Energy Independence Through Building Conservation & Energy Efficiency

Michael Vogel
Part 3
Energy Independence Through Building Conservation & Energy Efficiency

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Extension Mission:
Provide “core-4” life-long, issue-based education to all consumers.

Ag and Natural Resources

Community Development

Youth Development

Family and Consumer Issues
We all live and work in buildings that consume energy.
In US, buildings use almost 40% of all energy consumed and two thirds of all electricity. DOE 2011

Buildings and construction of buildings generate almost 50% of the Greenhouse Gases in the US. Edward Mazria

- Homes – 54%
- Commercial 46%
- Federal – 2.2%
- Transportation 34%
- Industry 27%
- Buildings 39%
Start at Home – 54% of Building Energy Consumption

- Heating & Cooling: 45%
- Water Heater: 11%
- Refrigerator: 6%
- Dishwasher: 2%
- Clothes Washer & Dryer: 10%
- Computer & Monitor: 2%
- TV, VCR, DVD: 2%
- Lighting: 7%
- *Other: 15%
Cooperative Extension’s Role in Reducing Building Energy Consumption & Climate Change
Research: Camelina Engineered Composite Pellet Fuels

Impacts:
- Local Clean AG-Fuel Produced
- Local Jobs Created
- Schools and Municipal Buildings Heated
- Less Dependence on Fuel Oil
Research

Solar Performance Monitoring Initiative

Impacts:
- Local Jobs Created
- Greater Knowledge and Confidence in Solar
- Less Dependence on CO Producing Fuels
Creating Local, Regional and National Partnerships
- States & Agencies Working Together -

Impacts:
- Less Duplication of Efforts
- Extended Use of Funds
- Sharing of Resources and Information
Offering Training, Certification & Education to Consumers

Impacts:
- Trained Workforce – 1,000s/yr
- Local Jobs Created
- Buildings Audited & Verified as Energy Efficient and Healthy
Exploring Energy Efficiency & Alternatives

Contractor and Consumer Education Program
E3A Toolkit Contents

- User Guide and Programming Materials
  - Map and General Energy Info.
  - Programming Resources
  - Online Resources (PPT, Links, etc.)
- Six Technology Folders
  - Micro-hydro
  - Small wind
  - Solar Electric (PV)
  - Solar Hot Water
  - Biodiesel
  - Anaerobic Digesters
- Two Energy Efficiency Folders
  - Home Energy
  - Farm Energy
Impact: Creating a Local Trained Workforce

Impact:
Creating a Rapid Response Trained Workforce

On-Site/In-Home Mobile Training Center
Offering On-line Education & Training

www.wxtvonline.org

Impacts:
- Reaches 65,000 new users monthly
- Instant Training & Info Access
- Increased worker productivity
  - more time on the job
  - reinforcement of info
- CEU credit
HOME ENERGY

Best Practices
FAQs
Ask an Expert
Articles
Money-Saving Tips

Visit www.eXtension.org
Click Resource Area Energy
Select Home Energy

Home Energy-Saving guidance from Land-Grant University Experts

Cooperative Extension
Home Profiles

www.homesacrossamerica.org

A Construction Technology Showcase

Resource Efficient Homes Across America
comfort • health • performance • durability

www.homesacrossamerica.org
Certificate of Applied Science in Residential Building Performance

- Professional Career Pathway
- Converts Existing Training to Degree
- Builds on Certificates and Certifications
Certificate of Applied Science in Residential Building Performance

One Year Degree Program with Nationwide Access

IREC Accredited Training Centers may offer the Degree


Business and Agricultural Recognition

Partnership Recognition from 5 Governors since 1995

Impacts:
- Community Leadership
- Motivating Adoption
- Showcasing Success
- Influencing Funding
Outcomes:

- National Workforce Expanded and Trained – thousands per year
- Homes and Buildings Retrofitted
  - 35-65% energy savings
  - $235.00-$640.00 household saving/year
  - $1.00 invested in energy retrofit returns $4.35 in community benefits – materials purchased, manufactured goods, lodging, etc.
- Consumers educated & adopting energy saving practices
  - Increased spending
  - Increased comfort
  - Increased health and safety
- Carbon dioxide & other air pollutants reduced
Contact Information

To find Cooperative Extension:
In your community:  www.nifa.usda.gov/extension
Online:  www.extension.org
         www.facebook.com/cooperativeextension
         www.twitter.com/cesvalue

For questions about potential partnerships:
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