

# THE COMMUNITY POWER INITIATIVE:

Renewable Energy & Revitalized Rural Economies



Al Weed, Public Policy Virginia, October 22, 2009



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Our mission is to change the energy culture of Virginia.  
We are driven by two guiding principles:

Climate change is the most serious challenge we face.

We can revitalize Virginia's rural economy as we solve this crisis.

# Biomass is Opportunity



## **Community Power Initiative**

- De-centralized base load generation via a series of community sized generation facilities utilizing
  - Locally harvested biomass
  - Combined heat and power technology

# Why CPI?



Increased Fuel Efficiency

Growing Demand for Green Energy

Meets – and Profits From – Changes in Public Policy

Economic Stimulus

Local Energy is Secure Energy

Abundant Biomass Resources

# Why CPI?

## Increased Fuel Efficiency

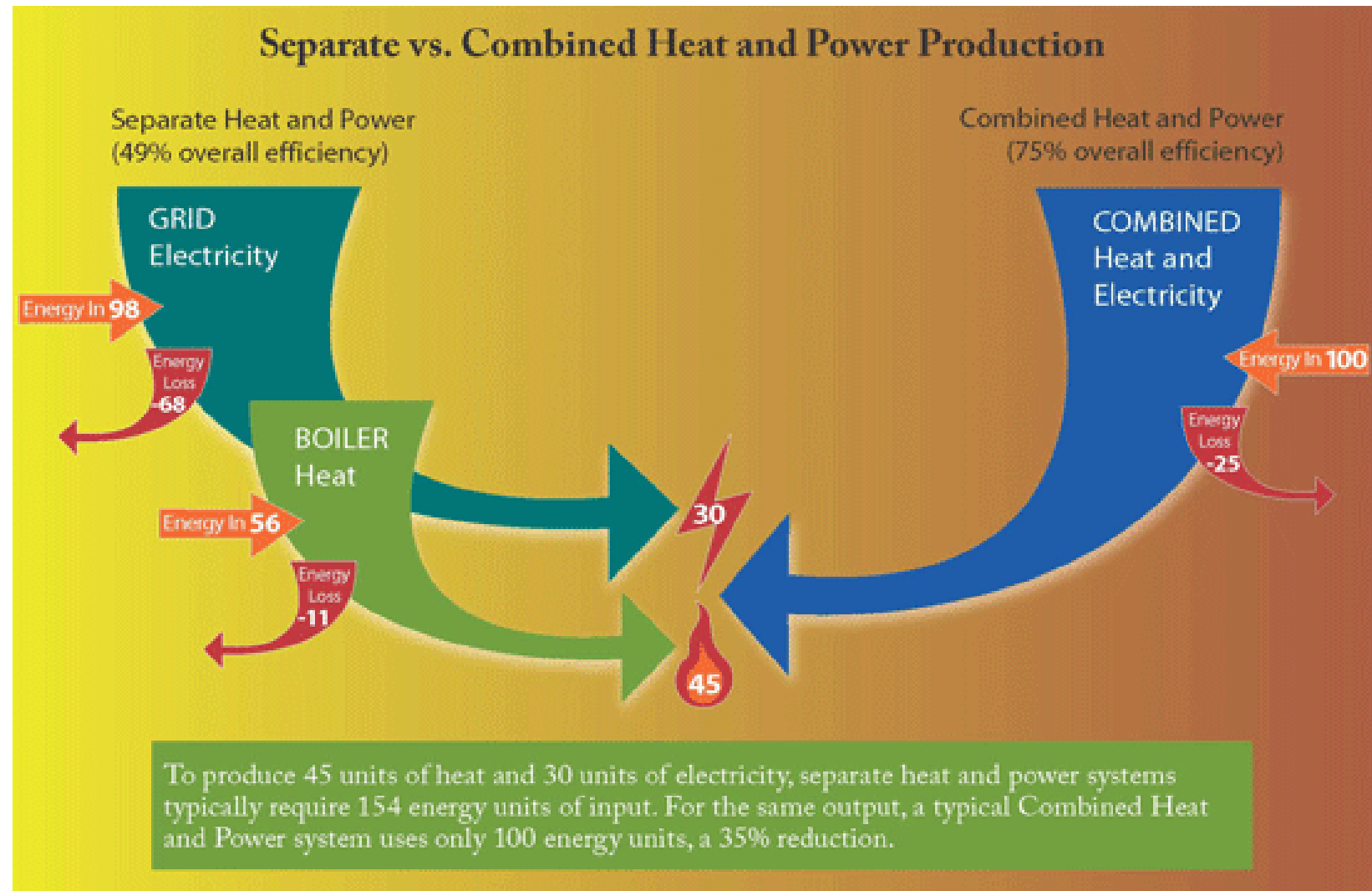
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### **INCREASED FUEL EFFICIENCY**

- CHP Increases fuel consumption and efficiency
  - Large fossil fuel plants in remote areas lose up to 70% of the fuels energy that is released as heat or steam.
  - Additional energy is used to generate thermal energy needed in industry, homes, and institutions (hot water, heating in winter, making asphalt, etc).

# Why CPI?

## Increased Fuel Efficiency



# Why CPI?

## Demand for Green Energy

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### **DEMAND FOR GREEN ENERGY**

- REC: Green Energy Certificate Program
- AEP Appalachian Power: Green Pricing Option
- Dominion Virginia Power/3 Degrees: Dominion Green Energy

# Why CPI?

## Changes in Public Policy

### CHANGES IN PUBLIC POLICY

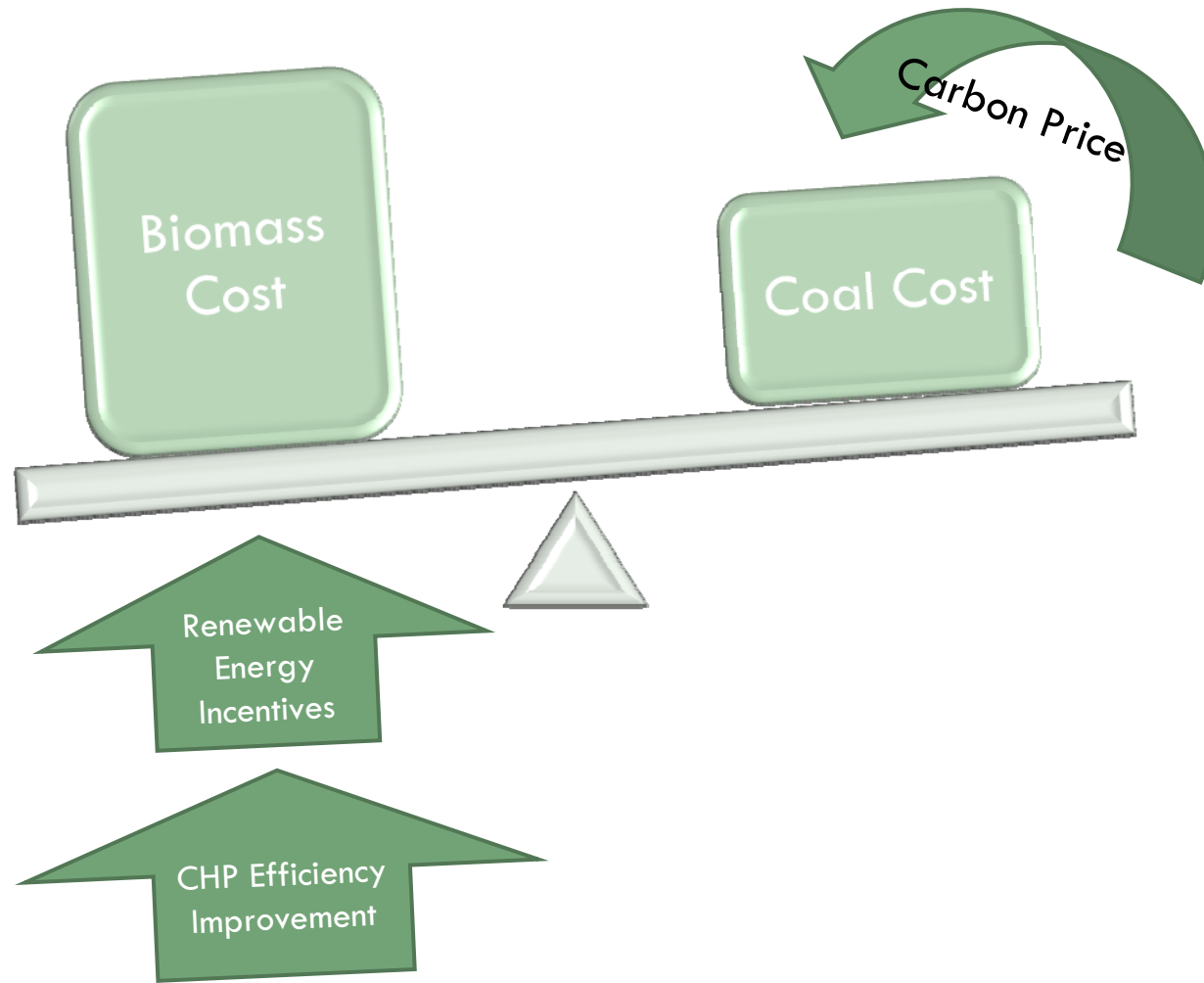
“The additional costs related to a tax on CO<sub>2</sub> emissions or a cap-and-trade program could affect the relative cost of the energy generated by our facilities that burn coal and other fossil fuels. Because PJM dispatches facilities from lowest to highest cost, **our CO<sub>2</sub> emitting generating facilities may be dispatched less often than they are currently**...We do believe, however, that some form of federal or state law or regulation in this area is likely to be enacted in the future and **could have a material adverse effect on the cost of energy we supply our member distribution cooperatives.**”

- ODEC 2007 Annual Report, Page 15



# Why CPI?

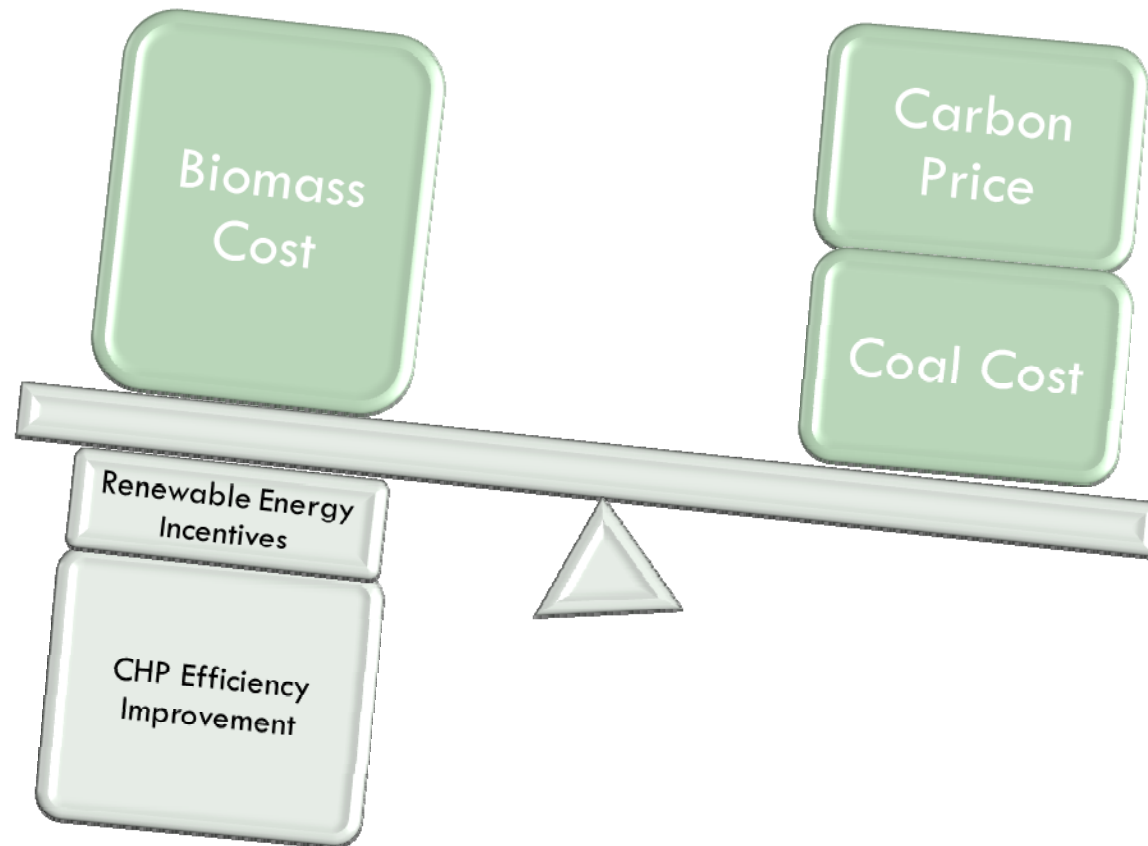
## Changes in Public Policy



# Why CPI?

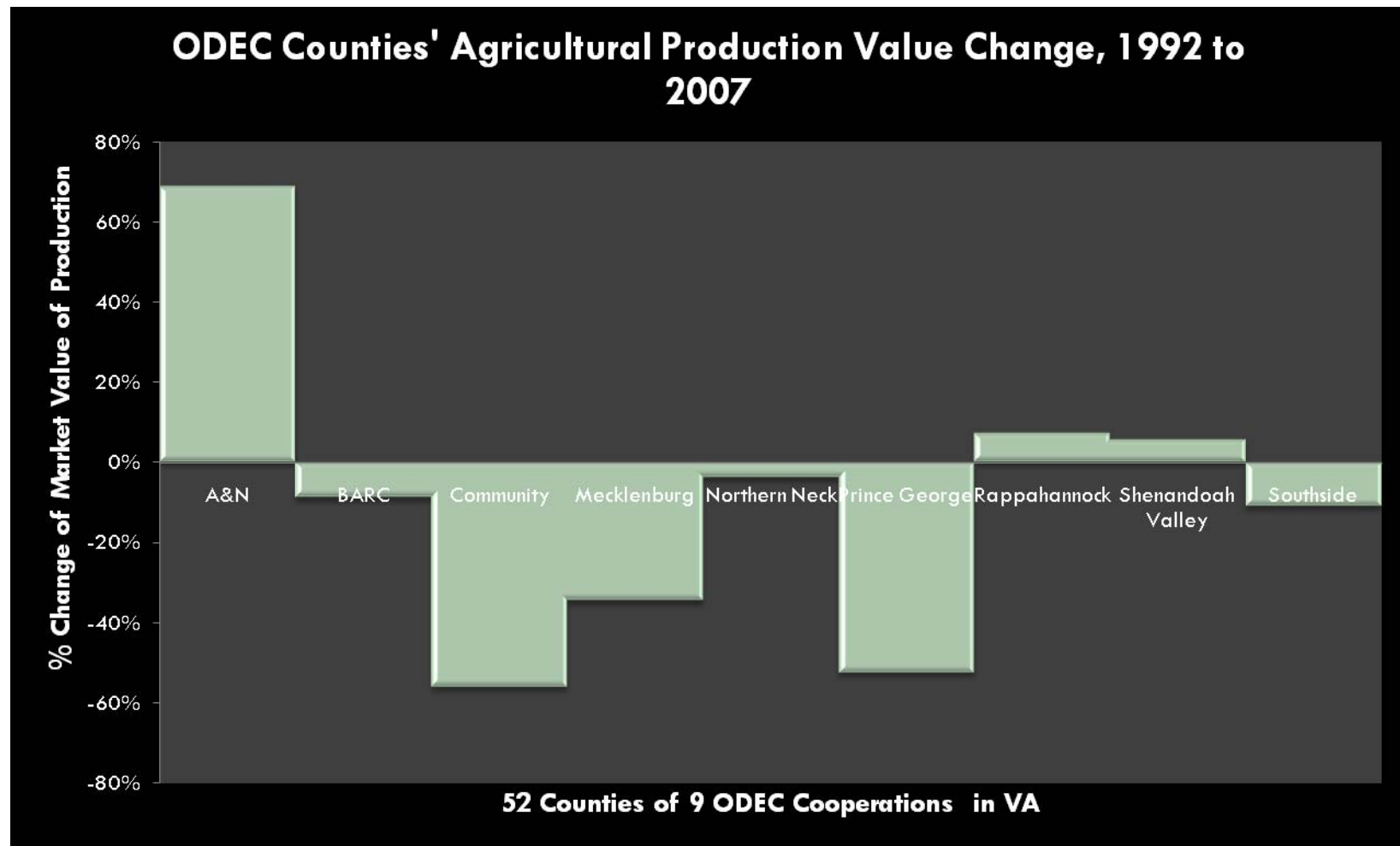
## Changes in Public Policy

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# Why CPI?

## Economic Stimulus

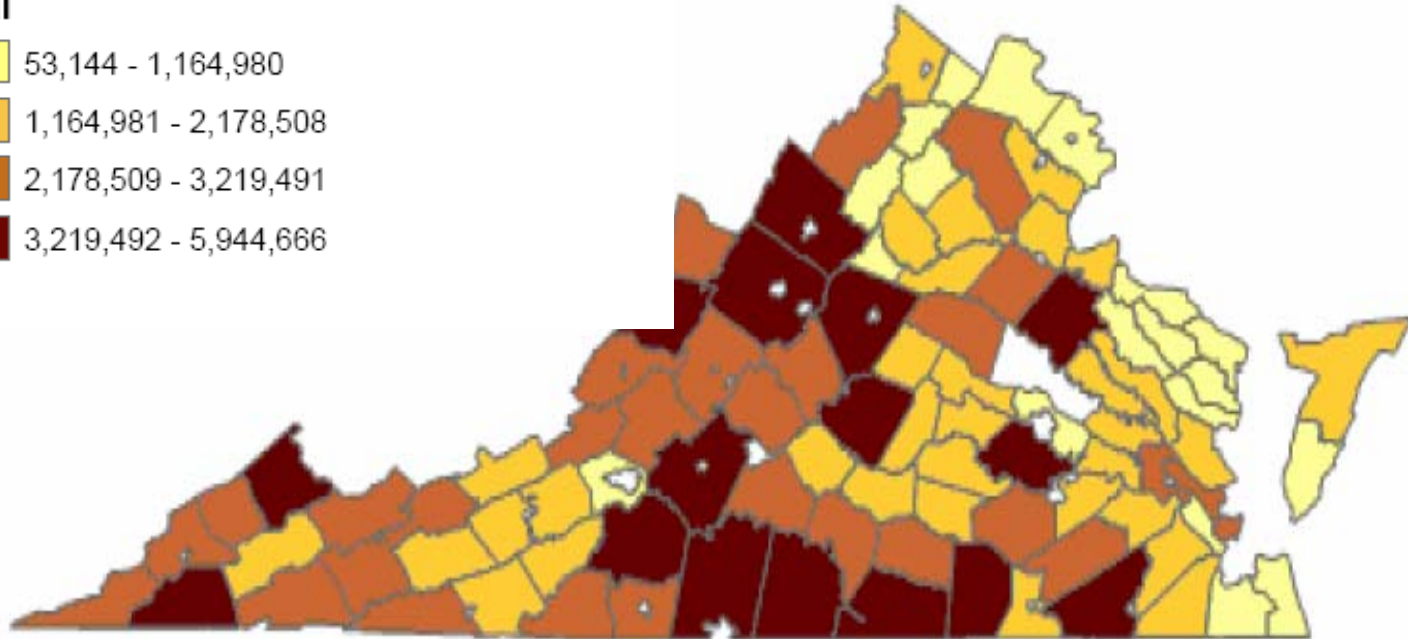


# Why CPI?

## Abundant Biomass Resources

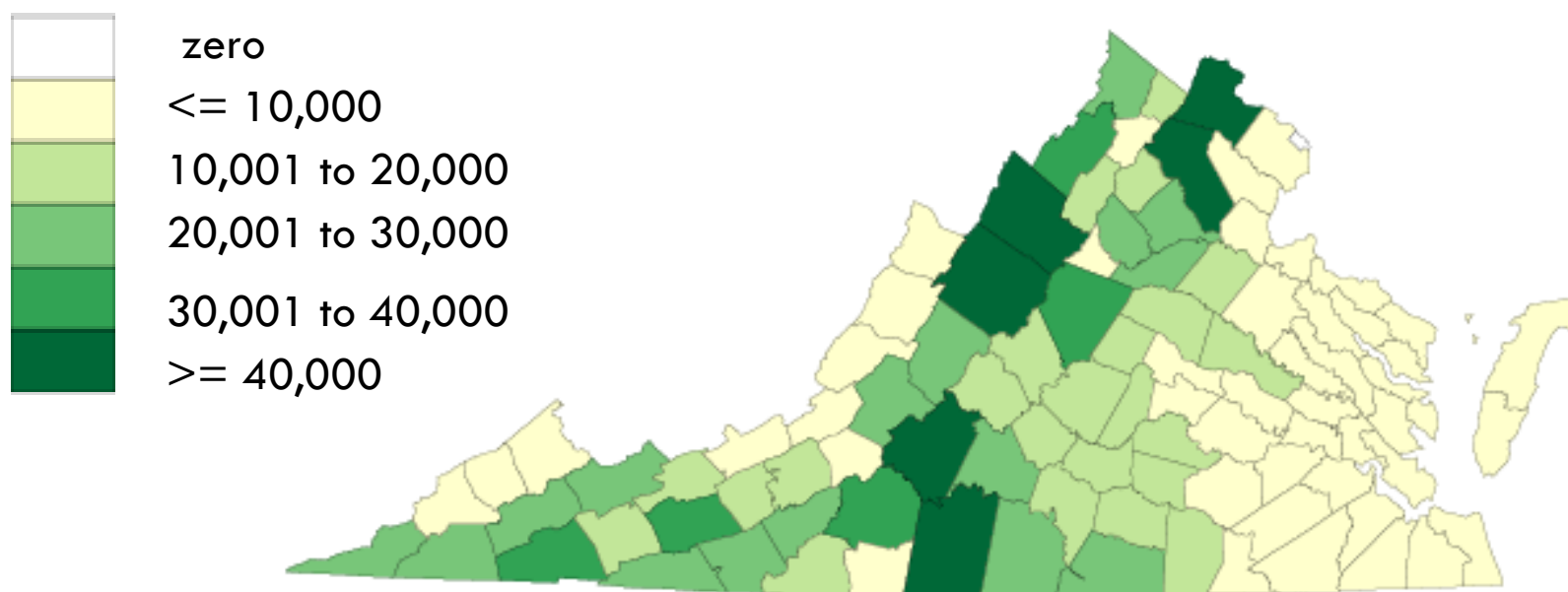
### Oven Dry Biomass Non-Merchantable

#### Total



# Why CPI?

## Abundant Biomass Resources

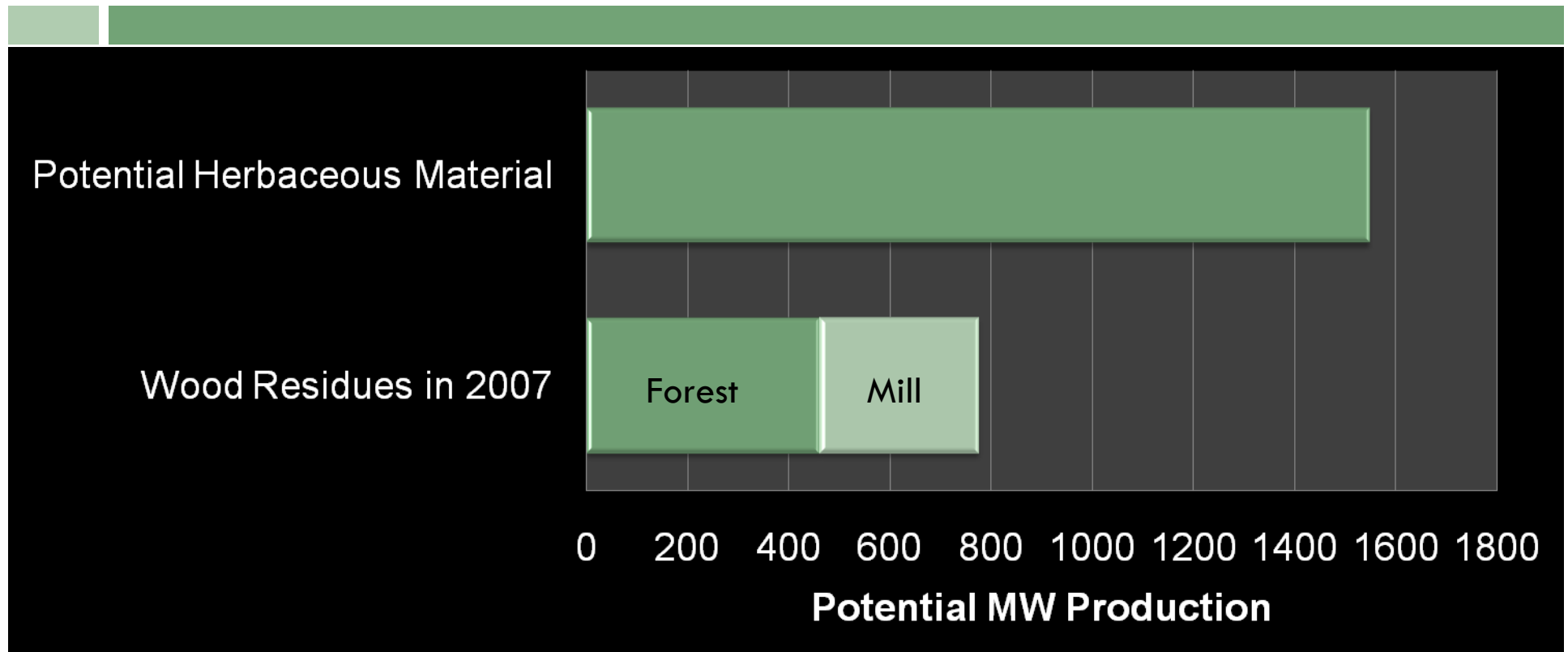


Herbaceous crop potential

Data Source: USDA-NASS. 2002 Census of Agriculture.

# Why CPI?

## Abundant Biomass Resources



- There is enough VA cropland to produce over 10 million dry tons of herbaceous material, which could power nearly 300,000 homes.
- There was over 5.5 million dry tons of forest and mill residue in VA in 2007. This could power nearly 140,000 homes.

# Where CPI?



State Facilities

Universities

Hospitals, Prisons, Community Colleges

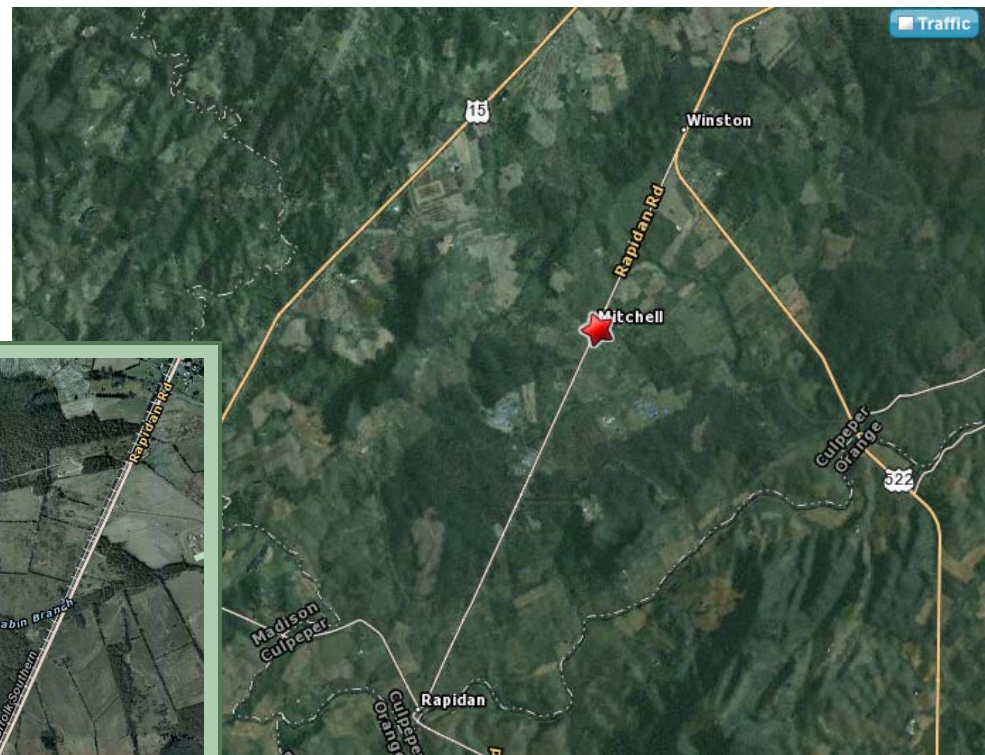
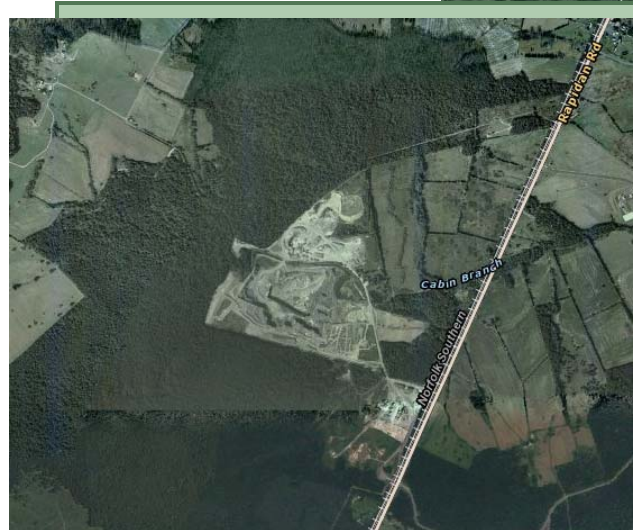
Large Residential Developments

Industry

# Where CPI? Industry

## Cedar Mountain Stone Corporation

Asphalt and paving company located in Culpeper County runs boilers that generate a lot of thermal energy.

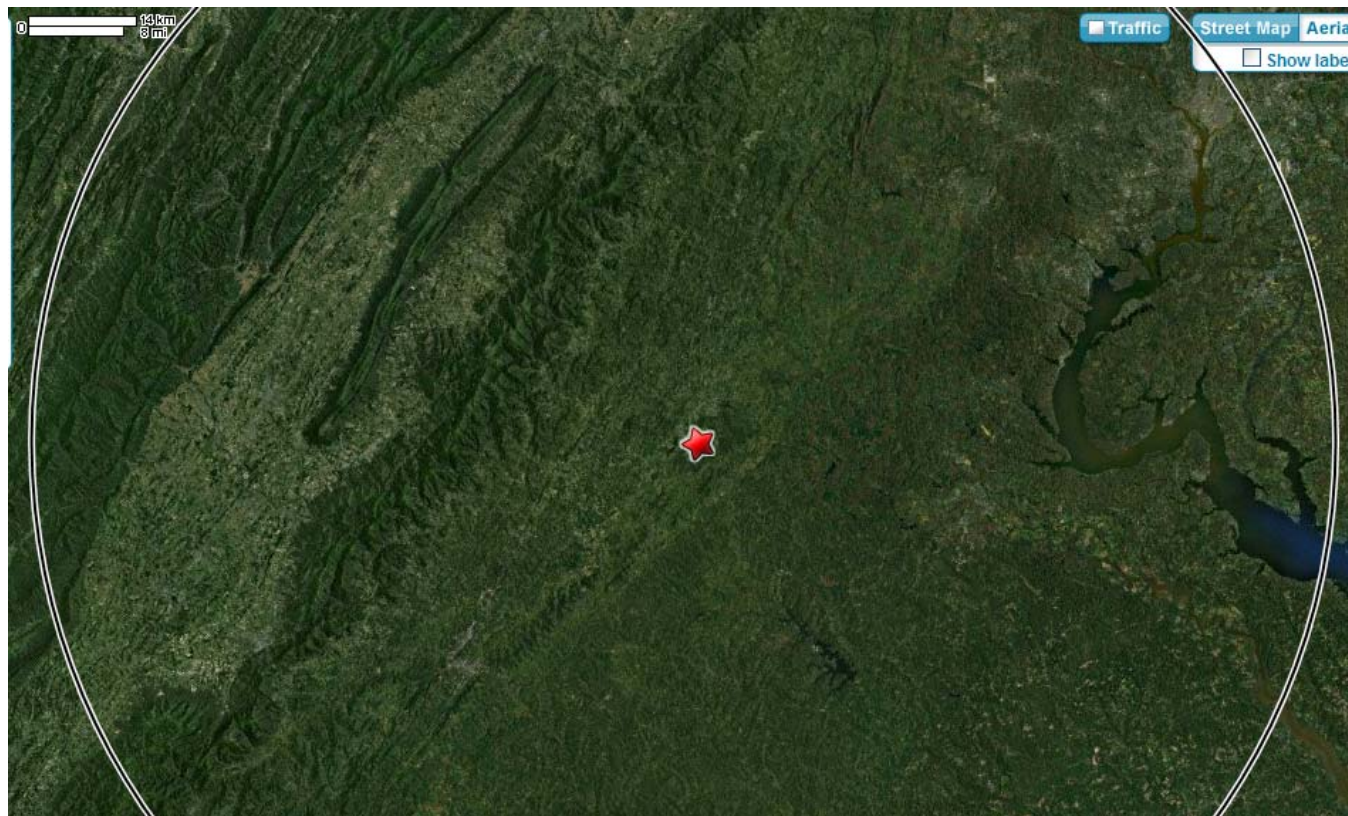




# Where CPI?

## Industry

- 10 MWe CHP facility could sell ample thermal energy to Cedar Mountain Stone Corp and provide electricity to over 2000 REC homes.
- Fifty mile radius contains ample cropland and harvestable timber.



# CPI Benefit Summary

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## Energy Security

- ❑ Energy supply protected from terrorists and foreign governments AND domestic natural disasters and fuel supply disruptions.
- ❑ Security provides competitive edge to communities.

# CPI Benefit Summary

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## Environmental

- Facilities less than five acres and carbon negative due to natural sequestration in deep root structure or Warm Season Grasses.
- WSG require minimal water and fertilizer, limiting nitrogen runoff; are hardy under all conditions; are great for wildlife habitat; and provide a perfect natural buffer protecting the Chesapeake Bay.

# CPI Benefit Summary

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## Economic

- Farmers, and landowners, could sign long-term contracts with energy providers, ensuring consistent income for the farm, and stable costs for customers.
- Customers will not have to pay carbon taxes, and would profit from renewable energy credits.
- Plants will pump, and keep, millions into the local economy.
- Plants will generate high quality jobs, including growth in support industries like agriculture and transportation.

# How CPI?



Mandatory Renewable Energy Standard

Feasibility Study

Streamlined Permitting Process

Power Purchase Agreements

# What Richmond Can Do

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- Institute mandatory Renewable Energy Standard
  - Current voluntary standard and carrots:
    - Only apply to investor owned utilities
    - Don't encourage job growth in VA
    - Give competitive advantage for feedstock to utilities
  - While a mandatory standard:
    - Encourages investment in VA
    - Is technology neutral
    - Creates market for our largest renewable energy resource
    - Creates jobs and investment, especially in agriculture

# What Richmond Can Do



- Add thermal energy component to renewable energy credits.
- Commission to study potential state agency contribution to biomass energy development.