

# UCS' Bioenergy Analysis and Policy

Ben Larson  
National Field  
Coordinator,  
Clean Energy Program  
Union of Concerned  
Scientists



# Analysis

- UCS biomass resource assessments compared to DOE and EIA
- UCS renewables cost assumptions compared to EIA
- Under 25% RES policies, UCS projected biomass generation compared to EIA

# Woody biomass supply

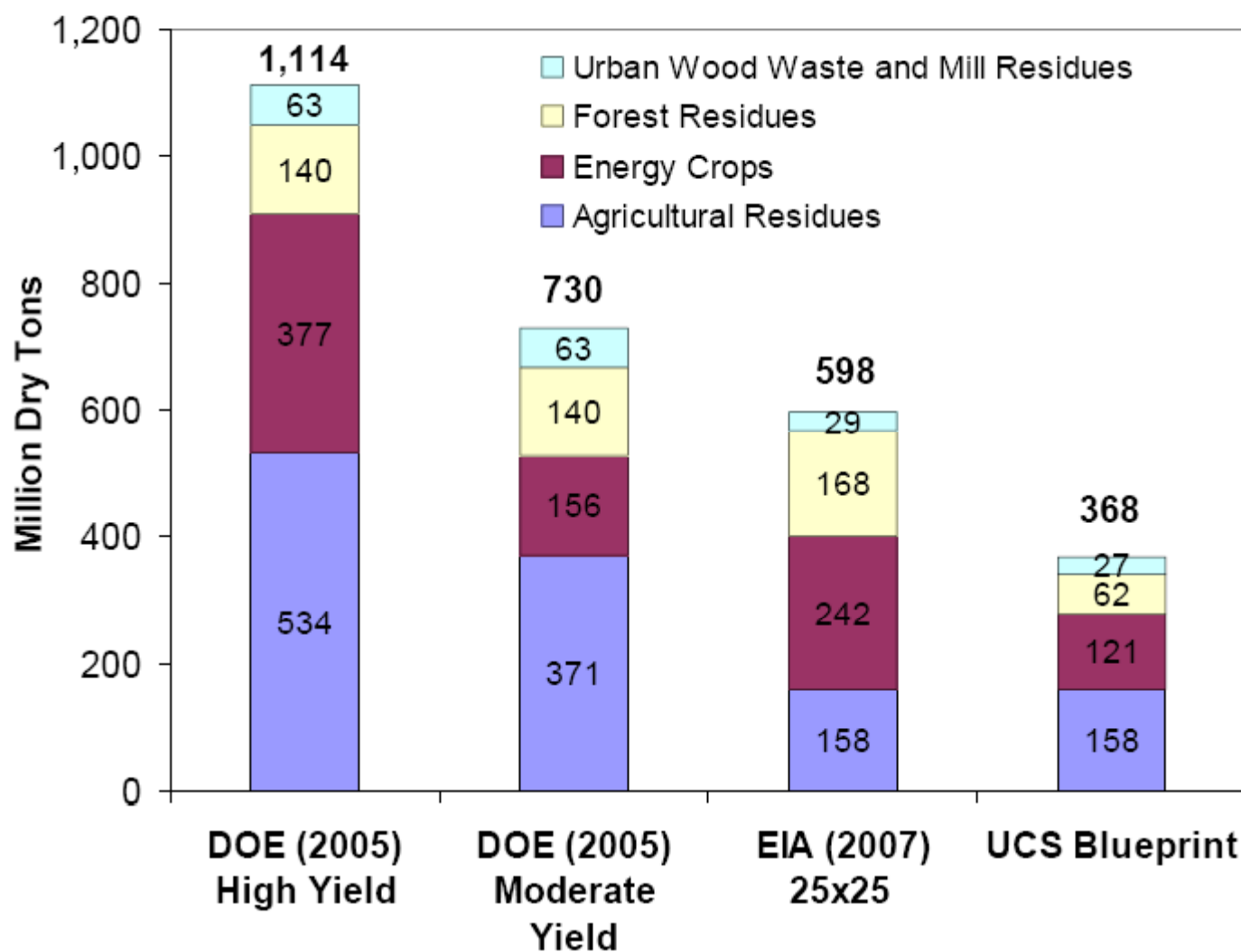
Our analysis includes:

- Logging residues from public and private land, pre-commercial thinnings, wood wastes from land cleared for development (FIA data)
- Mill residues and urban wood wastes

Does not include:

- Fuel load reduction, or pest/disease treatments
- Roundwood

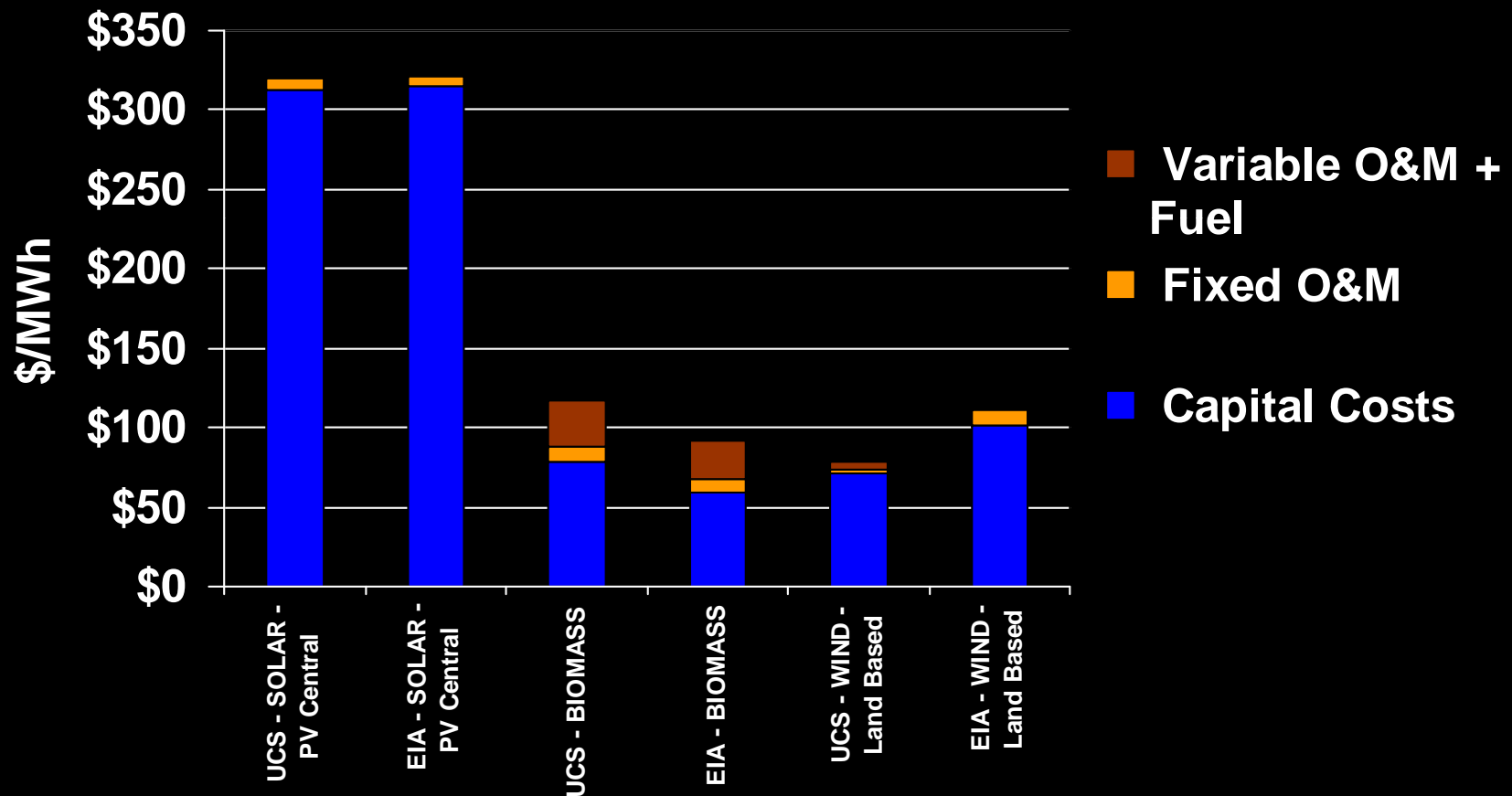
**Figure G.2. Comparison of Bioenergy Potential Used in Various Studies**



Sources: DOE and USDA 2005, and EIA 2007.

Note: EIA 25x25 and our Climate 2030 Blueprint numbers reflect supplies from the year 2030 at \$5.25 (2005\$)/MMBtu.

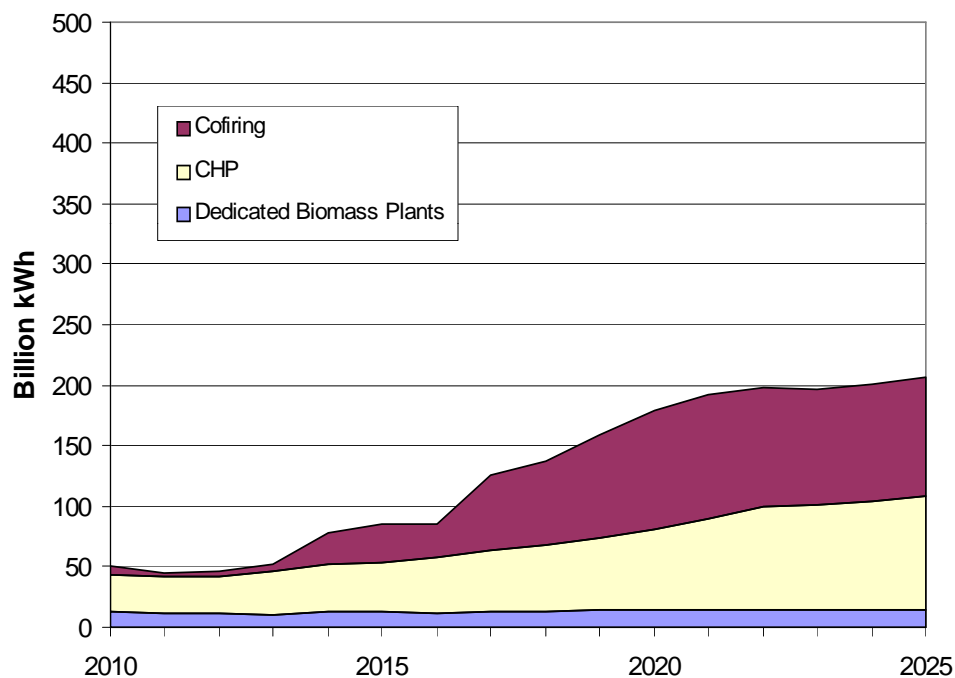
# Levelized Costs Comparison (2015)



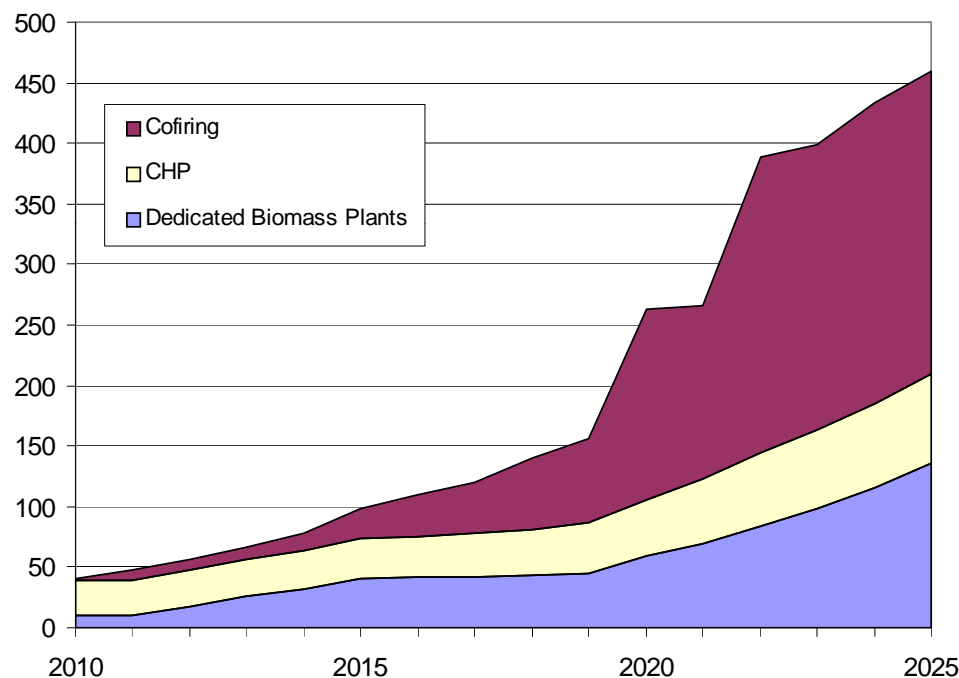
EIA Waxman-Markey RES analysis, UCS Climate 2030: A National Blueprint for a Clean Energy Economy

# EIA projects over twice as much biomass as UCS

**UCS 25% Policy Case**  
**Biomass Generation 2010-2025**



**EIA Waxman Markey 25% No EE case**  
**Biomass Generation 2010-2025**



# Policy

- Promoting ecologically-sound bioenergy systems that protect air, water and soil quality and bio-diversity.
- Support an RES biomass definition that:
  - Allows more materials from private lands than previous RES biomass definitions
  - Added sustainability standards
  - Included safeguards for critical lands
  - Allows the use of slash and other materials from national forests

# Renewable biomass is different than traditional markets

- Renewable biomass has to be renewable in order to qualify for the market
- Environmental attributes (renewability and sustainability) are intrinsic to the renewable energy market
- Use of the resource can't degrade the ecological potential to produce sustained yield



# UCS and SACE biomass definition consensus process

- Addressed RES definition of woody biomass from private lands
- Intended to develop a definition that:
  - Includes a wider range of biomass
  - Includes sustainability standards and safeguards
- Included forest owner groups, foresters, biomass plant operators, logger groups and conservation groups

# Endorsing groups

- Union of Concerned Scientists
- Southern Alliance for Clean Energy (SACE)
- North Carolina Woodlands
- Ozark Woodland Owners Association
- Association of Consulting Foresters
- Biomass Power Association
- RollCast Energy
- Arkansas Association of Resource Conservation and Development Councils

# Sustainability standards

- Minimize negative short-term impacts and protects against long-term deterioration of:
  - Water quality,
  - Soil productivity,
  - Wildlife habitat, and
  - Biodiversity
- Provides for the regeneration of the forest

# Menu of verification options

- Forest owners would choose one of the following to demonstrate sustainability:
  - Forest management plans,
  - Third-party certification, or
  - State biomass best management practices (BMPs), if their state had developed them
- Primarily state enforcement, with a federal “backstop”

# Safeguards or exclusions for critical lands

- On private lands
  - Imperiled and vulnerable forests
  - Old growth
  - Native grasslands
  - New plantations (on natural stands)
- On federal lands
  - Wilderness and roadless areas
  - National monuments
  - Conservation areas