



Composting and Carbon Policy

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Problem Statement

SB 1383 Reducing Short-Lived Climate Pollutants in California



The aim of our study was

- To update the existing compost model to take best compost use practices into account and maximize greenhouse gas (GHG) emission reductions.
- To discover these best compost use practices for the City of Davis in accordance with state bill (SB) 1383 - a state mandated 75% reduction in landfill organic waste by 2025, based on 2014 levels.



Context



- Composting
 - Process that biologically decomposes and stabilizes the organic substance under thermophilic conditions
- Senate Bill (SB) 1383
 - 75% reduction in landfill organic waste by 2025
- City of Davis - Natural Resource Commission (NRC)
 - Team responsible for researching and creating appropriate legislation
- Clements Environmental Corporation
 - Failed to take end-use of compost into account



Research Findings

1

Compost as a slow-acting fertilizer

- Less expensive
- More effective than synthetics
- Can reduce soil-borne diseases

2

Compost as a landfill cover

- Reduces methane emissions
- Better water infiltration
- More cost effective

3

Composting with aerobic processes

- Reduces methane production

4

Benefits to agriculture

- Adds organic matter to soil, improves plant growth and decreases water use
- Encourages the production of beneficial bacteria and fungi that break down the organic matter

Methods - Problem Tree



Effects

- Poor reduction of GHGs → climate change
- Lack of public involvement
- Stress on landfills
- Policymakers/public unaware
- Financial burden
- Waste of valuable organic material

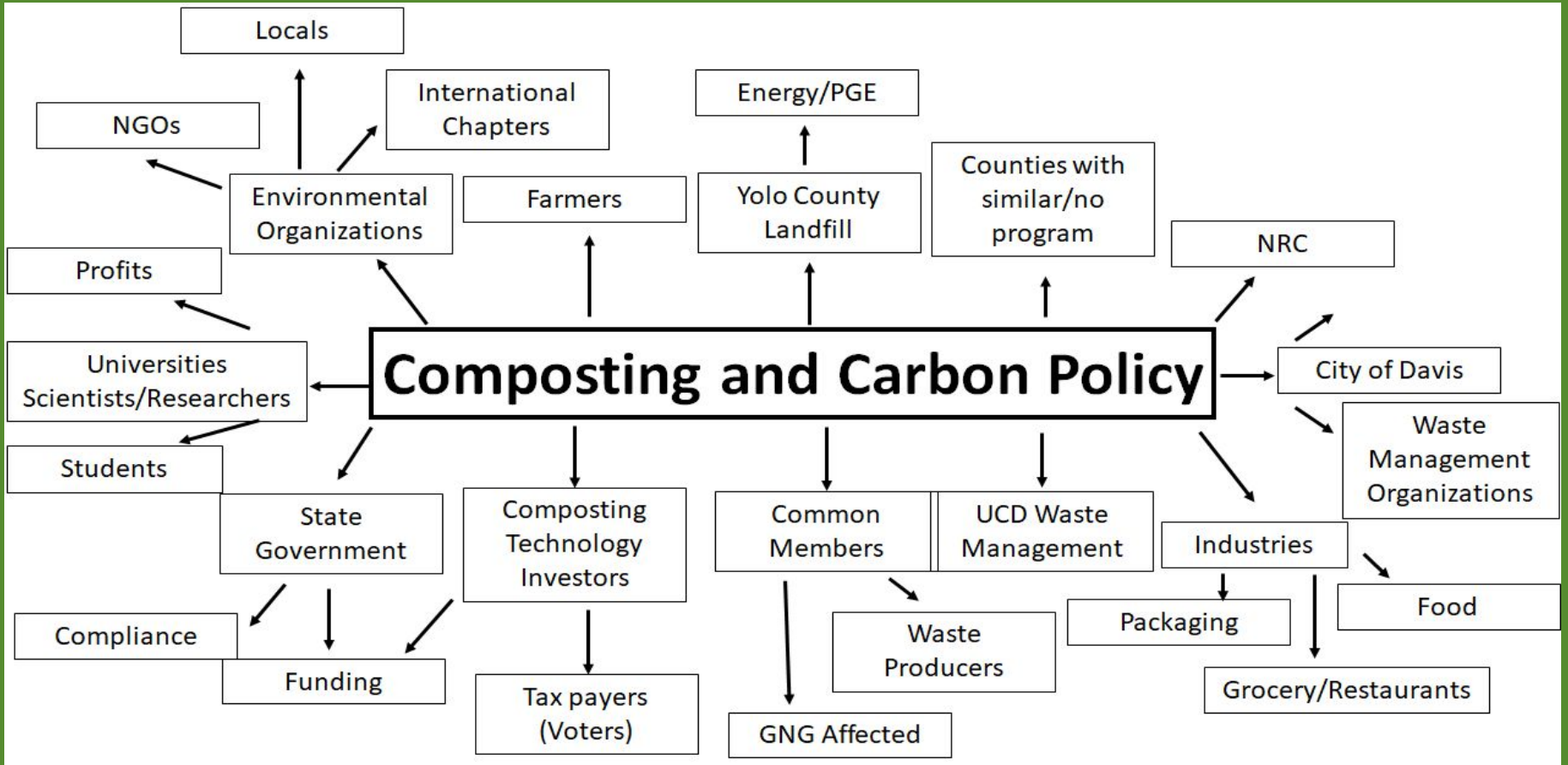
Main Problem

Lack of appropriate compost-use practices

Roots

- New technology/Lack of research
- Insufficient funding
- Climate change → SB 1383
- Lack of knowledge → insufficient infrastructure

Methods - Stakeholder Analysis



Moving Forward

- What are current agricultural compost practices in Davis?
- How much compost is/will be created?
- How much would compost use-phase processes cost?
- How can interested students (stakeholders) get involved?
- What is the city's timeline regarding research and final application?
- How accessible is the implementation of possible technologies?

Thank you
Any questions?