



# Indiana Biomass Energy Working Group

#### **Chad Martin**

Renewable Energy Extension Specialist Agriculture & Biological Engineering





## **Discovery** Park Energy Center



The Energy Center at Discovery Park will facilitate high-impact, multidisciplinary projects in support of Purdue's vision to be one of the global leaders in energy.



#### RPS Policies www.dsireusa.org / June 2011 ME: 30% x 2000 VT: (1) RE meets any increase WA: 15% x 2020 New RE: 10% x 2017 MN: 25% x 2025 in retail sales x 2012; MT: 15% x 2015 NH: 23.8% x 2025 (2) 20% RE & CHP x 2017 (Xcel: 30% x 2020 MI: 10% & 1,100 MW ND: 10% x 2015 MA: 22.1% x 2020 OR: 25% x 2025 (large utilities)\* New RE: 15% x 2020 x 2015\* 5% - 10% x 2025 (smaller utilities (+1% annually thereafter) SD: 10% x 2015 WI: Varies by utility; RI: 16% x 2020 NY: 29% x 2015 10% x 2015 statewide CO: 30% by 2020 (IOUs) CT: 23% x 2020 NV: 25% x 2025\* OH: 25% x 2025 IA: 105 MW 10% by 2020 (co-ops & large munis)\* PA: ~18% x 2021 IL: 25% x 2025 WV: 25% x 2025\* NJ: 20.38% RE x 2021 IN: 15% x 2025† CA: 33% x 2020 KS: 20% x 2020 + 5,316 GWh solar x 2026 UT: 20% by 2025\* VA: 15% x 2025\* MO: 15% x 2021 MD: 20% x 2022 AZ: 15% x 2025 OK: 15% x 2015 DE: 25% x 2026\* NC: 12.5% x 2021 (IOUs) 10% x 2018 (co-ops & munis) NM: 20% x 2020 (IOUs) DC: 20% x 2020 10% x 2020 (co-ops) PR: 20% x 2035 TX: 5,880 MW x 2015 HI: 40% x 2030 29 states + DC and PR have Renewable portfolio standard Minimum solar or customer-sited requirement an RPS Renewable portfolio goal Extra credit for solar or customer-sited renewables (8 states have goals) Solar water heating eligible Includes non-renewable alternative resources



# Indiana Biomass Energy Working Group

Established, 2008

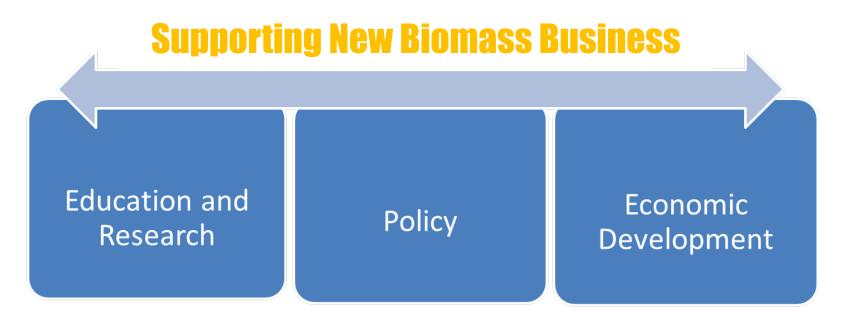
extension.purdue.edu/renewable-energy

#### **Mission Statement**

The Indiana Biomass Energy Working Group is a consortium of stakeholders from the industry, state and federal government, trade organizations, universities and citizenry working together to create a climate in the state of Indiana that would foster the growth of a viable renewable energy industry, protect our environment, provide energy security and green jobs in our communities. This will be done through educational programming and networking among stakeholders.

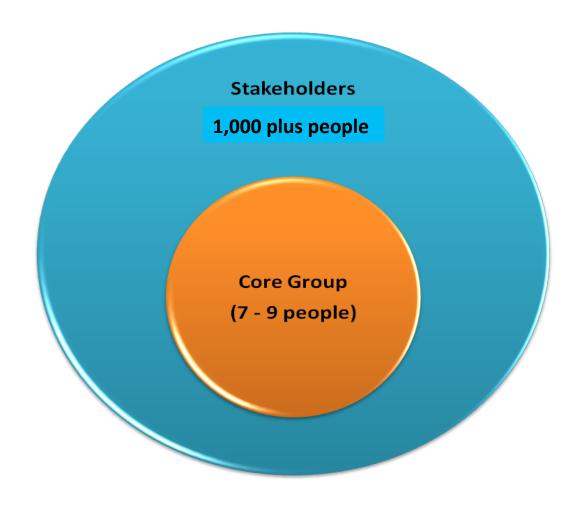








### **Scope of the Working Group**



#### **Financial Support**

- CENUSA Bioenergy, (USDA NIFA CAP Program)
- Indiana Corn Marketing Council/Indiana Soybean Alliance
- ➤ Indiana Office of Energy Development
- Purdue Extension
- > USDA Rural Development
- Private Contributions



#### Established a list of initial key players within the state

- Cary Aubrey ISDA
- Mike Hudson I.Power
- Daniela Klesmith IDEM
- Travis Murphy OED
- Miriam Robeson Local County Planning Commission
- Daryl Smith Local Economic Development
- Frank Starr ESG, Inc.
- Ron Steuterman Energy Center at Discovery Park, Purdue

#### **Areas of Biomass Opportunities Addressed**

- Biomass to Heating
  - > St. Mary of the Woods College, Terre Haute
- Woody Biomass Harvesting, Purdue Ag Research
- > Anaerobic Digestion
  - Dairy, Beef cattle/Swine, Duck Processing
- ➤ Aviation Biofuels from Drop-in Biofuels
- > Transportation Biofuels Policy
- Conflict Resolution for integrating Biomass Energy into Communities
- Biomass Energy Project Investment
- CENUSA Bioenergy





#### Important Outcomes of the Working Group

- ➤ Integral in the listening sessions for the creation of the IDEM Rule for Biomass Waste to Energy Facilities
- Spawned the Indiana Anaerobic Digestion Task Force
- Demonstrating out new research and technology development for biomass utilization for energy
- ➤ Engagement with Purdue research in the areas of cellulosic energy crop water use sustainability
- Countless connection building across business, government, academic, and public sectors



# Thank you!

#### Chad A. Martin

Renewable Energy Extension Specialist Ag & Biological Engineering <a href="martin95@purdue.edu">martin95@purdue.edu</a>

Visit our website:

www.extension.purdue.edu/renewable-energy