



**Illinois Clean Energy**  
*community foundation*

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# **15<sup>th</sup> National Conference on Building Commissioning**

May 2-4, 2007

Chicago, IL



# Foundation Mission

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- The Illinois Clean Energy Community Foundation is an independent, private charitable organization created in 1999 with an endowment of \$225 Million from the Commonwealth Edison Company.
- Mission: invest in clean energy development and land preservation efforts.
- Mission is supported by programs/projects to:
  - improve energy efficiency;
  - develop renewable energy resources; and
  - preserve natural areas & wildlife habitats.

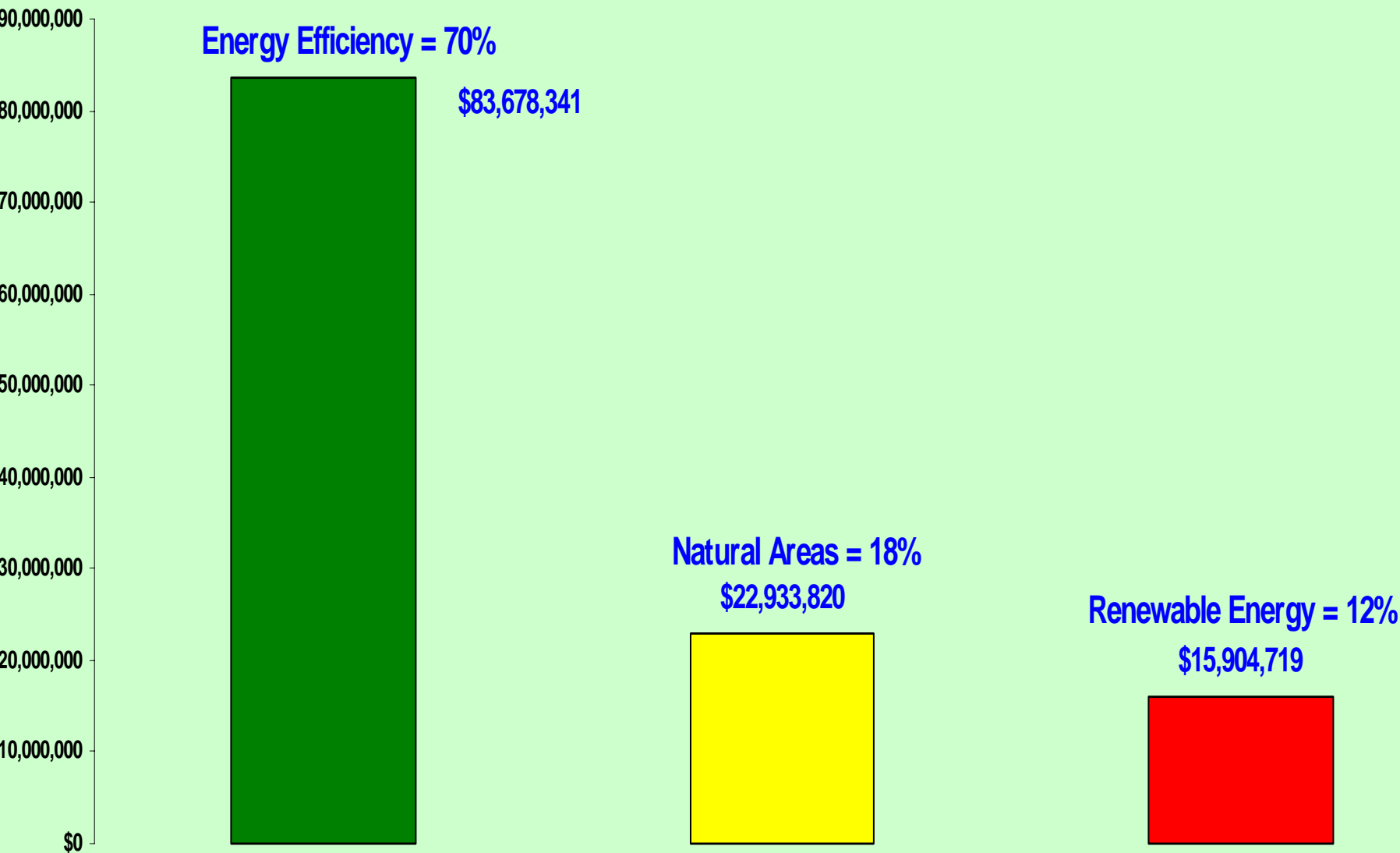


# Foundation Eligible Grantees

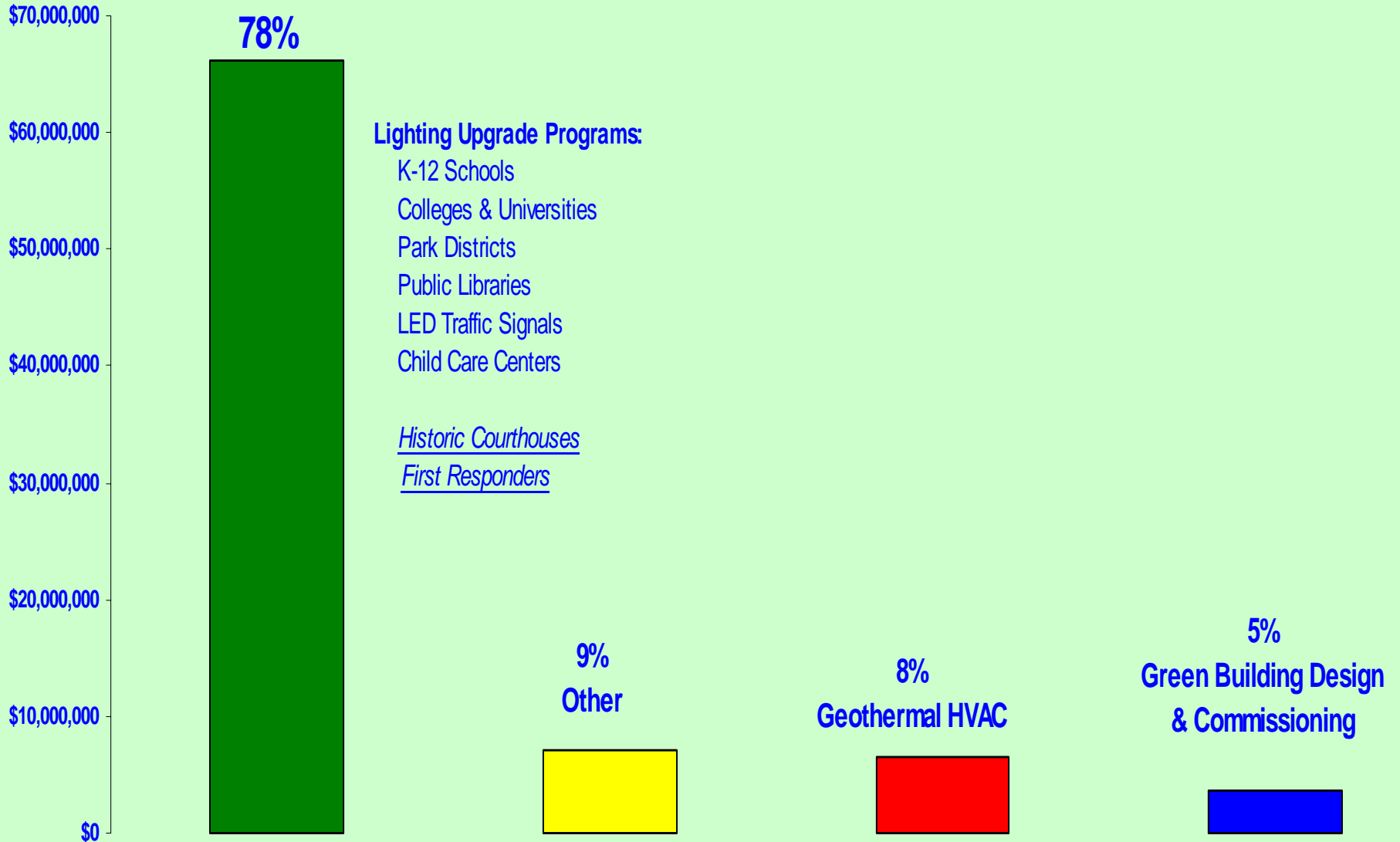
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- **Illinois nonprofit organizations:**
  - Affordable Housing
  - Child Care
  - Museums
  - Nature Centers
  - Social Service
- **Local Illinois government agencies:**
  - K-12 Schools
  - Colleges & Universities
  - Municipalities
  - Counties
  - Park Districts
  - Public Libraries

# Foundation Grant Awards thru April 2007 total \$121.9 Million



# Energy Efficiency Grant Distribution





# Foundation Commissioning Support

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- ***Energy Efficiency Green Building Design & Commissioning Program*** (LEED certified new construction/major rehabilitation)
- **“Stand-Alone” Commissioning Projects**  
(case studies to re-commission existing energy systems or commission new/replacement equipment)



# “Green” Building Design & Commissioning Program

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- Up to \$135,000 for incremental design and commissioning costs to enhance building energy performance above the minimum standards of Illinois Commercial Energy Code to a level comparable to LEED Silver.
- 87 design and commissioning grants totaling \$6.5 million have been awarded to date.
- 33 Foundation supported building projects have been completed to date.
- 4 Foundation supported projects have received LEED certification - 15 others are registered and pending certification decisions.
- Funding requests are considered on a “rolling-review” basis.

## “Typical” Grant Scope of Work

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- Design of natural daylighting
- Design of artificial lighting systems to minimize watts/sq.ft
- Optimized design of building envelope
- Mechanical system - cooling & heating – design (reduced tonnage)
- Evaluation & engineering of innovative systems, e.g., geothermal HVAC, energy recovery, soy based insulation
- Evaluation & engineering of renewable energy systems like BIPV, small scale wind & solar thermal hot water heating
- Costs related to LEED Certification (e.g., registration and document preparation)
- **Costs related to Building Commissioning (basic and enhanced commissioning)**



# “Stand-Alone” Building Commissioning Grant Funding

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- **To better determine interest, demand, criteria & guidelines for a future “Stand-Alone” Commissioning Initiative, the Foundation has awarded 10 grants to “test the market.”**
  
- **Grant Recipients**
  - McHenry County
  - Northeastern Illinois University
  - Roosevelt University
  - Alexian Brothers Health System
  - Public Service Commission of St. Clair
  - Two Rivers YMCA of Moline
  - Lake Forest College
  - MacMurray College
  - Chicago Public Schools
  - North Park University



## Selection Criteria for Funding Commissioning Requests

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- Substantial improvement to energy performance (estimated annual energy reduction of 8-10%).
- Commitment to use savings identified through the commissioning project to implement energy saving measures.
- Commitment to install monitoring system for continued optimal operation.
- Representative building sample (type/age)

# Commissioning Project Findings to Date

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- **7 completed projects leading to energy savings with simple paybacks averaging under 5 years.**
- **Alexian Brothers:**
  - Energy Efficiency & Commissioning activities will reduce average cost of operations by \$0.62/sq.ft or \$79,500/yr.
  - Total project cost, including capital expenditures, was \$126,400 for a 1.6 yr simple payback.
- **Two Rivers YMCA:**
  - Energy Efficiency & Commissioning activities will reduce average cost of operations by or \$26,000/yr.
  - Total project cost, including capital expenditures, was \$39,989 for a 1.5 yr simple payback.

# Infant Welfare Society

## LEED Certified at Silver Level

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# Children's Discovery Museum

## LEED Certified at Silver Level



# Bolingbrook High School

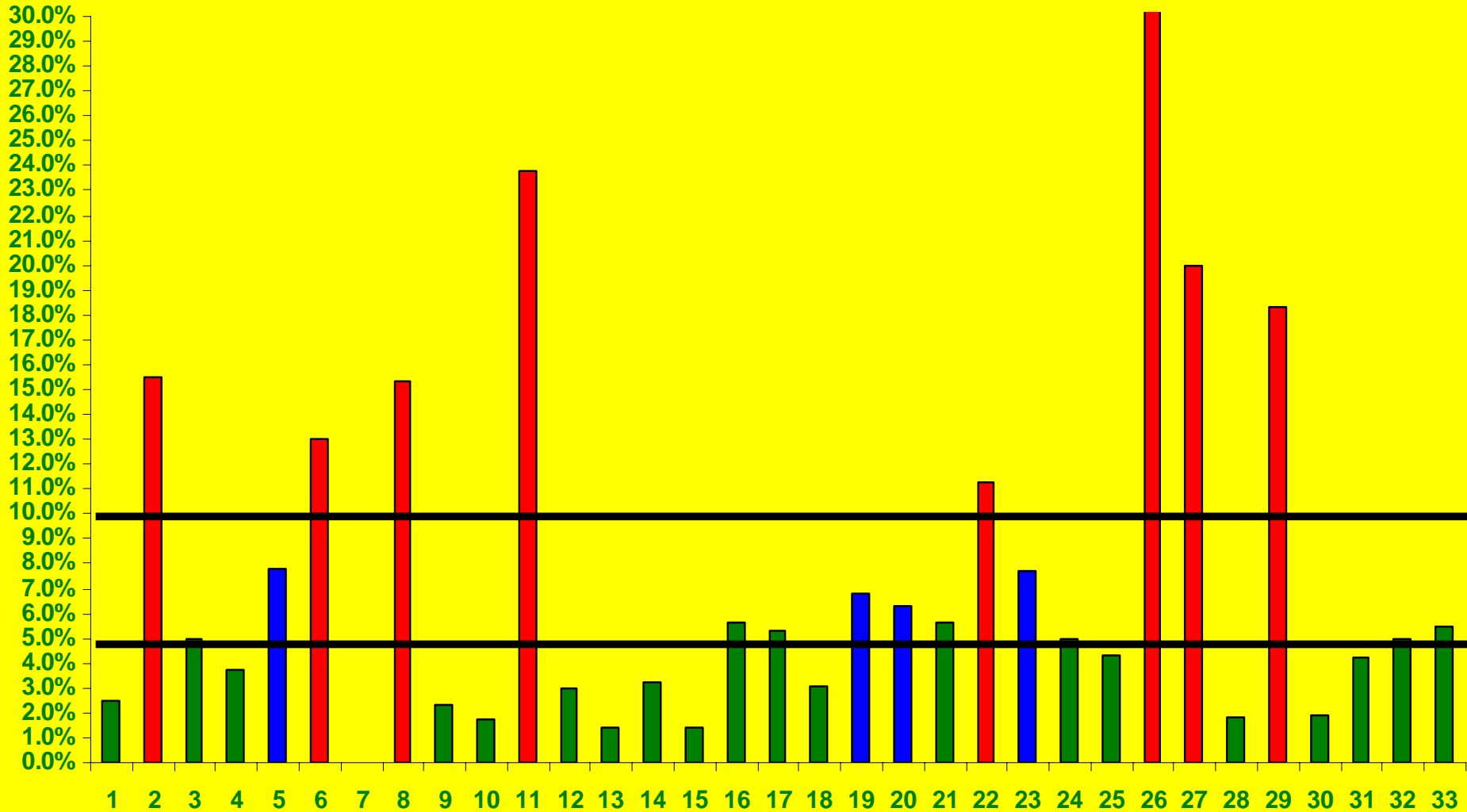
## LEED Certified at Base Level



# Center for Neighborhood Technology LEED Certified at Platinum Level



# Estimate of Capital Cost Increases of "Green" Buildings Funded by ICECF





# Preliminary Conclusions on Set of 20 Completed “Green” Building Projects

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- Upfront cost premium of 6.2% to improve energy performance by 43% above code.
- A correlation between building size and upfront cost-premium; over 50,000 sq.ft cost premium is 3.32% - buildings under 30,000 sq.ft cost premium is 8.8%.
- Upfront premiums are driven by inclusion of certain efficiency & renewable measures such as solar PV and geothermal.
- Improvements to glazing & lighting have an insignificant impact on upfront costs.
- The upfront-cost premium has decreased over time as Illinois architects reach the “green learning curve” and minimum construction standards are raised by the Illinois Commercial Energy Code.



# Capital Grant Funding Opportunities

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- The Foundation does not provide capital construction funding for new “green” buildings or to implement commissioning recommendations.
- The Foundation has provided limited funding on a case-by-case basis for innovative model energy efficient systems not commonly used in Illinois, e.g., geothermal and BIPV systems.
- Capital funding requests are considered during the Foundation’s Competitive Grant Cycles in January and July.
- Funding has typically been provided as a percentage of incremental or total project cost.
- “Stand-Alone” Commissioning requests are considered on a rolling-review basis.



# Illinois Clean Energy

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