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Biomass & Climate Change: The Massachusetts Example

NESEA Building Energy 2011

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Conservation Law Foundation

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Learning Objectives
Biomass & Climate Change

- **Understand the complexity of biomass policy and fundamental requirements to ensure sustainability**
- **Using MA example, understand what biomass sources may and may not qualify for incentives**

Biomass Policy: Essential Elements

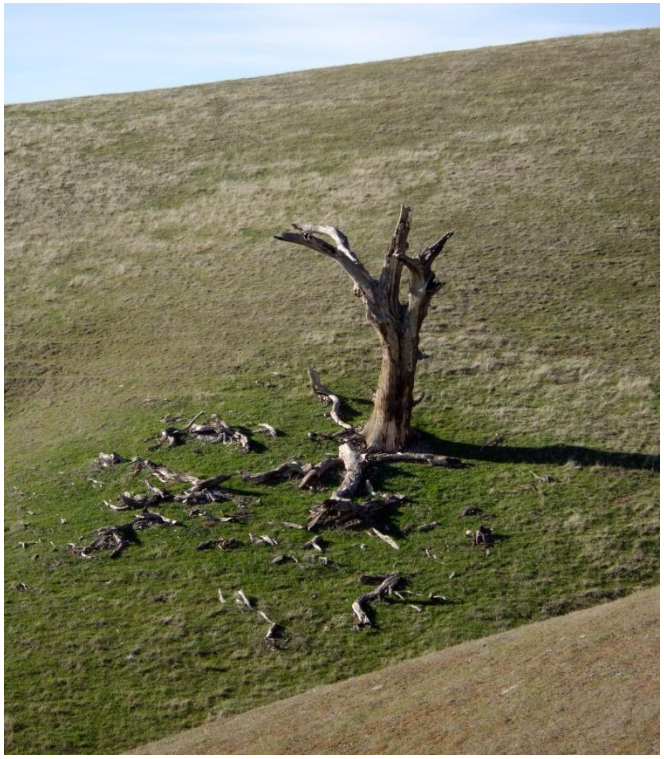
- Carbon Accounting and GHG reductions
- Sustainable Harvesting Standards
- Efficiency
- Other: particulate matter (PM) emissions, location, cooling water impacts, etc.
- Big picture/competing demands: heating, electricity, transportation fuel

1: Carbon Accounting

- Framework: MA Global Warming Solutions Act (25% by 2020; 80%+ by 2050)
- Timeframe
  - MA: 20 years
- Benchmark
  - MA compares to natural gas facility emissions
- Metric
  - 50% less GHGs

1: Carbon Accounting

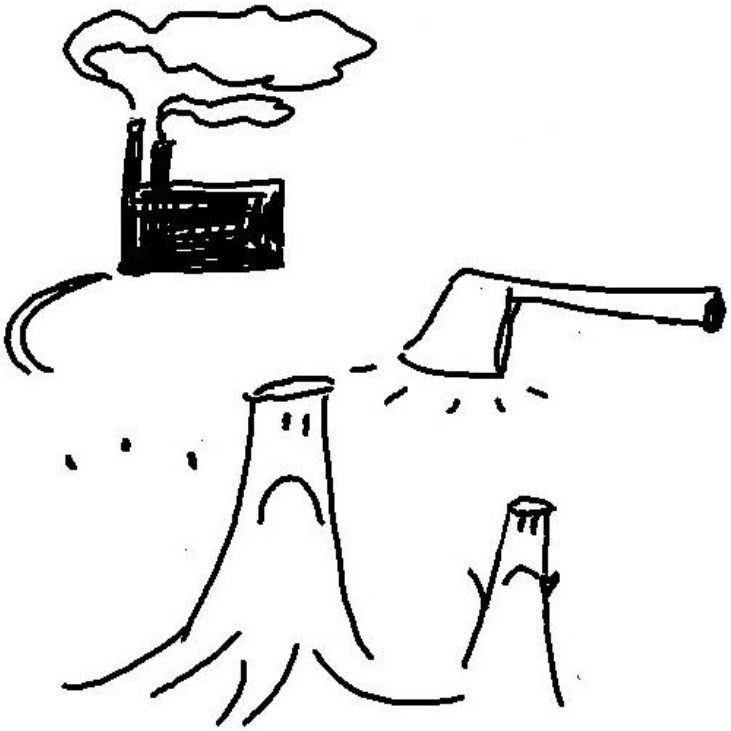
Whole Trees v. "Residues"



2: Sustainable Harvesting Standards

- Need to Protect Forest Integrity:
  - Ecosystem Services
  - Carbon Sequestration
- Harvest residues: what fraction must be left behind for nutrient replenishment, habitat?
- How to measure and enforce?

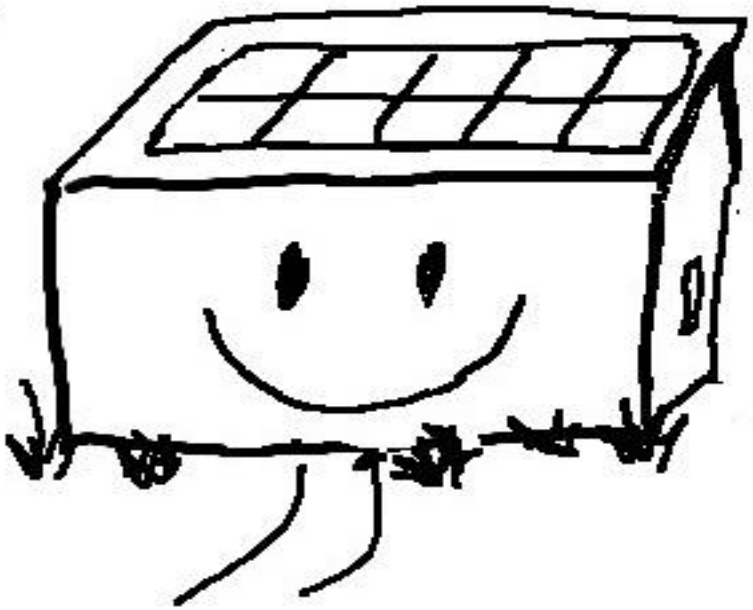
2: Sustainable Harvesting Standards



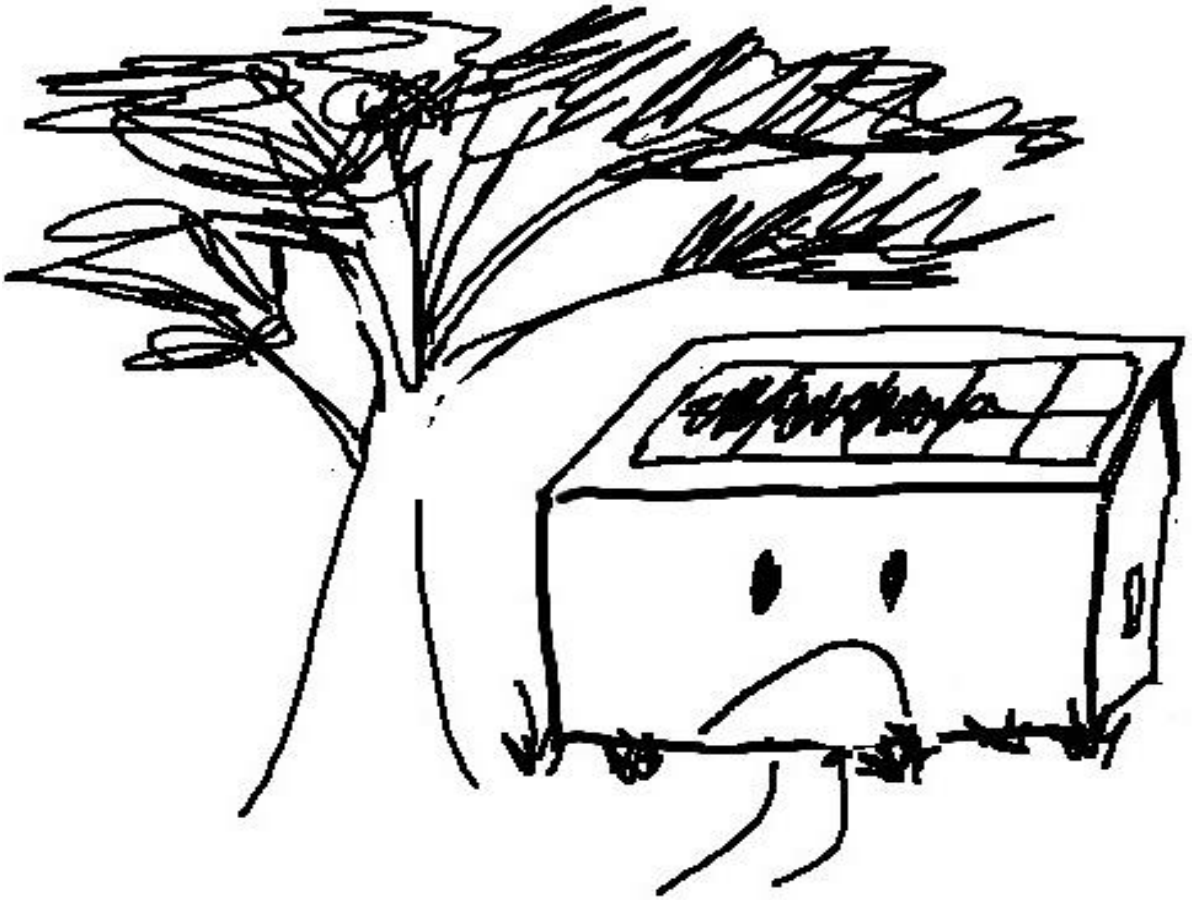
3: Biomass Efficiency

- Typical thermo-electric biomass power plant = ~25% efficient, at best
- Heating unit efficiency > 80%
- Combined Heat & Power (CHP) ~60-80%
- MA: focus on promoting CHP, sliding scale for RECs

Stand-alone biomass power generation is like taking all of your solar PV panels…



…& putting them in the shade. Indeed worse, given finite wood supply.



Likely eligibility for incentives:

- Small, efficient biomass CHP units
- Anaerobic digesters
- Is a Thermal RPS next?

ANY QUESTIONS??

For additional information:

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THANK YOU!