2016 Kentucky Power Co Residential Appliance Saturation Survey

KPSC Case no. 2017-00179 KSBA's First Set of Data Requests Dated August 14, 2017 Item No. 004 Attachment 4 Page 1 of 5

# 2016 Residential Appliance Saturation Survey

American Electric Power

Results for Kentucky Power
Fielded November 9, 2015 through January 26, 2016

KPSC Case no. 2017-00179 KSBA's First Set of Data Requests

Dated August 14, 2017 <u>Item No. 004</u>

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JURIS Kentucky Power

|                                       |             |             |  |    |            | ILCIIIIN    | 0. 00- |
|---------------------------------------|-------------|-------------|--|----|------------|-------------|--------|
| YOUR HOME Attac                       |             |             |  |    |            | Attachr     | ment 4 |
| Do you own or rent your present home? |             |             | What one type best describes your home?    |    |            | Page        | 2 of 5 |
|                                       | 2013 Survey | 2016 Survey |  | 20 | 013 Survey | 2016 Survey |        |
| Own                                   | 90%         | 90%         | Manufactured or Mobile Home                |    | 28%        | 26%         |        |
| Rent                                  | 10%         | 10%         | Apartment, Condo, or Townhouse (> 4 units) |    | 2%         | 2%          |        |
|                                       |             |             | Apartment, Condo, or Townhouse (2-4 units) |    | 2%         | 4%          |        |
|                                       |             |             | Single Family Home                         |    | 67%        | 68%         |        |

# Approximately how old is your home?

| •          | •           |             |
|------------|-------------|-------------|
|            | 2013 Survey | 2016 Survey |
| <= 2       | 2%          | 3%          |
| 3 - 5      | 5%          | 4%          |
| 6 - 10     | 8%          | 5%          |
| 11 - 15    | 10%         | 13%         |
| 16 - 20    | 8%          | 8%          |
| 21 - 30    | 17%         | 15%         |
| 31 - 40    | 14%         | 16%         |
| > 40       | 32%         | 32%         |
| Don't Know | 5%          | 6%          |
|            |             |             |

# What is the approximate square footage of your home's living area?

|               | 2013 Survey | 2016 Survey |
|---------------|-------------|-------------|
| < 600         | 4%          | 6%          |
| 601 - 1,200   | 17%         | 17%         |
| 1,201 - 1,600 | 20%         | 18%         |
| 1,601 - 2,000 | 18%         | 16%         |
| 2,001 - 2,500 | 10%         | 10%         |
| 2,501 - 3,000 | 7%          | 6%          |
| >= 3,001      | 5%          | 7%          |
| Don't Know    | 19%         | 21%         |

|                                    |            |            |             | HOME HEATING & COOLING |      |            |                  |  |
|------------------------------------|------------|------------|-------------|------------------------|------|------------|------------------|--|
| MAIN heating type (energy source)? |            |            | ?           | MAIN heating system?   |      |            |                  |  |
|                                    | 2013 Surve | e <u>v</u> | 2016 Survey |                        | 2013 | Survey 20: | <u>16 Survey</u> |  |
| Electricity                        |            | 67%        | 63%         | Heat Pump              |      | 45%        | 43%              |  |
| Natural Gas                        |            | 26%        | 29%         | Central Forced Air     |      | 38%        | 40%              |  |
| Propane / LPG                      |            | 3%         | 5%          | Room or Space Heater   |      | 5%         | 6%               |  |
| Fuel Oil                           |            | 1%         | 1%          | Fireplace / Wood Stove |      | 5%         | 5%               |  |
| Other Source                       |            | 4%         | 3%          | Other System           |      | 5%         | 5%               |  |
| Don't Heat                         |            | 0%         | 0%          | None                   |      | 0%         | 1%               |  |
| Don't Know                         |            | 0%         | 0%          | Don't Know             |      | 1%         | 0%               |  |

## Normal thermostat setting in the winter (degrees Fahrenheit)?

|                | 2013 Survey | 2016 Survey |
|----------------|-------------|-------------|
| <= 65          | 5%          | 5%          |
| 66 - 68        | 23%         | 21%         |
| 69 - 71        | 40%         | 36%         |
| 72 - 74        | 24%         | 29%         |
| >= 75          | 4%          | 3%          |
| Don't Have/Use | 4%          | 5%          |
| Don't Know     | 0%          | 1%          |

# MAIN cooling system?

|                 | 2013 | Survey | 2016 | Survey |
|-----------------|------|--------|------|--------|
| Heat Pump       |      | 38%    |      | 34%    |
| Central A/C     |      | 43%    |      | 46%    |
| Room A/C        |      | 14%    |      | 16%    |
| Evaporative A/C |      | 0%     |      | 0%     |
| Other System    |      | 1%     |      | 2%     |
| Don't Cool      |      | 2%     |      | 2%     |
| Don't Know      |      | 1%     |      | 0%     |
|                 |      |        |      |        |

# Normal thermostat setting in the summer (degrees Fahrenheit)?

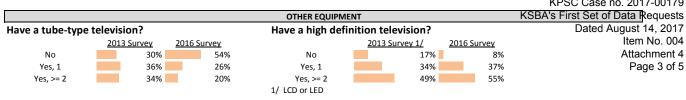
|                | 2013 Survey | 2016 Survey |
|----------------|-------------|-------------|
| <= 68          | 11%         | 12%         |
| 69 - 71        | 32%         | 31%         |
| 72 - 74        | 35%         | 36%         |
| 75 - 77        | 12%         | 11%         |
| 78 - 80        | 4%          | 3%          |
| >= 81          | 1%          | 0%          |
| Don't Have/Use | 4%          | 6%          |
| Don't Know     | 1%          | 1%          |

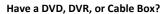
| WATER HEATING |
|---------------|

| MAIN water heating type (energy source)? |             |             |  |  |  |
|--|-------------|-------------|--|--|--|
|  | 2013 Survey | 2016 Survey |  |  |  |
| Natural Gas                              | 19%         | 20%         |  |  |  |
| Electricity                              | 80%         | 78%         |  |  |  |
| Propane / LPG                            | 0%          | 1%          |  |  |  |
| Other Source                             | 0%          | 0%          |  |  |  |
| Don't Have/Use                           | 0%          | 0%          |  |  |  |
| Don't Know                               | 0%          | 1%          |  |  |  |

| ater heater a tankless or on-demand model? |             |             |  |  |
|--|-------------|-------------|--|--|
|  | 2013 Survey | 2016 Survey |  |  |
| Yes  | 16%         | 16%         |  |  |
| No   | 84%         | 84%         |  |  |

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|           | <u>2013 Survey</u> | 2016 Survey |
|-----------|--------------------|-------------|
| No        | 6%                 | 19%         |
| Yes, 1    | 43%                | 43%         |
| Yes, >= 2 | 50%                | 38%         |

## Have a personal computer?

|           | 2013 Survey | 2016 Survey |
|-----------|-------------|-------------|
| No        | 23%         | 43%         |
| Yes, 1    | 53%         | 49%         |
| Yes, >= 2 | 24%         | 7%          |

## Have a printer or fax?

|           | 2013 Survey | 2016 Survey |
|-----------|-------------|-------------|
| No        | 32          | 2% 40%      |
| Yes, 1    | 60          | 53%         |
| Yes, >= 2 | 7           | 7%          |

#### Have a home security system?

|          | 2013 Survey | 2016 Survey |
|----------|-------------|-------------|
| No       | n/a         | 76%         |
| Yes, 1   | n/a         | 23%         |
| Yes >= 2 | n/a         | 0%          |

## Have other rechargeables?

|           | 2013 Survey | 2016 Survey |
|-----------|-------------|-------------|
| No        | 42%         | 55%         |
| Yes, 1    | 21%         | 19%         |
| Yes, >= 2 | 37%         | 26%         |
|           |             |             |

#### Have a pump or electric motor for - Swimming Pool?

|     | 2013 Survey | 2016 Survey |
|-----|-------------|-------------|
| Yes | 15%         | 12%         |
| No  | 85%         | 88%         |

# Have a pump/electric motor for - Other Equipment?

|     | 2013 Survey | 2016 Survey |
|-----|-------------|-------------|
| Yes | 9%          | 7%          |
| No  | 91%         | 93%         |

#### Heat source of stove, range, or cooktop?

|               | 2013 Survey | 2016 Survey |
|---------------|-------------|-------------|
| Electric      | 86%         | 83%         |
| Combination   | 3%          | 3%          |
| Gas / Propane | 11%         | 14%         |
| Don't Know    | 0%          | 0%          |

#### Have a gaming console?

|           | 2013 Survey | 2016 Survey |
|-----------|-------------|-------------|
| No        | n/a         | 61%         |
| Yes, 1    | n/a         | 25%         |
| Yes, >= 2 | n/a         | 14%         |

## Have a tablet computer?

|           | 2013 Survey | 2016 Survey |  |
|-----------|-------------|-------------|--|
| No        | 57%         | 34%         |  |
| Yes, 1    | 33%         | 40%         |  |
| Yes, >= 2 | 10%         | 26%         |  |

## Have a cell or smart phone?

|           | 2013 Survey | 2016 Survey |  |
|-----------|-------------|-------------|--|
| No        | 16%         | 20%         |  |
| Yes, 1    | 40%         | 34%         |  |
| Yes, >= 2 | 44%         | 45%         |  |

#### Have a surge protector?

|           | <u>2013 Survey</u> | 2016 Survey |
|-----------|--------------------|-------------|
| No        | n/a                | 7%          |
| Yes, 1    | n/a                | 91%         |
| Yes, >= 2 | n/a                | 2%          |

#### Do you connect to the internet at home?

|                      | 2013 Sur | vey | 2016 | Survey |
|----------------------|----------|-----|------|--------|
| Yes                  |          | 65% |      |        |
| Yes, w/ DSL or Cable | n/a      |     |      | 43%    |
| Yes, w/ Smart Phone  | n/a      |     |      | 20%    |
| Yes, w/ Satellite    | n/a      |     |      | 8%     |
| Yes, with Dial-Up    | n/a      |     |      | 5%     |
| No                   |          | 35% |      | 24%    |

#### Have a pump or electric motor for - Hot Tub?

|     | 2013 Survey | 2016 Survey |
|-----|-------------|-------------|
| Yes | 4%          | 4%          |
| No  | 96%         | 96%         |

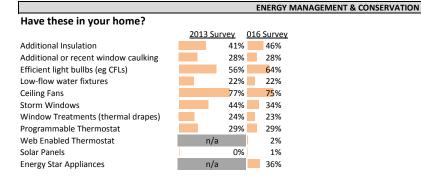
## Have a backup generator for your home?

|     | 2013 Survey | 2016 Survey |
|-----|-------------|-------------|
| Yes | 17%         | 18%         |
| No  | 83%         | 82%         |

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#### Do you plan to Purchase in next 2 years?

|             | Solar Power | Electric / Hybrid | LED      |                       | Smart (web enabled) | New HVAC | Energy Star |
|-------------|-------------|-------------------|----------|-----------------------|---------------------|----------|-------------|
| 2015 Survey | (panels)    | Vehicles          | Lighting | Additional Insulation | appliances          | system   | Appliances  |
| Yes         | 1%          | 1%                | 34%      | 14%                   | 9%                  | 8%       | 19%         |
| No          | 89%         | 91%               | 48%      | 72%                   | 74%                 | 76%      | 59%         |
| Unsure      | 11%         | 8%                | 17%      | 14%                   | 16%                 | 16%      | 22%         |
|             |             |                   |          |                       |                     |          |             |

|                              | APPLIANCES  |   |                    |             |     |  |
|------------------------------|-------------|---|--------------------|-------------|-----|--|
| Age of Primary Refrigerator? |             |   | Age of 2nd refrige | erator?     |     |  |
|                              | 2013 Survey | <u>2016 Survey</u> <u>2013 Survey</u> <u>20</u> |                    | 2016 Survey |     |  |
| Don't Have/Use               | 1%          | 1%  | Don't Have/Use     | 71%         | 65% |  |
| <= 2                         | 19%         | 22%   | <= 2               | 3%          | 6%  |  |
| 3 - 5                        | 26%         | 25%   | 3 - 5              | 4%          | 10% |  |
| 6 - 10                       | 26%         | 26%   | 6 - 10             | 8%          | 4%  |  |
| 11 - 15                      | 13%         | 10%   | 11 - 15            | 5%          | 7%  |  |
| > 15                         | 10%         | 9%  | > 15               | 7%          | 4%  |  |
| Don't Know                   | 6%          | 6%  | Don't Know         | 2%          | 4%  |  |

# Age of stand-alone freezer?

|                | 2013 Survey | <u>2016 Survey</u> |  |
|----------------|-------------|--------------------|--|
| Don't Have/Use | 52%         | 50%                |  |
| <= 2           | 5%          | 14%                |  |
| 3 - 5          | 8%          | 10%                |  |
| 6 - 10         | 13%         | 8%                 |  |
| 11 - 15        | 7%          | 6%                 |  |
| > 15           | 12%         | 9%                 |  |
| Don't Know     | 3%          | 3%                 |  |

# Age of automatic dishwasher?

|                | 2013 | 2013 Survey |  | 2016 Survey |  |
|----------------|------|-------------|--|-------------|--|
| Don't Have/Use |      | 47%         |  | 36%         |  |
| <= 2           |      | 8%          |  | 16%         |  |
| 3 - 5          |      | 13%         |  | 17%         |  |
| 6 - 10         |      | 17%         |  | 14%         |  |
| 11 - 15        |      | 9%          |  | 7%          |  |
| > 15           |      | 5%          |  | 5%          |  |
| Don't Know     |      | 2%          |  | 4%          |  |

## Age of top load clothes washer?

|                | 2013 Survey | 2016 Survey |
|----------------|-------------|-------------|
| Don't Have/Use | 8%          | 11%         |
| <= 2           | 18%         | 28%         |
| 3 - 5          | 28%         | 21%         |
| 6 - 10         | 28%         | 25%         |
| 11 - 15        | 9%          | 8%          |
| > 15           | 5%          | 5%          |
| Don't Know     | 4%          | 2%          |

# Age of front load clothes washer?

|                | 2013 Survey | 2016 Survey |
|----------------|-------------|-------------|
| Don't Have/Use | 73%         | 72%         |
| <= 2           | 5%          | 6%          |
| 3 - 5          | 7%          | 10%         |
| 6 - 10         | 7%          | 7%          |
| 11 - 15        | 2%          | 2%          |
| > 15           | 1%          | 1%          |
| Don't Know     | 4%          | 2%          |

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# Age of clothes dryer (Electric)?

|                | 2 | 013 Survey | 20 | 016 Survey |
|----------------|---|------------|----|------------|
| Don't Have/Use |   | 13%        |    | 7%         |
| <= 2           |   | 17%        |    | 21%        |
| 3 - 5          |   | 25%        |    | 28%        |
| 6 - 10         |   | 25%        |    | 25%        |
| 11 - 15        |   | 11%        |    | 9%         |
| > 15           |   | 6%         |    | 9%         |
| Don't Know     |   | 3%         |    | 2%         |

# Age of clothes dryer (Gas)?

|                | 2013 Survey | 2016 Survey |
|----------------|-------------|-------------|
| Don't Have/Use | 97%         | 86%         |
| <= 2           | 1%          | 3%          |
| 3 - 5          | 1%          | 4%          |
| 6 - 10         | 1%          | 3%          |
| 11 - 15        | 0%          | 2%          |
| > 15           | 0%          | 0%          |
| Don't Know     | 0%          | 3%          |
|                |             |             |

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## Age of stove, range, or cooktop?

|                | 2013 Survey | 2016 Survey |
|----------------|-------------|-------------|
| Don't Have/Use | 1%          | 3%          |
| <= 2           | 16%         | 23%         |
| 3 - 5          | 21%         | 20%         |
| 6 - 10         | 33%         | 28%         |
| 11 - 15        | 14%         | 10%         |
| > 15           | 10%         | 10%         |
| Don't Know     | 7%          | 6%          |
|                |             |             |

# Age of heating system equipment?

|                | 2013 Survey | 2016 Survey |
|----------------|-------------|-------------|
| Don't Have/Use | n/a         | 6%          |
| <= 2           | 15%         | 17%         |
| 3 - 5          | 20%         | 18%         |
| 6 - 10         | 23%         | 21%         |
| 11 - 15        | 17%         | 13%         |
| > 15           | 18%         | 16%         |
| Don't Know     | 6%          | 8%          |
|                |             |             |

# Age of cooling system equipment?

|                | 2013 Survey | 2016 Survey |
|----------------|-------------|-------------|
| Don't Have/Use | n/a         | 89          |
| <= 2           | 15%         | 189         |
| 3 - 5          | 23%         | 20%         |
| 6 - 10         | 28%         | 20%         |
| 11 - 15        | 17%         | 139         |
| > 15           | 11%         | 13%         |
| Don't Know     | 6%          | 89          |
|                |             |             |

# Age of water heater?

LIGHTING

|                | 2013 Survey | 2016 Survey |  |  |
|----------------|-------------|-------------|--|--|
| Don't Have/Use | n/a         | 2%          |  |  |
| <= 2           | 20%         | 28%         |  |  |
| 3 - 5          | 28%         | 25%         |  |  |
| 6 - 10         | 25%         | 24%         |  |  |
| 11 - 15        | 12%         | 7%          |  |  |
| > 15           | 8%          | 8%          |  |  |
| Don't Know     | 8%          | 6%          |  |  |

# Main Source of Lighting?

Incandescent (traditional bulb) Compact Fluorescent (CFL or Tubular) LED Other High Efficient Don't Know

Incandescent (traditional bulb) Compact Fluorescent (CFL or Tubular) LED Other High Efficient Don't Know

Incandescent (traditional bulb) Compact Fluorescent (CFL or Tubular) LED Other High Efficient

Don't Know

| Kitchen |                       |     |             | Living Room/Den |    |             |     |             | Master Bedroom |             |     |     |     |     |
|---------|-----------------------|-----|-------------|-----------------|----|-------------|-----|-------------|----------------|-------------|-----|-----|-----|-----|
|         | 2013 Survey 016 Surve |     | 2013 Survey |                 |    | 2016 Survey |     | 2013 Survey |                | 2016 Survey |     |     |     |     |
|         |                       | 419 | ó           | 37%             |    |             | 52% |             |                | 42%         |     | 55% |     | 48% |
|         |                       | 48% | ó           | 33%             |    |             | 33% |             |                | 24%         |     | 31% |     | 22% |
| n/a     |                       |     | 16%         |                 | n/ | ′a          |     |             | 20%            |             | n/a |     | 17% |     |
|         |                       | 89  | ó           | 7%              |    |             | 12% |             |                | 9%          |     | 11% |     | 8%  |
|         |                       | 49  | ó           | 7%              |    |             | 3%  |             |                | 5%          |     | 4%  |     | 5%  |

| Other Bedroo | om(s)     | Bathı       | room        | Dining Room |             |  |  |
|--------------|-----------|-------------|-------------|-------------|-------------|--|--|
| 2013 Survey  | 016 Surve | 2013 Survey | 2016 Survey | 2013 Survey | 2016 Survey |  |  |
| 56%          | 50%       | 54%         | 50%         | 58%         | 46%         |  |  |
| 31%          | 21%       | 34%         | 21%         | 30%         | 25%         |  |  |
| n/a          | 16%       | n/a         | 18%         | n/a         | 14%         |  |  |
| 9%           | 6%        | 9%          | 6%          | 8%          | 8%          |  |  |
| 4%           | 6%        | 3%          | 6%          | 4%          | 7%          |  |  |

| Family or Gan | ne Room   | Office      | or Study    | Outdoor Areas |             |  |  |
|---------------|-----------|-------------|-------------|---------------|-------------|--|--|
| 2013 Survey   | 016 Surve | 2013 Survey | 2016 Survey | 2013 Survey   | 2016 Survey |  |  |
| 49%           | 40%       | 43%         | 35%         | 49%           | 47%         |  |  |
| 35%           | 6 28%     | 35%         | 33%         | 32%           | 23%         |  |  |
| n/a           | 14%       | n/a         | 10%         | n/a           | 14%         |  |  |
| 119           | 7%        | 13%         | 5%          | 14%           | 9%          |  |  |
| 69            | 10%       | 9%          | 17%         | 6%            | 7%          |  |  |