

# MARYLAND WOOD ENERGY COALITION: CHANGING THE DISCUSSION



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# Austrian Wood Energy Tour

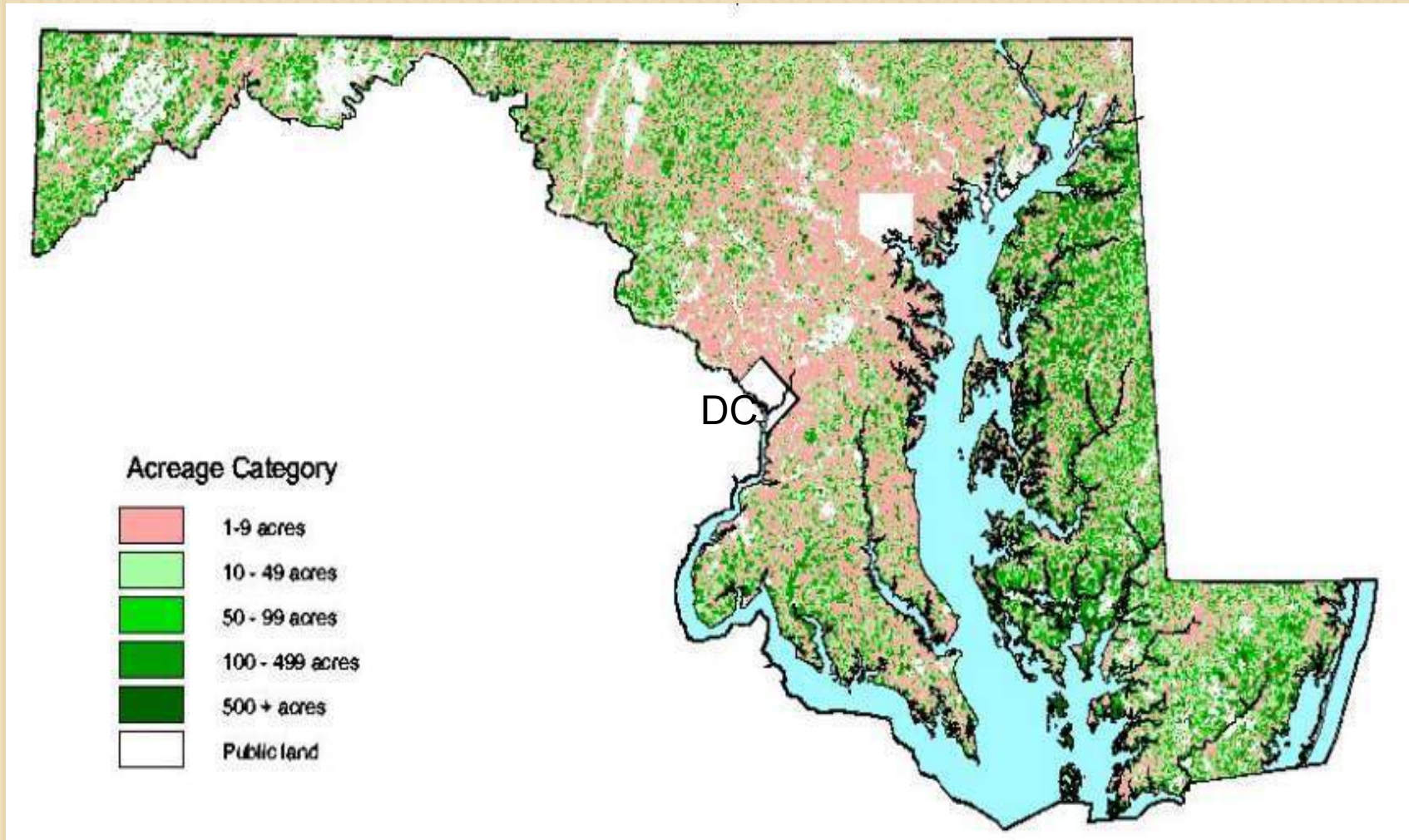
## June 8-14, 2008

- 15 professionals from Penn State, University of Maryland, Duke University, PA Logger program, Nature Conservancy, NY private woodland owner, and PA DCNR.
- Visited wood energy plants and supporting forests

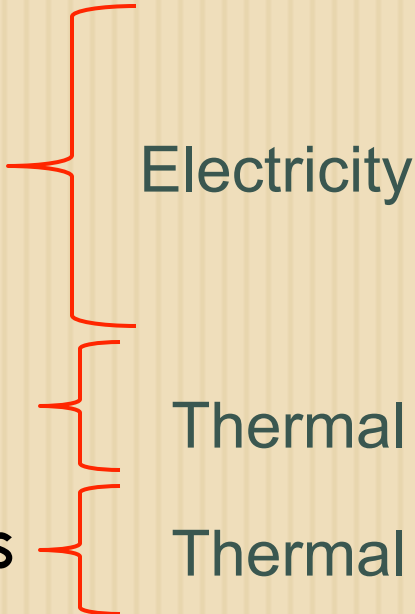


# Maryland - Parcelization Challenges

## Traditional Forest Industry & Mgt

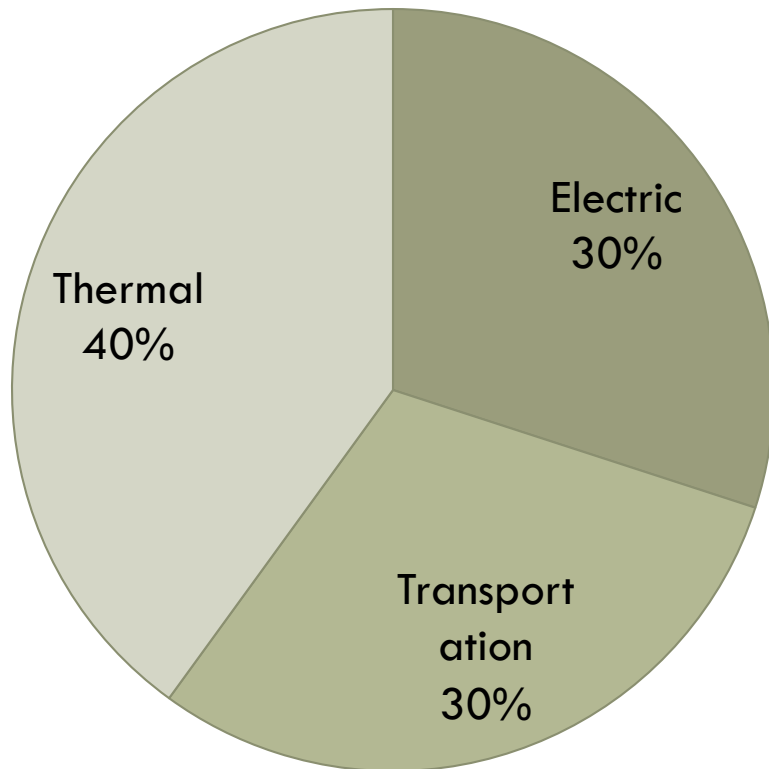


# Sources of Renewable Energy?

- Solar
  - Wind
  - Hydro
  - Geothermal
  - Woody biomass
- Electricity
- Thermal
- Thermal
- 

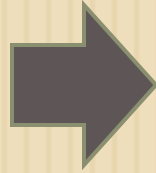
**Biomass barely mentioned in state policy  
but oldest renewable energy source**

# Maryland Energy Profile (Ignorance)



- **30% Electrical**
- **30% Transportation**
- **40% Thermal**

# Mention Wood Energy & What Comes to Mind?



**Two Wood Energy Opportunities:  
Residential & Larger Woody Biomass Boilers**

# Sustainability



2010 Reports by Pinchot Institute for Conservation with support from Harry Hughes Center for Agro-Ecology & MD DNR Forest Service.

- ***The Potential for Sustainable Wood-Based Bioenergy in Maryland***
  - Small to medium-sized decentralized installations best
  - Opportunity for developing biomass energy industries in all jurisdictions.
  - Small changes in existing policies could foster significant investment in wood energy.
- ***Maryland's Forest Biomass Harvesting and Retention Guidelines.***

Report Available at: [www.pinchot.org/articles/323](http://www.pinchot.org/articles/323)

# MD Wood Energy Coalition

- Recognition of need to encourage wood energy in state policy and enterprise but no one organization had capacity to pursue.
- Started in April 2010 by University of MD Extension and DNR Forest Service
- Representatives of state environmental, energy and regulatory agencies, university extension, non-profits (Alliance for Green Heat, Pinchot Institute, MD Forests Assoc) and wood-based industry started meeting every few months.

# MD Wood Energy Coalition

## Objectives:

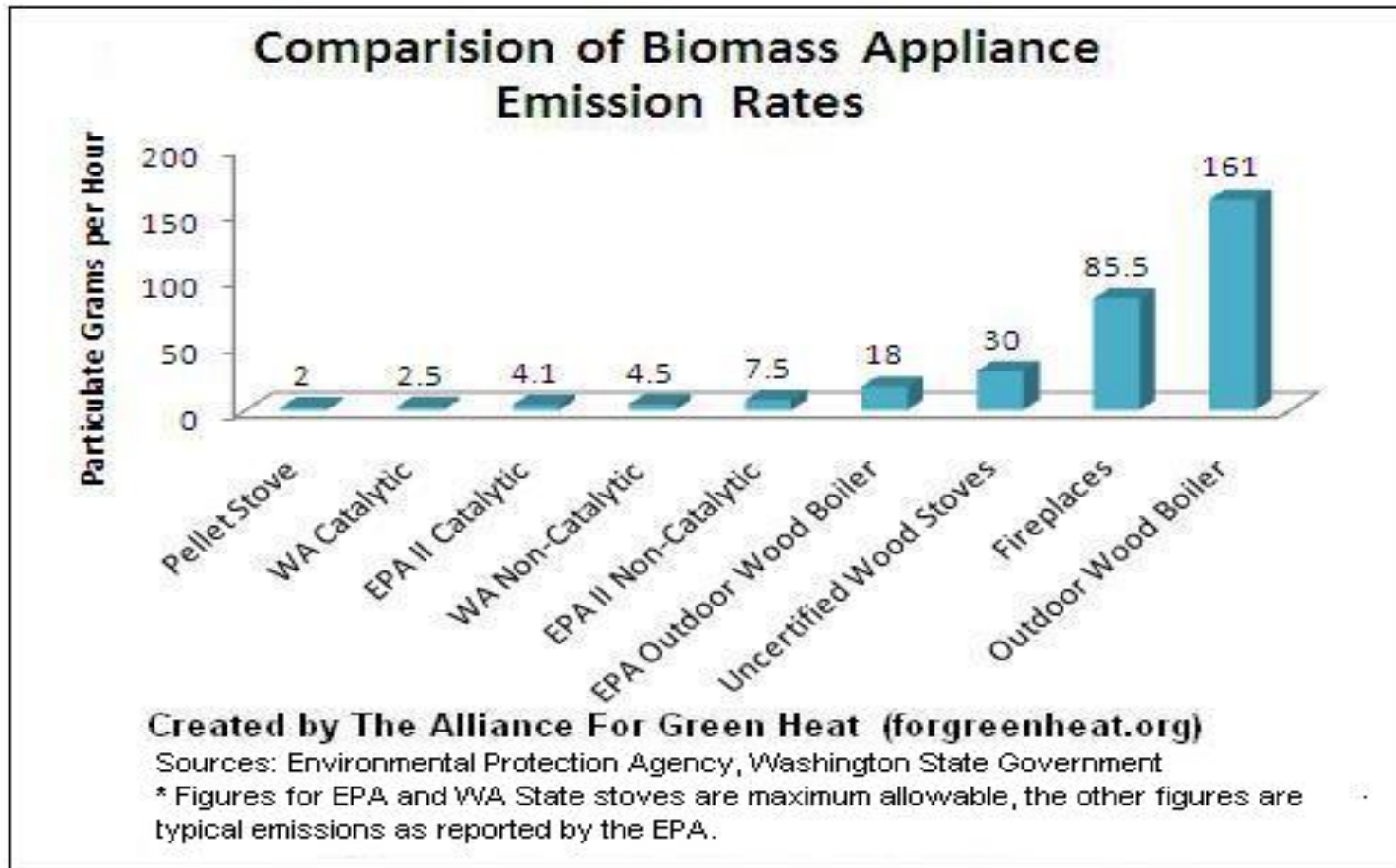
- Committed to increasing the adoption of high efficiency, low emission wood energy technologies that meets Maryland air quality standards.
- Best achieved through:
  - ▣ small to medium-sized commercial and institutional applications for government, schools, and businesses, and,
  - ▣ residential thermal applications.

# Advantages of Wood

## Clean & Green Economy

- Energy \$ retained in local economy
- Stable and cheaper source of energy
- Reduces electricity demand
- Positive air quality impacts

# Emissions - Residential



# Residential Cleanest Emissions

## Comparison of Residential Heating Appliance Emission Rates



Created by The Alliance For Green Heat ([forgreenheat.org](http://forgreenheat.org))

Sources: Environmental Protection Agency, Alliance for Green Heat

# Major Barrier

## Wood Biomass Boiler Permit

- MD Dept of Environment willing to revisit woody biomass boiler regs.
- Need study to make sure advanced wood burning technology does not impair ability of state to meet federal air quality regs.



# Are \$ In the Right Incentives?

## Maryland renewable energy subsidies comparison

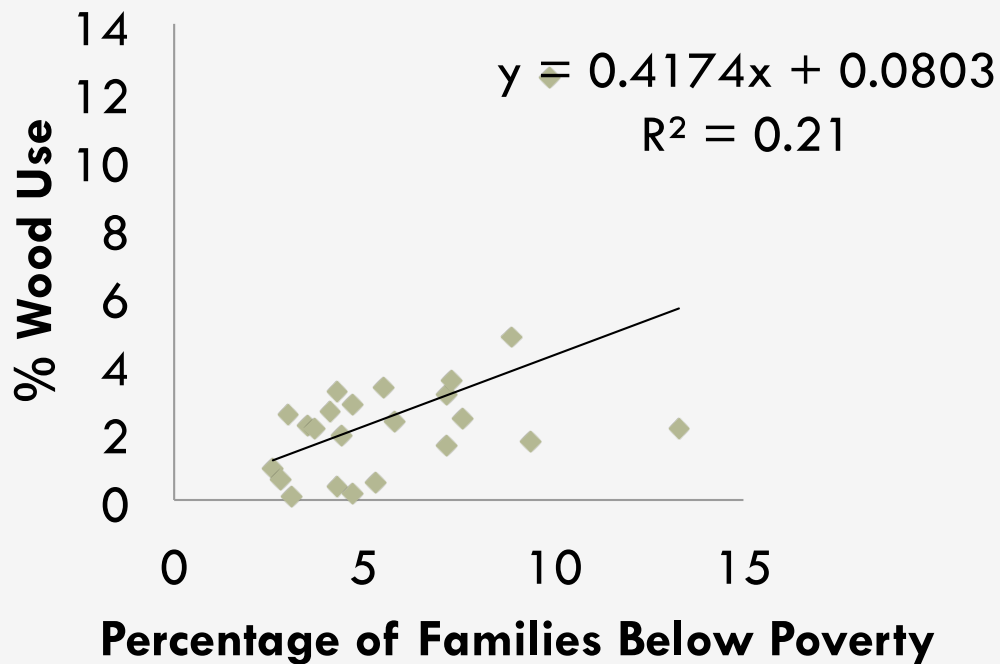
Renewable energy	Cost	CO2 Offset	Households effected
Solar	\$2,750,000	1,293 metric tons	500
Geothermal	\$1,000,000	718 metric tons	350
Wind	\$170,000	194 metric tons	23
<b>Total</b>	<b>\$3,920,000</b>	<b>2,205 metric tons</b>	<b>873</b>
<b>Wood</b>	<b>\$3,920,000</b>	<b>9,878.4 metric tons</b>	<b>3,920</b>

**Table 1:** Comparison between 2009 Maryland renewable energy programs and a potential wood heat program utilizing the same amount of money.

- Table provided for comparison purposes only. The Alliance for Green Heat does not advocate replacing incentives for solar, geothermal and wind, only adding wood heat to the list of approved technologies.
- The number of woodstoves incentivized is calculated from a \$1,000 per stove grant, or about one third to one half the purchase price. The CO2 offsets are calculated by converting the heat source or electricity displaced with each energy source into equivalent CO2.

# Are \$ Helping People That Need It?

## Wood Use and Poverty in Maryland Counties



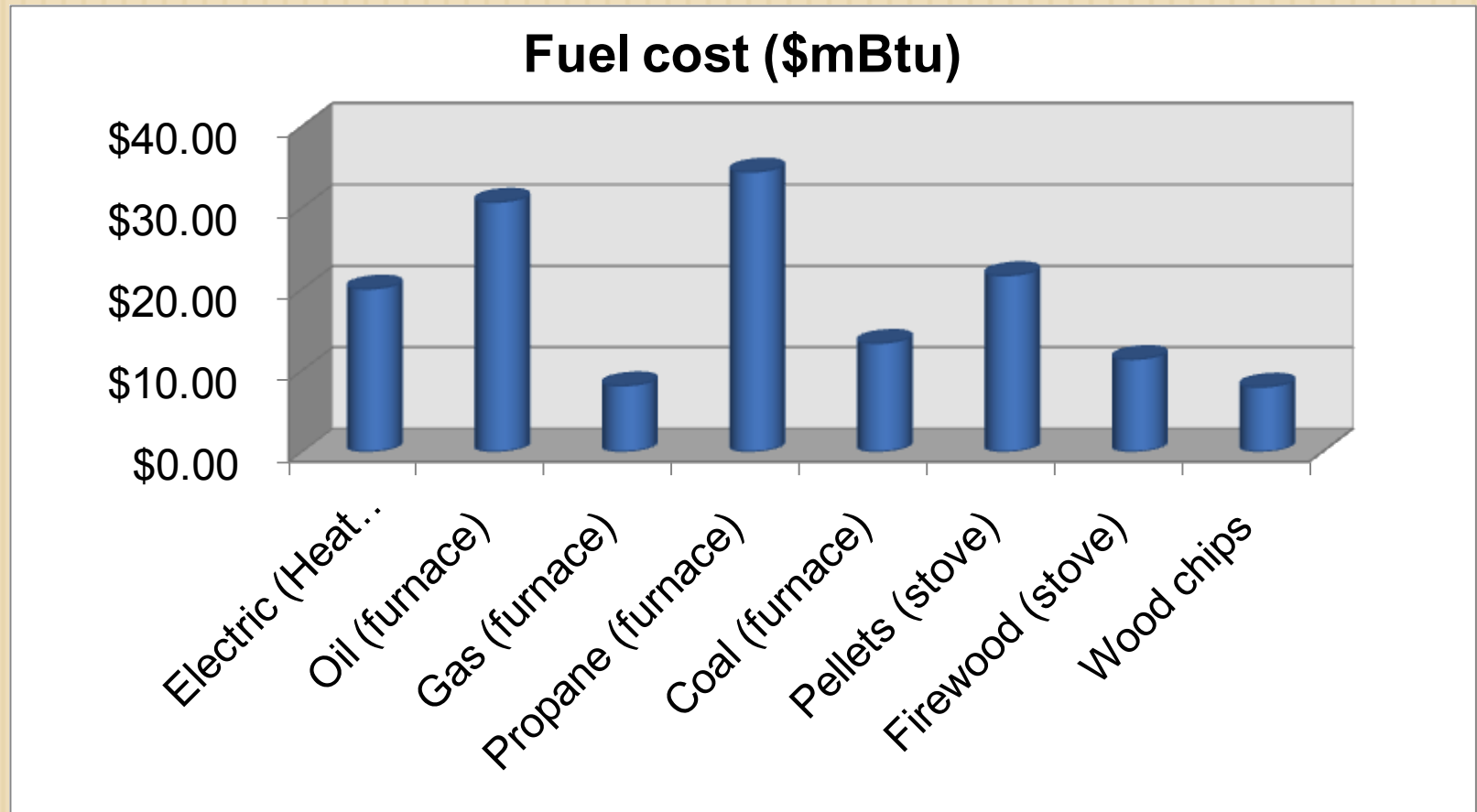
- Wood heat is the most accessible RE to low-income populations
- HB829 – Renewable Energy for All Act

# Maryland House Bill 829

## Renewable Energy For All

- Create a residential heating grant program that provides financial incentives for families to purchase the cleanest renewable wood (<3.0g) and wood pellet (<1.5g) stoves on the market today.
- Targets low and middle-income families
- Wood/pellet stoves are 3-10 times cheaper on the front end and generate as much or more carbon offsets as solar energy systems.
- Funds generated from tax on convenience store wood bundles.

# Fuel Cost Comparisons (March 2011)



Source: [www.eia.doe.gov/neic/experts/heatcalc.xls](http://www.eia.doe.gov/neic/experts/heatcalc.xls)

# *Some considerations about wood...*

- ❑ Heat demand – Btu's /hr
- ❑ Type of technology?
- ❑ Location
- ❑ Trucks
- ❑ Storage
- ❑ Suppliers
- ❑ Wood characteristics
- ❑ Costs
- ❑ Retro-fit or new construction?



# Eastern Correctional Institution Princess Anne, ME



The woody energy plant provides security from power interruptions and cuts fuels cost by 63 percent.



# Low Hanging Fruit

- Fuel for schools
- Green industry – greenhouses
- Public buildings
- Small businesses
- Prisons

# Things to Keep in Mind

- Wood not always the answer
- Do no harm to existing industries
- Where are the experts
  - Architects, Engineers, HVAC
- Creating mutually beneficial collaborations, not adversaries

# Where to Go From Here?

- Finish white paper and use to promote legislative and policy changes.
- Cooperate with MDE to support regulatory changes for woody biomass boiler permit.
- Promote wood energy at important venues and thorough outreach & education.
- Demonstration project development.



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