

Local Energy - Part of a National Bioenergy Strategy

**ENSURING FOREST SUSTAINABILITY IN THE
DEVELOPMENT OF WOOD BIOENERGY IN THE US**

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A vertical strip of wood chips or mulch runs down the left side of the slide.

Where do rural communities fit into the discussion about climate change, energy, and sustainable forestry?

The economies of rural communities are threatened by:

- The end of cheap fossil fuels
- Global climate change



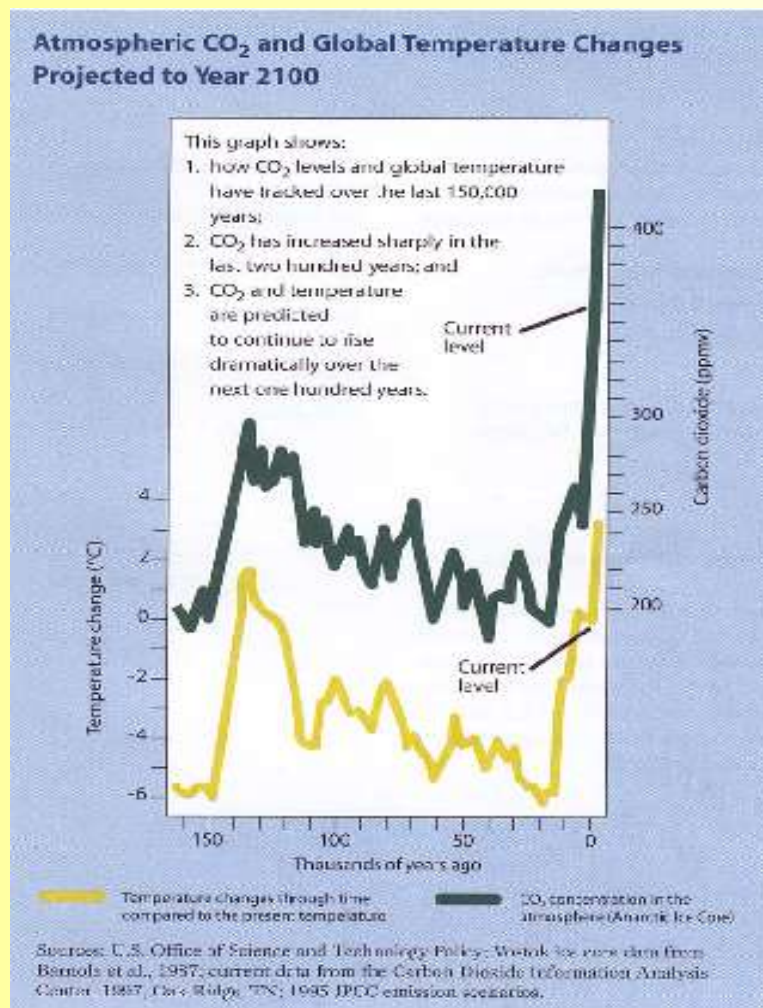
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After the World Oil Peak – What Happens to Rural Communities?

- Very high, rapidly increasing oil and gas costs
- Competitive disadvantage
- Economic un-development
- Dependence on an unfriendly global economy



Global Climate Change



Climate change is already observable and is negatively impacting the rural economy.

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The Big Picture

**Global climate change represents
unprecedented human changes to the
natural world.**

**Peak oil and increasing fossil fuel prices
represent an unprecedented threat to
the security of our rural communities.**



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Meeting the Challenge

The communities of rural America can't make a big direct impact on climate change or the price of fossil fuels.

However, public policy can help insulate and protect rural communities from these threats, by helping them substitute local biomass energy for fossil energy.

And, this represents an opportunity for protecting forests from exploitation by the new energy economy.



Local Energy –

A new paradigm for the relationship between communities and forests





What Does Local Energy Look Like?

- Community district energy (using wood fuel)
- School and other institutional wood heating
- Wood-fired campus energy systems
- Small-scale power generation and CHP



A close-up photograph of a pile of wood chips or mulch. The chips are irregular in shape and size, ranging from small fragments to larger, elongated pieces. They are a light brown color with some darker, charred edges, suggesting they have been processed from wood. The texture is rough and fibrous.



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Community District Energy



Green Acres Family Housing

Small-
Scale
Setting



Community District Energy



Urban
Setting

District Energy St. Paul



Community District Energy



Charlottetown, PEI, Canada

Small
Community
Setting



School Wood Heating



Fuels For Schools –

First school in western
states



Darby Schools, Montana



Wood Heating for Institutional and Public Buildings



State Office Building



Hospital



Campus Wood Energy



Mt. Wachusett Community College



Central plants on college
campuses



Campus Wood Energy



University of Idaho, Moscow

Central plants on
university campuses



Small-scale Distributed Generation - using wood fuel



Zuni Pueblo, New Mexico / Community Power Corporation

Power and heat from wood wastes



A vertical strip on the left side of the slide showing a pile of wood chips or mulch.

What Are the Characteristics of Local Energy?

- Uses **community-scale** technology
- Replaces fossil fuels with **local** biomass, for heat and power
- Uses **efficient, clean** technology
- Has strict requirement for **sustainable** fuels





What Are the Benefits of Local Energy?

- Keeps local energy dollars circulating in the community
- Displaces expensive fossil fuels and increases security
- Scaled to link community energy economy with local resources
- Acts as a force for sustainable forestry
- Uses available fuel, woodchips or pellets, at high efficiency
- Uses manageable volumes of biomass for each project
- Supports forest-products industry and creates jobs



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Most of the technology is available today, but ...

What Else Is Needed to Develop Local Energy for Rural Communities?

1. Much better wood-to-energy technology

Current steam-cycle power and CHP technology is highly inefficient.

2. Assistance in organizing and financing community energy systems

District energy technology is unfamiliar to communities and lenders.



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Conclusion

Local Energy, making the energy connection between rural communities and their forest resources, brings together climate change, renewable energy, and sustainable forestry at the right scale.



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