edge: making the city a place where people want to come live, visit and start their businesses.

LEED Companies Financial Performance



Graphic originated by US Green Building Council

THE COSTS & FINANCIAL BENEFITS

First Cost Premium (per LEED™ Level)

A Report to
California's Sustainable
Building Task Force
October 2003
Greg Kats, Capital E

Figure III-1. Level of Green Standard and Average Green Cost Premium

Level of Green Standard	Average Green Cost Premium
Level 1 – Certified	0.66%
Level 2 – Silver	2.11%
Level 3 – Gold	1.82%
Level 4 – Platinum	6.50%
Average of 33 Buildings	1.84%

Source: USGBC, Capital E Analysis

The Costs and Financial Benefits of Green Buildings, 2003, Greg Kats, Capital E
<https://www.usgbc.org/ShowFile.aspx?DocumentID=1992>

Lewis and Clark State Office Building

Jefferson City, Missouri



Platinum on a budget:

Four story office building

120,000 square feet

425 occupants

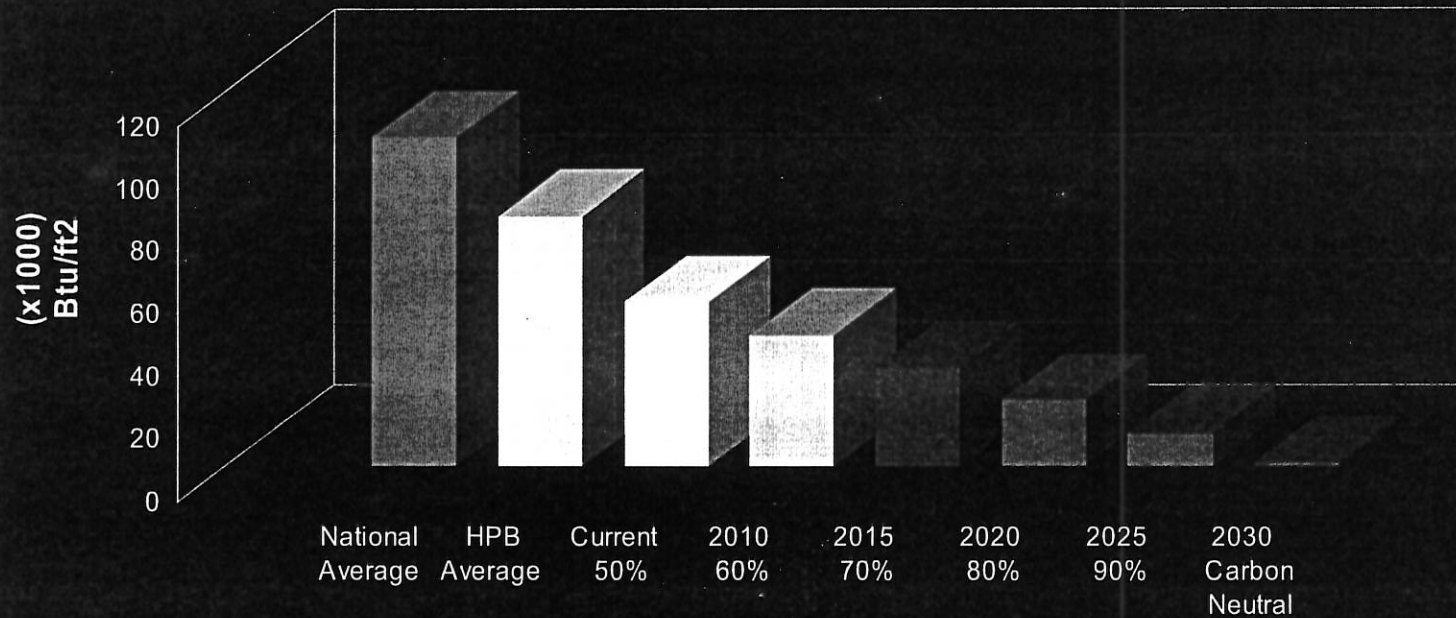
\$17.5 million

\$145 / SF

53 LEED credits achieved

50% more efficient than
ASHRAE 90.1-2001

Energy Intensity (Btu/ft²) for Office Building Type and AIA 2030 Challenge Targets



National Average: 2006 Building Energy Data Book of Department of Energy

High Performance Building (HPB) Average: Derived from High Performance Building Case Studies on the BuildingGreen.com Database.

Building for Sustainability



Sketch of downtown Los Altos, California

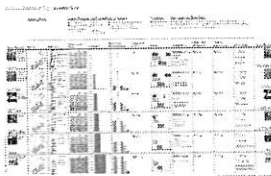
Guide to Understanding the Sustainability Matrix

Introduction

As an initial step in the David and Lucile Packard Foundation's Los Altos Project, a Goalsetting Charrette was held in late February 2001. The design team was charged by the Foundation's Facilities Steering Committee to develop a decision-making method or tool that would clearly explain the aesthetic, economic, schedule and environmental impacts implied by the sustainability goals for their proposed office building. In their *Facilities Master Plan 2000*, the Foundation had already decided to use the U.S. Green Building Council's LEED™ rating system as the measuring device for its sustainability goals. In collaboration with the Committee, the design team responded in the form of a report and summary matrix. The *Sustainability Report and Matrix* hold the Market building scenario and the Living Building scenario at opposite ends of a spectrum with the four LEED™ levels spread between them.

A conceptual building model for each scenario was designed and described by the team in the form of building footprints, wall sections and outline specifications. Construction costs were estimated based on these assumptions, as were impacts to research, design and construction schedules. This base information, as well as other design assumptions, is documented in the *Sustainability Report*. From the data in the *Report*, it was possible to estimate amounts of energy required to run the facility under each scenario, as well as consider how much energy could be generated on-site by the systems and technologies incorporated at each level. Based on information from Jonathon Levy's Harvard dissertation in May 1999, "Environmental Health Effects of Energy Use: A Damage Function Approach", projections were made for the external costs to society for each scenario, taking into account pollution generated by each building. This in turn implies external costs to society that are not usually "charged" to a project, such as health care and environmental cleanup. Finally, long term costs were forecast using 30-year, 60-year and 100-year cost models. These numbers were calculated as net present values and consider a range of factors such as building durability, value of money over time, equipment and/or building replacement, increasing energy costs, etc.

The *Sustainability Report* illustrates and outlines the base assumptions and calculations generated for each scenario and each set of data. The *Sustainability Matrix* summarizes the results of these explorations. Two versions of the cost numbers were created, each based on a 90,000 square foot office building for 300 employees with a three-level below-grade parking garage in the downtown area of Los Altos, California. For the Packard Foundation's internal use, a first set of estimated costs was documented for the actual building requirements listed above. A second set of generic cost numbers was based on this first set, but with the Market building construction costs set at \$10 million and all other numbers factored proportionally, including construction costs, FF+E, and design and management fees. This second set of numbers allows outside readers to understand the cost trends more easily as well as compare with other projects of varying scale.



Sustainability Matrix

5-14

Building for Sustainability

The Foundation has made these "generic" numbers available for public review. In an effort to help readers unfamiliar with the work, this "guide" is provided for each document. This is an attempt to help frame the work.

Sustainability Report

The *Sustainability Report* documents all assumptions and calculations made for each scenario mentioned above. It is the information contained in this report that is summarized in the *Sustainability Matrix*. Key components of the *Sustainability Report* include:

- Definition of Terms - For the purposes of this report, a consensus on terminology is provided.
- Sustainability Scenarios - A one-page summary of key data for each of the six building scenarios is provided.
- Comparison Summaries - A side-by-side analysis is provided to illustrate key assumptions made by the design team. These include side-by-side Site Plans, Cost Impacts, Schedule Impacts, Wall Sections, Building Components and Energy Model Performance Criteria, Building and Site Attributes based on LEED™ Rating System (points assigned to each level), Energy Model Backup information and External Costs to Society assumptions.
- Appendix - The appendix contains information for each level of sustainability. For each level, the following information is included: (1) Site Plan, (2) Project Narrative (a conceptual outline specification), (3) Wall Section with Description of key building components, and (4) Detail Cost Summary.
- Technology - Four technologies that may be considered for the various levels of sustainability are summarized in the final pages of the report. They include: Raised Access Flooring, Photovoltaics, Ecological Wastewater Treatment Systems and Fuel Cells.

Sustainability Matrix

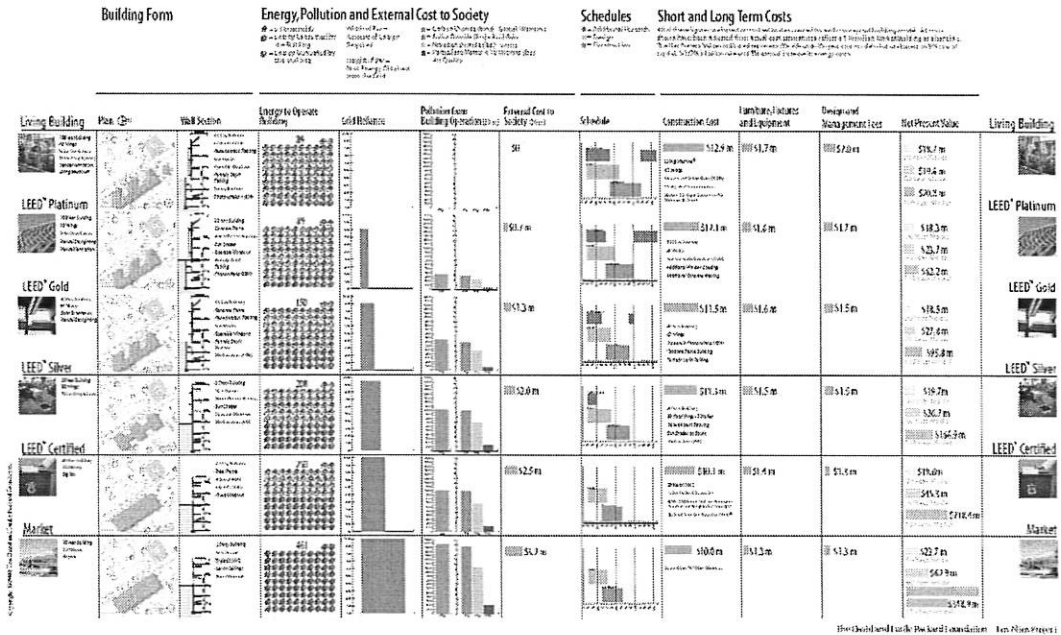
As stated earlier, the matrix format was chosen by the design team as a way to summarize and compare the information detailed in the *Sustainability Report* in as clear a format as possible. While the *Sustainability Matrix* allows a quick comparison between sustainability levels for various parameters, it also begins to reveal the inter-relationship between the parameters themselves.

The Y-axis of the Matrix lists six levels of sustainability in the leftmost column: Market, LEED™ Certified, LEED™ Silver, LEED™ Gold, LEED™ Platinum and Living Building. A few characteristics of each level are listed in this leftmost column, including such things as the expected lifespan of the building, the form-generating ideas and key strategies that would most likely characterize that level, including systems such as raised access flooring or ecological wastewater treatment systems.

The X-axis lays out the primary criteria determined by the Committee and design team to have value in their decision-making process. These parameters can be broken out into four main categories:

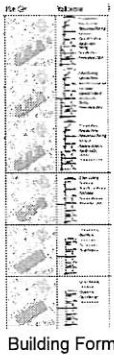
Building for Sustainability

Building for Sustainability: Sustainability Matrix



Building Form

The first two columns of the *Sustainability Matrix* represent variations in building Plan and typical Wall Section as one moves from Market, represented by a "big box", to Living Building, which accounts for solar orientation and incorporates narrow building wings that accommodate natural daylight and natural ventilation for as many occupants as possible. Also listed in the Wall Section column are modifications to construction systems from one level to the next. All plans shown in the Sustainability Report and Sustainability Matrix are oriented with North to the right.



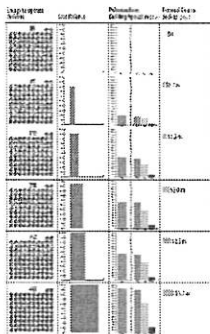
Building Form

Energy, Pollution and External Costs

Based on the systems and building design outlined, and other basic assumptions catalogued in the *Sustainability Report*, the design team generated expected energy consumption for each level. The Energy to Operate Building quantities are illustrated using a standard unit of measure, equivalent to one typical household. Also incorporated into the graphics for the Energy column is an indication (in green) of renewable energy sources. So, by comparison, the design of the Living Building requires 89 households worth of energy to run, but the systems include generation of all of the energy by renewable sources. Grid Reliance is proportional to the information in the Energy column and demonstrates the Living Building as requiring no net annual reliance on outside energy sources. The width of this bar reflects the amount of energy required for each building scenario. The height of the bar reflects the percentage of energy obtained from the grid as compared to the total amount of energy required. The Pollution column

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Building for Sustainability



Energy, Pollution and External Costs



Schedules

Scenario	Construction Cost	FF+E	Design and Management Fees	Schedule
Market	\$10.0M	\$1.5M	\$0.5M	120 days
LEED™ Certified	\$11.0M	\$1.6M	\$0.6M	125 days
LEED™ Silver	\$12.0M	\$1.7M	\$0.7M	130 days
LEED™ Gold	\$13.0M	\$1.8M	\$0.8M	135 days
LEED™ Platinum	\$14.0M	\$1.9M	\$0.9M	140 days
Living Building	\$15.0M	\$2.0M	\$1.0M	145 days

Short and Long Term Costs

further explores the expected pollution generated by this grid reliance. Finally, a conservative estimate is made for External Costs to Society, in particular, health costs and cleanup costs associated with standard energy generation. As previously mentioned, these estimates are based primarily on Jonathan Levy's "Environmental Health Effects of Energy Use: A Damage Function Approach" (May 1999).

Schedules

The Schedule column focuses on three major efforts: Research, Design and Construction. Variations from one scenario to the next represent two primary strategies: (1) a more sustainable design strategy involves more design team members in early meetings to ensure an integrated design approach and (2) research in the more sustainable approaches is more critical early in the process and continues after owner occupancy. It is not just limited to the "design" phases.

Short and Long Term Costs

The next four columns contain short and long term cost information for each scenario. The first three columns in this series encompass Construction Costs, costs for Furniture, Fixtures and Equipment (FF+E) and Design and Management Fees. All of these figures are based on cost estimates created for each conceptual building model. The outline specifications for each are included in the *Sustainability Report*, along with detailed cost backup information. All costs shown in this particular report have been adjusted from actual cost estimates to reflect a \$10 million Market building as the baseline. Significant components that contribute to cost increases from one level to the next are listed beneath each cost.

For all levels, three cost models were created for 30-year, 60-year and 100-year scenarios. The Net Present Values are estimates, in today's dollars, of all the expenses (annual as well as capital) associated with a building over a set period of time. Energy costs were estimated to increase 5% annually with a 5% cost of capital assumed for all models. One factor in these calculations is the expected lifespan of each building, which ranges from 40-year for Market and LEED™ Certified to 100-year for the LEED™ Platinum and Living Building levels.

All calculations are based on information and costs available to the design team in the summer of 2002.

It is worth repeating that the *Sustainability Matrix* does not stand alone, but is a summary of the findings described in the *Sustainability Report*, which documents the initial assumptions and calculations, and better demonstrates the process undertaken by the design team.

Photo Credits

BNIM Architects - Matrix (*Living Building, LEED™ Platinum, LEED™ Gold, LEED™ Certified*), Page 1 (top); Keen Engineering - Matrix (*LEED™ Silver, Market*)

Building For Sustainability: Sustainability Matrix

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Building Form

Energy, Pollution and External Cost to Society

- ☉ = 5 Households
- ⊙ = Energy Consumed by the Building
- ⊕ = Energy Generated by the Building

Width of Bar = Amount of Energy Required

Height of Bar = % of Energy Obtained from the Grid

- = Carbon Dioxide (tons) - Global Warming
- = Sulfur Dioxide (lbs.) - Acid Rain
- = Nitrogen Dioxide (lbs.) - Smog
- = Particulate Matter < 10 Microns (lbs.) - Air Quality

Schedules

- = Additional Research
- = Design
- = Construction

Short and Long Term Costs

All of these figures are based on cost estimates created for each conceptual building model. All costs shown have been adjusted from actual cost estimates to reflect a \$10 million Market Building as a baseline. The Net Present Values indicated represent 30-, 60- and 100-year cost models that are based on 5% cost of capital, 1-1/2% inflation rate and 5% annual increase in energy costs.

Living Building	Plan	Wall Section	Energy to Operate Building	Grid Reliance	Pollution from Building Operation (20 yr.)	External Cost to Society (20 yr.)	Schedule	Construction Cost	Furniture, Fixtures and Equipment	Design and Management Fees	Net Present Value	Living Building
<p>100 Year Building 45' Wings Solar Orientation Natural Daylighting Natural Ventilation Living Machine*</p>		 - 3 Story Building - Concrete Frame - Raised Access Flooring - Sun Shades - Operable Windows - Partially Daylit Parking - Living Machine - Photovoltaics (100%)	89			\$0		\$12.9 m	\$1.7 m	\$2.0 m	\$18.7 m 30 Year Model \$19.6 m 60 Year Model \$20.8 m 100 Year Model	
<p>LEED™ Platinum 100 Year Building 45' Wings Solar Orientation Natural Daylighting Natural Ventilation</p>		 - 3 Story Building - Concrete Frame - Raised Access Flooring - Sun Shades - Operable Windows - Partially Daylit Parking - Photovoltaics (20%)	89			\$0.7 m		\$12.1 m	\$1.6 m	\$1.7 m	\$18.3 m 30 Year Model \$23.7 m 60 Year Model \$62.2 m 100 Year Model	
<p>LEED™ Gold 80 Year Building 65' Wings Solar Orientation Natural Daylighting</p>		 - 3 Story Building - Concrete Frame - Raised Access Flooring - Sun Shades - Operable Windows - Partially Daylit Parking - Photovoltaics (10%)	150			\$1.3 m		\$11.5 m	\$1.6 m	\$1.5 m	\$18.5 m 30 Year Model \$27.8 m 60 Year Model \$95.8 m 100 Year Model	
<p>LEED™ Silver 60 Year Building 90' Wings Natural Daylighting</p>		 - 3 Story Building - Steel Frame - Raised Access Flooring - Sun Shades - Operable Windows - Photovoltaics (5%)	208			\$2.0 m		\$11.3 m	\$1.5 m	\$1.5 m	\$19.7 m 30 Year Model \$36.7 m 60 Year Model \$166.9 m 100 Year Model	
<p>LEED™ Certified 40 Year Building 120' Wings Big Box</p>		 - 2 Story Building - Steel Frame - Efficient HVAC - Lay-in Ceilings - Fixed Windows	250			\$2.5 m		\$10.1 m	\$1.4 m	\$1.3 m	\$19.6 m 30 Year Model \$45.3 m 60 Year Model \$218.4 m 100 Year Model	
<p>Market 40 Year Building 120' Wings Big Box</p>		 - 2 Story Building - Steel Frame - Typical HVAC - Lay-in Ceilings - Fixed Windows	461			\$3.2 m		\$10.0 m	\$1.3 m	\$1.3 m	\$22.7 m 30 Year Model \$62.9 m 60 Year Model \$348.9 m 100 Year Model	

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**Testimony Before the Kansas House Committee on Energy and Utilities
Supporting the Passage of HB 2034, Submitted by Lawrence Dolci
Director Resource Protection, Kansas City Power & Light Company
January 17, 2007**

Kansas City Power & Light Company, Westar Energy and KEPCo support the passage of Kansas House Bill 2034 that would repeal the sunset provision of K.S.A. 66-1233. The current period for expedited recovery of security costs expires on July 1, 2007. Security threats to the electrical infrastructure will continue well past the July 1, 2007 sunset date and may require utilities to act rapidly to fund security improvements to protect the electrical infrastructure. K.S.A. 2006 Supp. 66-1233 provides a valuable expedited process for funding reasonable costs associated with the protection of the electrical grid and helps provide reliable economical electrical service to Kansas citizens.

In the period immediately following the terrorist attacks of September 11, 2001, new regulations and guidelines were issued that required utilities to spend significant additional amounts on security. For example the Nuclear Regulatory Commission, NRC, after the September 11th attacks issued formal orders on February 25, 2002; January 7, 2003; and April 29, 2003, requiring security upgrades at all nuclear plants including the Wolf Creek Plant at Burlington.

Non-nuclear power plants have also increased their security since September 11, 2001. The North American Electric Reliability Council, NERC, that is responsible for the reliability of the national electric grid has issued a series of cyber and physical security guidelines and has plans to issue more. NERC adopted a temporary Cyber Security Standard that required electrical utilities to complete cyber and physical upgrades by the end of 2005. A permanent Cyber Security Standard has now been adopted that requires Kansas utilities to complete significant security improvements by 2008, well after the sunset provision currently in effect in 66-1233. NERC will be auditing compliance with these standards and penalties for non-compliance can be as high as one million dollars a day.

It is difficult to predict future threats to the electrical grid and what security improvements electric utilities in Kansas might need to implement to protect the electrical grid in the State. Electric utilities in Kansas have seen thefts of copper increase 300% to 400% in two to three years. These thefts pose a serious impediment to the task of providing reliable electrical service to the citizens of Kansas and provide an example of the type of actions that must be addressed by utilities in the rapidly changing security environment. The thefts demonstrate the linear nature of the grid and the potential for terrorists to disrupt it. Utilities must be able to act quickly to counter these threats.

Removal of the sunset provision from K.S.A. 66-1233 as proposed in HB 2034 will benefit the citizens of Kansas by helping utilities fund reasonable security practices, practices that will provide reliable and economical utility systems for the foreseeable future.

Larry Dolci, Director Resource Protection
Kansas City Power and Light Company
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ENERGY AND HOUSE UTILITIES
DATE: 1-17-2007
ATTACHMENT 6

**Testimony on HB 2035 before the
House Energy and Utilities Committee**

By

Sandie Bayless, Senior Facilities/Security Representative

Westar Energy

January 17, 2007

Chairman Holmes and members of the committee, I am Sandie Bayless, senior facilities security representative for Westar Energy. I appreciate the opportunity to address you this morning.

Westar Energy supports House Bill 2035 because it eliminates the anonymity that thieves use when selling stolen copper or aluminum material to reputable dealers. As the commodity prices for copper and aluminum increase, so does the frequency of theft of material from our facilities. Westar Energy has implemented numerous security strategies to mitigate these thefts with minimal impact. The remote and rural settings where much of this activity occurs make it difficult at best to curtail. Thieves break in to our substations and service centers to steal this material and often cut copper ground wires that may be energized from our poles.

Although there can be significant financial costs to Westar Energy, the monetary loss is not the most critical threat posed by these thieves. The most significant threat is to the safety of our customers and employees and the reliability of the power grid. In July 2006 in Topeka, the theft of material from one of our substations resulted in an outage for about 2,500 customers in the middle of an extremely hot summer day. Loss of ground wires impact the safety of our linemen who may come across compromised equipment. Theft of this material can also expose the environment to harm. Last year, a thief entered a substation and stole the brass plug from a transformer. Significant oil was released and could have reached a major waterway if an approaching storm had arrived earlier and if the thief had not tried to plug the leak with a beer bottle.

Over 25 separate instances of theft or break-ins to our facilities were reported in 2006. That number does not include the miles of our utility poles that have had their ground wires stolen.

Theft of this material is a serious threat to the safety of our customers, our employees and our environment. Initiatives such as those in HB 2035 will make this type of theft less attractive. I would urge the committee to support HB 2035.

I will be glad to stand for questions at the appropriate time.

ENERGY AND HOUSE UTILITIES

DATE: 1.17.2007

ATTACHMENT 7

**Testimony Before the Kansas House Committee on Energy and Utilities
Supporting the passage of House Bill 2035 Submitted by Lawrence Dolci,
Director of Resource Protection, Kansas City Power & Light Company
January 17, 2007**

Kansas City Power & Light Company (KCP&L) supports reasonable regulation of scrap dealers in order to reduce theft, prevent injuries and ensure reliable and economical electrical service for the citizens of Kansas. HB 2035 would require positive identification of those attempting to sell scrap metals. If enacted this bill will limit the ability of metal thieves to dispose of their stolen materials.

KCP&L and its neighboring electric utilities, including Aquila and Westar, have been the victims of numerous thefts of copper and aluminum cables and other electrical equipment. These thefts create a risk of serious injury or death to utility workers and the thieves and create public safety issues for KCP&L customers.

The widespread power outages that have resulted from these thefts in many parts of the country are not only an inconvenience to customers, they create public safety issues due to possible interruption of heating, cooling, lighting and other critical functions. A limited review of news reports nationwide shows at least 9 individuals were electrocuted attempting to steal copper or other metals in 2006. The actual number of those killed is undoubtedly higher. Others were reportedly seriously burned attempting to steal metals.

In one unfortunate incident in Kansas City in October of 2006 metal thieves sabotaged electrical equipment at a Federal facility so they could steal copper cables. A General Services Administration maintenance employee called to the site for repairs was electrocuted while working on the damaged equipment. Later KCP&L linemen responding to another incident at the same Federal facility found thieves in the act of stealing cable and held them until police arrived.

Unfortunately metal thefts are becoming a national problem as scrap metal prices have increased at a dramatic rate. Prices have risen from about sixty cents per pound in 2001 to over four dollars per pound in 2006 largely due to increasing demand for metals in Asia. KCP&L alone experienced nearly fifty thefts or attempted thefts in 2006. This number is several times the number of incidents reported a few years ago. Other thefts may go unreported until outages or other problems on the electrical grid are reported. Total losses for reported incidents in 2006 are conservatively estimated at between \$300,000 to \$500,000. Estimates of costs are difficult to calculate since customers bear some of the cost of repairs and the cost of business interruptions and the labor costs for repairing the system and investigating the incidents is not always easy to quantify.

Some of the thefts involve cables and other conductors cut from substations, poles and other equipment. Other thefts have involved new cable hacked off large spools at KCP&L facilities, ruining its value for anything but scrap. A recent theft and attempted theft at one KCP&L facility during one week in August resulted in losses of nearly \$90,000

ENERGY AND HOUSE UTILITIES

DATE: 1-17-2007

ATTACHMENT 8-1

As long as a largely unregulated ready market exists for stolen metals thieves will continue to steal these materials and sell them for a fraction of their cost. Requiring positive identification at the point the metals are presented for sale, as required in HB 2035, provides the best opportunity for obtaining tips and leads for law enforcement, giving them a chance to catch metal thieves.

Metal thefts endanger the safety of Kansas residents and increase the cost of providing electrical service. While KCP&L and other utilities have increased security in an attempt to reduce these thefts, KCP&L has well over one hundred substations and operates hundreds of miles of lines, a difficult system to secure. Therefore, reasonable restrictions such as those proposed in House Bill 2035 will help reduce the market for the stolen metals and help electric utilities provide economical, safe and reliable service to their customers. KCP&L supports the passage of HB 2035.

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- TESTIMONY -

TO: The Honorable Carl Holmes, Chairman
And Members of the
House Energy and Utilities Committee

FROM: Whitney Damron
On Behalf Of
The Empire District Electric Company

RE: HB 2035 - An Act relating to the regulation of copper or
aluminum obtained by purchase or trade.

DATE: January 17, 2007

Good morning Chairman Holmes and Members of the House Energy and Utilities Committee. My name is Whitney Damron and I appear before you this morning on behalf The Empire District Electric Company in support of HB 2035 that would impose reasonable and responsible business practices on those who deal in certain scrap metal to help discourage theft of property from public utilities and other sources of such items.

HB 2035 requires scrap dealers to maintain records of their customers, which will be an important tool for law enforcement officials as they investigate these kinds of property crimes. The bill also imposes criminal penalties upon those who knowingly violate the act.

Theft of metal from Empire property is a serious problem and affects both public safety and reliability. In June of 2006, Empire issued a public warning on the possible consequences of these crimes and in August of 2006 Empire instituted a reward program to help combat these thefts. Included with my testimony are copies of the media releases for both of these company announcements.

On behalf of Empire, we encourage your favorable consideration of HB 2035. I will be available for questions at the appropriate time.

Empire is an investor-owned, regulated utility that is incorporated in Kansas and headquartered in Joplin, Missouri with approximately 215,000 electric, natural gas and water service customers located in the four-corner area of Kansas, Missouri, Oklahoma and Arkansas. NYSE: EDE

ENERGY AND HOUSE UTILITIES

DATE: 1-17-2007

ATTACHMENT 9-1



PRESS RELEASE

FOR IMMEDIATE RELEASE

Contact:

MEDIA COMMUNICATIONS

Amy Bass

Director of Corporate Communications

417-625-5114

abass@empiredistrict.com

THE EMPIRE DISTRICT ELECTRIC COMPANY WARNS OF DANGERS INVOLVING EQUIPMENT THEFT

JOPLIN, MO – June 29, 2006 – At a news conference held this morning, Mr. Mike Palmer, Vice President-Commercial Operations, explained the safety and reliability issues associated with the theft of wiring from Empire equipment.

According to Palmer, "The upturn in the market for scrap metal is driving a drastic increase in the theft of metal and Empire as well as many area contractors have experienced thefts. Thieves have broken into a number of our substations to steal wiring which they sell as scrap. To date no one has been injured or killed locally, but this is very dangerous and in Kentucky three individuals lost their lives while involved in this type of illegal activity."

Palmer continued, "We are asking for the assistance of all area residents to stop these perpetrators. If you witness what you suspect to be unlawful activities in and around our equipment, please phone the police or sheriff's department and report the activity. When someone steals from your electric company, they are stealing from all of the customers."

For decades Empire and the entire energy industry have issued safety messages warning customers to stay away from electric power lines and equipment. Electric substations are surrounded by fencing, secured with locked gates, and posted with warning signs. Only workers who are trained professionals are permitted access. It takes years of experience and specialized safety equipment to work safely in a substation environment and around

(more)

Page 2/Equipment theft

power lines. Contact with energized equipment can have lethal consequences.

"When copper ground wires are removed from our equipment, the safety of the system is compromised. This puts our employees in a dangerous situation," said Palmer.

In addition, the theft of utility company equipment can lead to widespread power outages that are inconvenient and possibly life threatening for some. The replacement of these materials is costing utility companies and their customers thousands of dollars.

Based in Joplin, Missouri, The Empire District Electric Company (NYSE:EDE) is an investor-owned utility providing electric service to approximately 162,000 customers in southwest Missouri, southeast Kansas, northeast Oklahoma, and northwest Arkansas; natural gas service to approximately 48,500 customers in northwest, north central, and west central Missouri through The Empire District Gas Company, a wholly owned subsidiary; and water service to about 4,600 customers in three southwest Missouri communities. The Company also provides fiber optic and Internet services, customer information software services, and has an investment in close-tolerance, custom manufacturing.

###



FOR IMMEDIATE RELEASE

Contact:

Amy Bass
Director of Corporate Communications
417-625-5114
abass@empiredistrict.com

**THE EMPIRE DISTRICT ELECTRIC COMPANY
OFFERS REWARD IN REGARD TO EQUIPMENT THEFT**

JOPLIN, MO – AUGUST 30, 2006 – The Empire District Electric Company announced today that it is offering a reward of up to \$5,000 for information that leads to the arrest and conviction of individuals who have stolen wire or equipment from Empire substations or transmission and distribution facilities. Persons who have information about thefts from Empire should contact law enforcement authorities directly.

In making the announcement, Mike Palmer, vice president – commercial operations, stated, "In June we informed the public of the thefts that had been plaguing our Company and of the dangers that surround the activity. Today, we are announcing our decision to reward individuals who help us identify and convict those who steal from Empire."

Based in Joplin, Missouri, The Empire District Electric Company (NYSE: EDE) is an investor-owned, regulated utility providing electricity, natural gas (through its wholly owned subsidiary The Empire District Gas Company), and water service, with approximately 215,000 customers in Missouri, Kansas, Oklahoma, and Arkansas. The Company also provides fiber optic, internet and customer information software services, and has an investment in close-tolerance, custom manufacturing.

###

House Utilities Committee

HB 2035 – Registration of Copper or Aluminum Obtained by Purchase or Trade

Testimony of Dave Holthaus, Manager of Governmental Relations

January 17, 2007

Topeka, Kansas

Chairman Holmes and members of the committee, thank you for the opportunity to share some comments on HB 2035 as it relates to the Kansas electric cooperatives. KEC has 28 distribution cooperative members that serve end-use customers at retail in Kansas, and two (G&T's) generation and transmission cooperative members, who supply the power needs for the 28 distribution cooperatives.

HB 2035 is an attempt to provide a deterrent to the growing problem of theft of property, specifically copper and aluminum. The electric cooperatives are certainly supportive of initiatives that would help us curtail this type of illegal and dangerous activity and allow us to continue to provide safe electric service to our members.

To better understand the impact this activity has on our electric cooperatives, I polled our cooperative managers and received the attached comments. These comments suggest we have seen a rise in copper and aluminum thefts in the past few years in many areas of the state. Approximately 7 cooperatives of the 22 reporting cooperatives had no significant problem. Many of the thefts we have experienced have been relatively small in quantity but hurt the reliability of our system, such as cutting ground wires off of energized poles or cutting fences to enter substations or warehouses where the safety of the public is an issue.

We support HB 2035 or some efforts to hold those accountable who would risk endangering themselves and others. I will stand for questions at the appropriate time.

ENERGY AND HOUSE UTILITIES

DATE: 1-17-2007

ATTACHMENT 10 -1

Electric Manager Comments

Copper & Aluminum Theft 1/07

Topeka Area

1. August, 2006. In Osage County we experienced where someone cut one of our poles down with a chain saw. This particular line was approximately 1.25 miles long and was de-energized. We received a call about a broken pole and the responding crew saw that the pole was cut and our crew replaced the pole. Within two weeks, we discovered approximately 1/8 mile of line was removed from this pole line (neutral and phase.) Then within another two weeks we discovered that another 1/8 mile of primary line was removed. It appears that they were putting a ladder on the poles and cutting the wire down at the insulators.
2. October, 2006. In Douglas County a consumer called in and informed us that someone was removing pole grounds on our poles. We investigated and discovered that our pole grounds were removed on 19 poles in a two-mile stretch.
3. December, 2006. In Jackson County we discovered that someone removed our pole grounds on a 34kV line that we built in 2004. This transmission line runs from 94th and Highway 75 to Rossville. This line was constructed using wood and steel poles. Out of the 248 wood poles in this line, 140 poles were stripped of the ground wire.
4. September, 2006. This theft occurred at our storage yard. The thieves cut our fence and rolled out a reel of retired copper line. The Shawnee County Sheriff's department found the reel under a tree on our property; it appeared that the reel was too heavy for them to lift it in their truck.
5. Over the last year, when we are building a new line and framing new poles, we have experienced someone taking pole grounds prior to setting the new pole. Most common in Osage County.

El Dorado, Kansas Area

An estimated 525 lbs of #6 soft drawn, bare copper wire was stolen from our contractors at the job site, from both the trucks and the storage area.

Total loss of \$3,767.01

The fence at the El Dorado office was cut and a small amount of covered copper wire was stolen.

Total loss estimated at \$150.00

#6 copper ground wire that is needed to insure the reliability of our system, was removed from 12, energized poles.

Total loss estimated at \$360.00

#6 copper ground wire was removed from 12 poles that had been framed but not yet set in the ground. This was on a rural road near Towanda, Kansas.

Total loss estimated at \$755.52

#6 copper ground wire was removed from 6 poles that had been framed but not yet set in the ground. This was on a busy rural road near Whitewater, Kansas.

Total loss estimated at \$377.76

#5 copper ground wire was removed from 1 pole that had been framed but not yet set in the ground. This was on a busy black top road near Furley, Kansas

Total loss estimated at \$93.12

Total of the above losses: \$5,503.41

We have installed security cameras at our Calvary Warehouse and at the Whitewater Warehouse. We no longer pre-frame poles with the copper wire until the pole is being set. (This may slow down production slightly).

Parsons, Kansas Area

In the past, we have had neutral wires pulled down and ground wires removed and we did have a full reel of aluminum wire stolen last year from a storage area.

Washington, Kansas Area

Our incidents are with someone stripping 15' of copper grounding wire from poles along the roadside. They clip the wire as far up as they can reach, then clip it at the ground. It is hard to notice until we get a lightning storm and the tops of our poles are blown off.

Western, Kansas Area

Sunflower Electric Power Corporation (G & T) has not experienced the theft of loss of ANY copper or aluminum for more than 20 years.

I certainly think that scrap dealers could do more to assure from whom they are buying the scrap and from where the scrap came.

We have had unscrupulous scrap dealers come on our property and offer bribes of \$1,000 cash or our line supervisor to let him take our scrap aluminum conductor back to the "Katrina hurricane victims." He was quickly shown the way off the property.

We think that some form of tightening the way scrap dealers operate is appropriate.

Council Grove, Kansas Area

We have experienced several break-ins of our pole facility where our junk wire sits for pick up from scrap dealers. We are currently putting as much inside out of sight as possible. Interesting note, we are currently in the process of prosecuting two people that our security cameras were able to give the sheriff information on. They are from Wichita and happen to be in the family of scrap dealers and this is what they do to enhance what they take in.

Seneca/Marysville, Kansas Area

We had a couple of thefts here. The first one, we had the grounds cut from one mile of distribution poles. The second incident, we had about 300 pounds of copper coils stolen from our outdoor storage area which is fenced w/3 rows of barbed wire on the top. Since that incident we emptied out our radio hut and store our smaller pieces of copper in there. In addition, we added a security light to the area. We had a few other smaller incidents and each time we contacted our nearby scrap dealer, who took offense at our calls, and denied that he would every buy copper like that.

Hutchison, Kansas Area

Copper is valuable. We don't leave it lay around. When line conductor is being replaced, the old conductor is not removed from the poles until we are ready to haul it to our headquarters property. New conductor is aluminum and not quite so valuable, but still needs to be protected.

This week our Pretty Prairie substation was broken into, with bolt biters, and three spare line transformers were taken. The loss would be \$1,500 but the worst part is the hazard of having people in a substation and having the gate left open. The transformers have copper windings that will probably be removed for junk.

The scrap dealer should not be willing to buy stolen property. They might be happy with some non-intrusive law to define the playing field. Most folks don't want to buy stolen property.

Pratt, Kansas Area

We have not had any copper theft problems, at least nothing serious that we have come across. We did have two individual consumers' service wires that were removed, but that is all we know about. Most of these thieves don't realize the danger they put themselves in or danger they are leaving for others.



Darrell L. Haynes
Captain - Wichita Police Dept.

TESTIMONY

City of Wichita
455 N Main, Wichita, KS. 67202
Wichita Phone: 316.268.4164
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House Bill 2035

An act relating to the registration of copper of aluminum obtained by purchase or trade

January 16, 2007

The City of Wichita supports House Bill 2035, believing that this legislation is needed to prevent victimization, and to assist all law enforcement agencies in the state to deal with the issue of rampant metal theft.

In 2005 and 2006 Wichita experienced a huge boom in the theft of scrap metal with much of it centered on the aircraft industry. The theft of metal reached epidemic proportions driven by extremely high prices in all metals especially copper, aluminum, titanium, tungsten and tungsten alloys, nickel, and nickel alloys. Metal prices have been driven up by the rise in the industrial base of China and India. We expect metal prices to remain high for the foreseeable future. Bare copper has been valued at a high of \$4.00 a pound, but is currently below \$3.00 a pound.

No community in Kansas is immune from the theft of metal. Traveling thieves because of their associations have a built-in network, and are very mobile, often traveling to other Kansas communities to sell their stolen property after committing crimes. While Wichita regulates scrap metal processors, there are businesses just outside our jurisdiction, which are unregulated, and where there is no accountability for the metal purchased.

By mid-2006 the prices of copper had risen high enough that thieves were targeting copper in abandoned warehouses, occupied buildings, and from the air conditioning units outside of buildings. The loss in this type of theft is extensive, requiring thousands of dollars in repair for the small value in copper or aluminum that was taken by a thief. The vast majority of these thieves are addicted to methamphetamine or crack cocaine, and have no concern about the future. Their concern is only how they can obtain their next high. To deal with this type of theft, the Wichita Police Department is making a proposal that any sale of refrigerant condenser coils, may only be made by a person or company holding an EPA Refrigerant Handlers License.

In 2006, the Wichita Police Department received reports of \$714,084 in industrial metal thefts. Of that figure, \$467,044 was in copper, with the majority of the remainder being in aluminum. The copper thefts ranged from a small amount of scrap wire to losses exceeding \$100,000, when large vacant industrial structures are stripped of the electrical and piping systems. Small businesses and churches have been especially vulnerable to the dismantling of industrial-size air conditioning units located on the roof or hidden from view at the ground level.

As American industry has become ever more reliant on the promise of "just in time delivery" for machined parts, the hazard posed is that disruptions caused by criminal activity will correspondingly become more significant.

Your support of House Bill 2035 is appreciated.

ENERGY AND HOUSE UTILITIES

DATE: 1-17-2007

ATTACHMENT 11-1

Metal Theft

Facts, Figures, Economic Consequences

- To provide a general idea as to the volume of scrap metal that is involved in an area like Wichita, the largest scrap processor, Glickman Iron and Metal, purchases each month 1,500,000 pounds of aluminum, 250,000 pounds of copper, 100,000 pounds of titanium and 400,000 pounds of nickel alloys.
- The actual reported dollar loss of a metal theft for business often does not pose an accurate picture of the true damage to the business. Below are some examples of how the theft of certain materials may be crippling to even a large business:
 - Aircraft-grade titanium block and sheet metal must now be ordered by machine shops 18 months in advance of planned production due to intense world-wide demand. High-grade block aluminum is ordered a year in advance for the same reason. When the metal or completed parts are stolen, there is no mechanism for industry to quickly remedy the problem. The end result is that production lines are shut down, with a chain-reaction slowdown stretching throughout an entire industry.
 - An example of this occurred in late 2005 when large cast aluminum landing gear trunions were stolen from the Metal Finishing Company in Wichita, which was processing the landing gears for Cessna's business jet division. Once these parts were stolen and could not be readily replaced, the production line at Cessna was seriously compromised. The trunions weighed 200 pounds and had a value of \$4,000 each, the thieves would have been paid the scrap metal value of \$80 each.
 - Small machine shops subcontracting for the larger aerospace firms are especially vulnerable. Often the metal to be machined is supplied by the Department of Defense, the larger manufacturer such as Raytheon, and when the metal or parts are stolen cannot be readily replaced, delaying production orders critical to the national defense. Too, once the smaller machine shops are unable to deliver parts on time as required by contract, they will not be considered for future orders.
- Thefts of copper beginning in mid-2005 quickly eclipsed thefts of aerospace-related metals. Westar energy in Wichita estimates a minimum of 3,000 utility poles had their bare copper ground wires cut off from the ground to the height a person can reach. Persons arriving a scrap yards riding bicycles and pushing shopping carts have no difficulty in selling this distinctive copper wire.
- The Burlington-Northern Santa-Fe Railroad's main intercontinental rail line runs through Wichita and surrounding counties. Once signal wire is stolen from the poles, all train traffic from Kansas west to California is stopped until repairs can be made. The BNSF estimates a loss of revenue of \$115,000 per hour when the trains are stopped. Special Agent Kenny Bishop with the BNSF Police estimates that wire has been stolen approximately 300 times during 2006 in Kansas alone.
- Losses unique to air conditioning equipment affect a range of victims from individuals to large corporations. As with other types of metal thefts, the cost of the metal and what the thieves make from the theft, do not accurately denote the cost to the victim. In almost all instances, when condensing coils, and copper coolant pipes are stolen, the unit is destroyed and must be replaced with a new unit. One especially large theft in Wichita at a vacant building produced \$50,000 in damages. One proposed addition to the bill would be to require that only individuals or businesses possessing an EPA-issued Refrigerant Handler's License would be able to sell the distinctive refrigerant condensing coils to a scrap metal dealer. This proposal takes into account that the considerable majority of those found to be stealing metals from coolant systems are either addicted to crack cocaine or methamphetamine. With this in mind, those selling stolen metals related to the refrigeration industry care little if a subsequent investigation at a scrap yard identifies them as a suspect. This lack of concern by the suspects, coupled with the near impossibility of identification of such metals after a theft, make the future prevention of such theft very difficult. However, the requirement that only a properly licensed individual or business could tag such items for sale would represent, perhaps, the only hope that something can be done to slow this type of rapidly growing theft.



Triumph Structures - Wichita

A Triumph Group Company

January 16, 2007

Subject: HB 2035.

To: Energy and Utilities Committee,

I understand this bill was NOT submitted specifically with aerospace and manufacturing in mind. However, in the latter part of 2005 and through 2006, our company and other aerospace firms in Wichita, had hundreds of thousands of dollars of metal stolen, which cost the aerospace industry countless dollars in lost time, productivity, and potentially jobs.

Below is a security picture of one such theft of aluminum at our facility that cost our organization approximately \$10,000.



Additionally, our organization, and other companies in our area, support the position of our armed forces by machining and assembling parts for military aircraft. In some cases, these aircraft are sitting on the ground waiting for emergency parts to be supplied. If parts for military aircraft were stolen in order to be sold as scrap, our men and women in uniform would ultimately be impacted.

We ask that the interests of the aerospace and manufacturing organizations be considered in this bill.

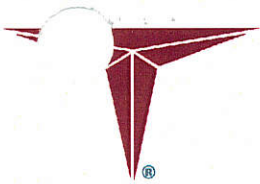
However, as written, we feel that the proposed bill is too inclusive, and would therefore be unsuccessful in passage and governance. We believe the bill requires a threshold and specific definition: for example, as written, an old junk car would be inclusive, as would be aluminum cans; but, these items are NOT what is being stolen and impacting industry.

Perhaps a cash value threshold would be appropriate.

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Or an identification number to sell metal scrap of certain types and value. This would allow monitoring of sales and provide a method to categorize business operations where further scrutiny is required. For example: a machine shop selling scrap aluminum wouldn't necessarily require review. However, a convenience store selling scrap metal would definitely be an exception.

Additionally, the proposed writing only covers aluminum and copper. There are many additional metals that are more costly to replace – such as titanium, and inconel.

We appreciate any support provided and would be more than happy to assist.

Thank-you,

Jeff Westeman
Manager of Technology and Lean Manufacturing
Certified Lean Production Coach
Certified AIW Lean Leader
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**WRITTEN TESTIMONY TO THE HOUSE ENERGY AND UTILITIES
COMMITTEE**

REFERENCE HB 2035

Presented by Ed Klumpp

On behalf of the

Kansas Association of Chiefs of Police

January 17, 2007

This testimony is in support of HB2035 providing for the registration and record maintenance for the purchase and trade of aluminum and copper. The theft of metal is chronic in many areas of our state. It has led to large financial losses to the victims of this crime. The victims are not only the utility providers in Kansas, but also many citizens in the process of building or improving their homes or businesses. Copper tubing and wiring are stripped from homes and power stations, ground wires are pulled from utility poles, and air conditioning units are disconnected and stolen. The perpetrators of these crimes get pennies on the dollar of the cost to victims. These thefts have, on occasion resulted in serious injury and even death to some perpetrators. If it hasn't already happened, it is only a matter of time when a missing ground wire or other damage from these thefts will result in death or injury to an innocent person.

The registration and records keeping is a step that will provide law enforcement with a tool to investigate these crimes and to identify potential suspects in these thefts. It is consistent with the practice used in many cities with mandated reporting of pawn shop transactions. The mandated retention of the materials facilitates assurance law enforcement will have a reasonable time period to inspect the material as evidence in this criminal activity.

Although I don't know of any immediate concerns with this, we would support an amendment to exempt the sale, purchase or trade of aluminum cans from the provisions of this bill.

We urge you to recommend passage of HB 2035.



Ed Klumpp
Chief of Police-Retired
Topeka Police Department

Legislative Committee Chair
Kansas Association of Chiefs of Police

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DATE: 1-17-2007

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January 17, 2007

Good morning Mr. Chairman and members of the Committee on Energy and Utilities. My name is Randy Downing. I reside at 9916 W. 145 St., Overland Park, Kansas.

I represent a group of scrap dealers in Kansas and come before you today in opposition to House Bill 2035.

Attached are my talking points in opposition to House Bill 2035.

ENERGY AND HOUSE UTILITIES
DATE: 1/17/2007
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TALKING POINTS FOR HB 2035

1-17-07

1. Scrap metal recyclers provide a significant benefit by recycling waste, enabling reuse of valuable materials, and encouraging the cleanup of communities.
2. Many scrap recyclers are small, family-owned companies with a few employees, without the financial ability to withstand significant additional expenses
3. Scrap recyclers are watchful for the potential for stolen material to be sold to them
 - a. They know the importance of cooperating with law enforcement to discourage theft.
 - b. They cooperate with early warnings of stolen material, notifying police of suspicious activity, returning stolen material to the rightful owner, and testifying against thieves.
4. HB 2035 would impose unreasonable burdens on scrap recyclers, without the likelihood of significant benefit.
 - a. Some companies can have daily purchases that number in the thousands
 - b. Even small recyclers can have hundreds of purchases each day
 - c. The practice is to combine purchases of similar products and promptly resell or process the material, because of space constraints, the administrative expense of holding material, and the potential for thin profit margins that necessitate a quick turnover.
 - d. A 15 day, and potentially a 45 day, holding period would be totally infeasible
 - i. It would require large tracts of land that the businesses don't have.
 - ii. The cost of sorting and securing the material, and the delay in resale, would be an unreasonable burden.
 - iii. Holding such a large quantity of the material would make the recyclers a more likely target of thieves than the current owners of copper.
 - e. Many purchases are from sellers that are familiar and reputable, and in most situations the requirements would be totally unnecessary.
 - f. Requiring thumbprints would be administratively burdensome, and potentially discourage recycling by treating people who deliver material for recycling, as if they were criminals.

- g. Permitting inspection of company records by private businesses would jeopardize the confidentiality of proprietary information, and be contrary to any other legal practices.
5. The increased theft of copper is because the price of copper is currently very high – however, prices are cyclical and in time the price will go down, but any legal requirements adopted now will remain on the books.
 6. We invite the committee members to take a tour of a recycling yard to better understand the number of transactions, the quantity of material, and the impracticality of the proposal.
 7. Although similar laws have been considered in other areas, we are not aware of anyone thinking they have reduced thefts.
 8. The Kansas consumer protection laws already require most purchasers of scrap copper to and aluminum to obtain information about the seller.
 9. We oppose a proposal that will merely add procedural requirements, be an unreasonable government intrusion on business, and discourage recycling and cleaning up our communities, without the likelihood of creating any corresponding benefit.

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50-619**Chapter 50.--UNFAIR TRADE AND CONSUMER PROTECTION**
Article 6.--CONSUMER PROTECTION

50-619. Definitions. As used in this act, unless the context otherwise requires, the following words and phrases shall have the meanings respectively ascribed to them herein:

(a) "Junk dealer" means any person engaged in the business of buying, selling and dealing in junk, or any person purchasing, gathering, collecting, soliciting or traveling about from place to place procuring junk or any person operating, carrying on, conducting or maintaining a junk yard or place where junk is gathered together and stored or kept for shipment, sale or transfer, but shall not include antique dealers, or automotive salvage dealers dealing in wrecked vehicles as defined in this act;

(b) "Junk yard" means any yard, plot, space, enclosure, building or any other place where junk is collected, stored, gathered together and kept;

(c) "Junk" shall mean and include, in addition to items or goods commonly referred to as junk, such other used or secondhand goods as rope, scrap iron, brass, lead, copper or aluminum wire or tubing and other scrap metals, but shall not include antiques, or wrecked vehicles as defined in this act;

(d) "Antique" means any furniture, object of art, or other object, item or article made or manufactured at an earlier period of time, but shall not include junk;

(e) "Antique dealer" means any person conducting a business of buying and selling antiques;

(f) "Wrecked vehicle" means any wrecked, ruined, dismantled or inoperative motor passenger vehicle or motor truck, and any part or accessory therefrom, for which an original or assigned certificate of title is transferred for such vehicle or truck to an automotive salvage dealer and later surrendered and reported to the division of vehicles of the state department of revenue as required by law;

(g) "Automotive salvage dealer" means any person holding a valid license under the provisions of K.S.A. 68-2201 to 66-2215, inclusive, and any acts amendatory thereof or supplemental thereto, designated as the junkyard and salvage control act.

History: L. 1971, ch. 225, § 1; L. 1975, ch. 427, § 66; Aug. 15.

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50-620**Chapter 50.--UNFAIR TRADE AND CONSUMER PROTECTION****Article 6.--CONSUMER PROTECTION**

50-620. Prohibited acts; certain information as to ownership of junk required; register. It shall be unlawful for any person to sell any item or items of junk to a junk dealer in this state unless such person shall present to said junk dealer, at the time of sale, information as to the ownership of such item or items of junk. Such information shall include the seller's name, address and place of business, if any. Every junk dealer shall keep a register in which the dealer shall at the time of purchase or receipt of any item, excepting rags and paper, enter the name, residence and place of business, if any, of the person from whom the junk dealer purchased or received the item, description of items purchased and the price paid for such item or items.

History: L. 1971, ch. 225, § 2; July 1.

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50-621**Chapter 50.--UNFAIR TRADE AND CONSUMER PROTECTION
Article 6.--CONSUMER PROTECTION**

50-621. Same; junk dealer prohibited from purchasing items of junk without receiving from seller information as to ownership; record of ownership. It shall be unlawful for any such junk dealer to purchase any item or items of junk after the effective date of this act without demanding and receiving from the seller thereof information as to ownership. Every junk dealer shall file and maintain a record of ownership of items purchased pursuant to any transaction described in K.S.A. 50-620. All records kept in accordance with the provisions of this act shall be open at all times to peace and police officers, except as otherwise prescribed by the city ordinances regulating the activities of junk dealers and shall be kept for two (2) years.

History: L. 1971, ch. 225, § 3; July 1.

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50-622

Chapter 50.--UNFAIR TRADE AND CONSUMER PROTECTION

Article 6.--CONSUMER PROTECTION

50-622. Penalty. Any person violating the provisions of this act shall be guilty of a Class C misdemeanor.

History: L. 1971, ch. 225, § 4; July 1.