



Building



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LCA Tools in Residential Building - Assessing Their Applicability

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NAHB Research Center

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Overview

This discussion will cover:

- 1) Background
- 2) Details of LCA workshop
- 3) Tools Highlighted at LCA Workshop
- 4) Conclusions & Recommendations



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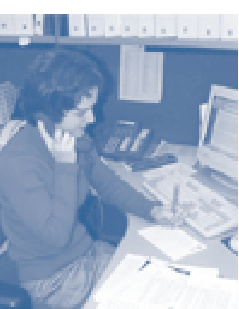
NAHB Research Center : Our History



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- Founded in 1964
- Independent research arm of NAHB
- Response to the lack of consistent funding sources for housing technology research
- Partner with industry leaders in housing innovation and quality
- Staffed with highly-qualified research and industry professionals

Our Mission

To promote innovation in housing technology to improve durability and affordability of building products and homes.



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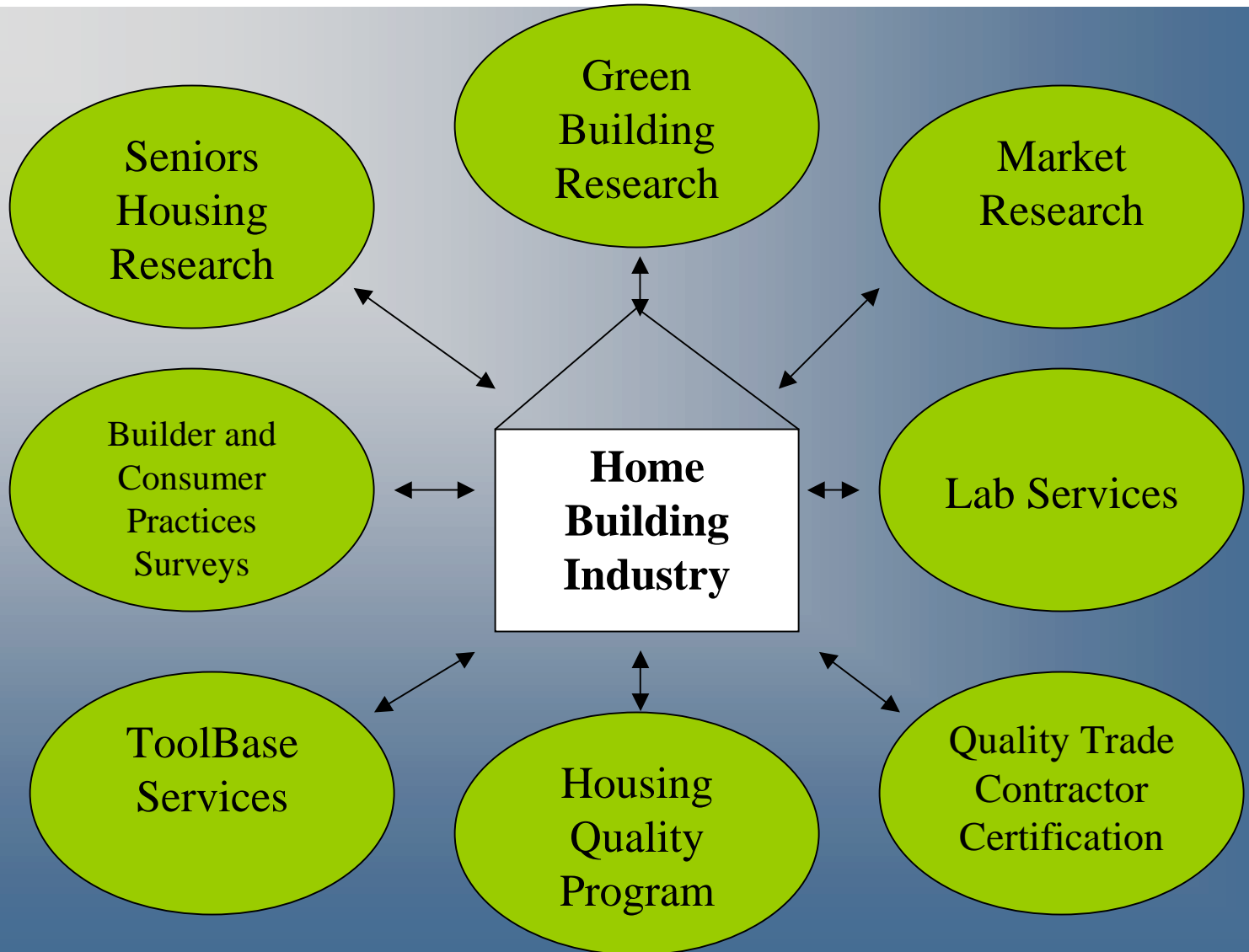
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Supporting the Building Industry



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Green Building...Simplified

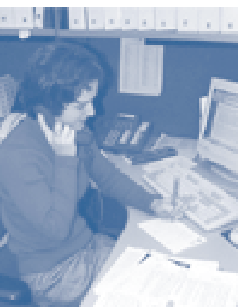
Incorporating environmental considerations into every step of the home building and land development processes



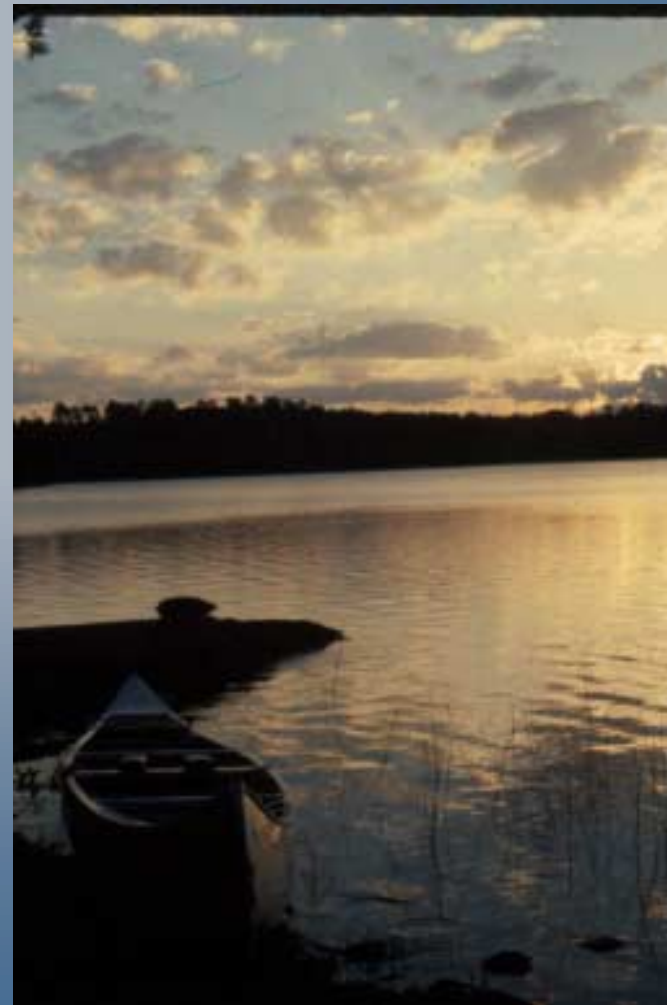
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LCA Workshop

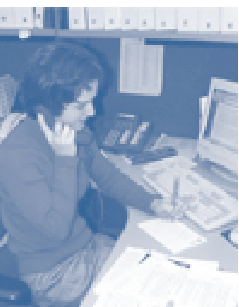
- April 20, 2001
- Panel of international LCA experts
- Focused on five LCA tools
- Presentations then facilitated sessions
 - Identify data needs
 - Understand LCA methodologies
 - Identify targeted audience
 - Recommendations



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LCA Tools

- ATHENA (Canada)
- BEES 2.0 (USA)
- BRE Green Guide (UK)
- LCAid (Australia)
- Life Cycle Explorer (USA)



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Session #1 – Data Analysis



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- Quality
- Gaps
- Comprehensiveness & transparency
- ISO 14040 conformance
- National vs. regional
- Time horizons
- Proprietary & company-specific
- Database standardization
- Usage phase of materials



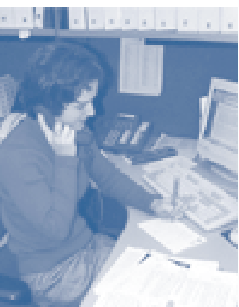
Session #2 – LCA Tool Methodologies



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- Assumptions
- Double counting
- Validity testing
- Differing approaches and applications
- Unequal uncertainties
- No right answer
- Fine tuning

Session #3 – Audience



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- Tool's limitations
- Generic results
- Clearinghouse for results
- Other metrics in choosing materials
- Simplify output
- Role of product suppliers
- Other end-users

Recommendations & Conclusions

- Market research → Supply chain feedback
- ID likely end-users
- Increase data availability & transparency
- ID how LCA tools affect building design
- Monitor homes → Quantify benefits
- Labeling and buyer decisions
- ID drivers in product selection process
- Connect “green” to performance
- Educate building product manufacturers
- How to factor LCA tool’s results into product selection process



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NAHB Research Center Conclusions

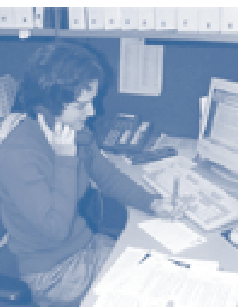
- LCA is evolving
- Verify ecoindicator algorithms for accuracy
- Report uncertainties in results
- Enhance amount and resolution of data
- Develop feedback loop → validate tool's accuracy
- Clearly define role of LCA tool in builder's world



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