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City of Bloomington Sustainability Action Plan Climate, Energy, and the Built Environment Meeting 2

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27 March 2018

SPEA

Lead for the Greater Good



#Bloomington200



Energy Conservation and Efficiency

Current Situation in Bloomington

- Limited documentation of energy efficiency projects
 - Data on energy use by sector is available
- Electricity consumption decreased between 2008 and 2016
 - 6% growth in population
 - Overall consumption decreased by 11%
 - Municipal consumption decreased by 19%
 - Residential consumption decreased by 10%
- Open house feedback:
 - Need more focus on demand side changes from residents and businesses
 - Current green incentives program is not utilized and therefore not effective



Energy Conservation and Efficiency

Community Goals found in Bloomington Comprehensive Plan

- Reduce community-wide fossil fuel consumption
- Target efficiency improvements in the public and private sectors
- Drive increased efficiency in the built environment
- Promote energy saving retrofitting of public and private buildings and informed decision-making for building renters based on energy consumption.
- Create an energy efficiency program aimed at cost-effective, energy-saving strategies for residential households
- Improve the information available to renters and homeowners to increase energy efficiency
- Assess incentive programs that encourage greater energy efficiency
- Develop a greenspace per capita goal



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Recommended Community Goals found in Bloomington Environmental Action Plan

- Reduce GHG emissions from 2005 levels by 17% by 2020 relative to 2005 levels
- Reduce energy consumption in buildings by 20% by 2020
- Promote retrofitting of older buildings
- Promote consumption-based decision-making
- Reach 40% tree cover in Bloomington and site where energy benefits can best reduce energy needs in buildings



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Metrics Found in Bloomington Documents

- Buildings and energy sector represents 68% of GHG emissions (2016 GHG Inventory)
- Total electricity usage per capita (all-sector) (2016 GHG Inventory)
 - 2008: 20,089 kwh per capita
 - 2016: 9,256 kwh per capita
- Energy use trend
 - 11% decrease between 2008 and 2016



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Metrics Used in Other Cities

- Iowa City, Iowa
 - Energy use trend increasing
 - Overall increase of 3.6% between 2005 and 2017
 - Municipal decrease of 9.8% between 2005 and 2017
 - 12% population growth
 - Total GHG emission fell by 23.1%
- Columbia, Missouri
 - Total GHG emissions tons per capita decreased by 0.2%
 - Population growth of 10.6%
- Ann Arbor
 - Total GHG emissions tons per capita decreased by 0.8%
 - Population growth of 6%



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Metrics Recommended in ISO 37120 and STAR

- STAR Indicator #7
 - 28% reduction of 2005 levels of GHG emissions by 2025
- ISO 37120 Indicator 8.3
 - GHG emissions in tons per capita
- ISO 37120 Indicator 7.1:
 - Yearly total residential electricity use
 - Residential is one of the largest sectors of consumption in cities
- ISO 37120 Indicator 7.3:
 - Energy consumption of government-owned buildings per year
- ISO 37120 Indicator 7.5:
 - Total electricity use per capita
 - Helps cities understand how much electricity is being consumed to effectively manage generation, consumption, and conservation of electricity



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Actions Used in Other Cities

- Updating building codes to comply with International Energy Conservation Code and promote energy efficiency (Lawrence, Kansas; Iowa City, Iowa; Columbia, Missouri)
- Rebates or financing for energy efficiency improvements
 - Pay-As-You-Save Program (PAYS) (Iowa City)
 - Low-interest financing through private & non-profit lenders (Iowa City)
- Facilities Conservation Improvement Program (Lawrence)
- Become a “Smart City” (College Station, Texas)
- Property Assessed Clean Energy (PACE) Program (Ann Arbor)
 - Find department administering
 - Department of Energy Financing



Energy Conservation and Efficiency

Actions Recommended in STAR

- STAR:
 - Achieve 35% Green Infrastructure cover in community
 - Use of tree siting, porous and high-albedo surfaces, and green roofs/walls to reduce energy needs inside buildings
 - Adopt an energy efficiency action plan
 - Adopt or upgrade building codes to encourage energy efficiency
 - Adopt an energy use disclosure ordinance
 - Education/outreach campaigns
 - Encourage the collection and reporting of energy use data
 - Create incentives to promote energy efficiency
 - New construction
 - Updates to existing buildings
 - Low-income assistance programs



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Thank You

Questions and Answers