Local Efforts to Monitor and Mitigate Greenhouse-Gas Emissions

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Overview

- Universities & local mitigation efforts
- Penn State inventory & mitigation
- Montgomery County inventory & mitigation
Universities & Local Efforts

- University GHG mitigation
- University influence on community mitigation
University GHG mitigation

- Emissions equivalent to small cities
- Powers analogous to city government
- Laboratories for testing innovative approaches
- Moral leadership
University influence on community mitigation

- **Universities provide:**
  - Expert knowledge, research experience, & faculty/student time

- **Researchers test:**
  - Measurement tools, emissions reduction technologies, & management approaches

- **Students gain:**
  - Specialized training & civic responsibility
Penn State Inventory & Mitigation

- Inventory of sources & sinks
- Emissions scenarios & projections
- Mitigation planning process
University Park’s Estimated (1990-99)
Greenhouse Gas Emissions

GHG Emissions (MTCO2E)

Kyoto Compliance

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Kyoto Compliance
University Park’s Estimated (1990-99) Greenhouse Gas Emissions by Sector

- Energy
- Transportation
- Waste
- Synthetic Chemicals
- Animal Management

GHG Emissions (MTCO2E)


56.3%

Kyoto Compliance

312734

32.4%

445315

408332

336273

350000

400000

450000

500000

550000

600000

University Park's Greenhouse Gas Emissions by Source (1990-2012)

GHG Emissions (MTCO2E)


Kyoto Compliance

All Other Sources  Transportation  Electricity  Steam
Stakeholder-based mitigation planning process

- Staff in charge of GHG-producing operations
  - Sources of data
  - Deep knowledge of operations
  - Best judges of feasibility
  - Invested in success of operations

- Protocol: steps in the process
Montgomery County Inventory & Mitigation

- Implementation of Penn State model
- Adaptations to Penn State model
- Concrete results
- Key opportunities
- Lessons learned
Philadelphia Suburbs
Implementation of Penn State model

- Perform GHG inventory
- Conduct focus groups & interviews
- Start mitigation planning process
Adaptations to Penn State model

- Broader range of stakeholders
- More steps to synthesize expertise
  - Mid-stream synthesis report for stakeholders
  - Stakeholder review period
  - Scoring of potential mitigation strategies
Concrete results

- GHG emissions baseline
- Potential emissions reduction targets
- Detailed emissions reduction options
Key links

- Between county government & stakeholders
- Between mitigation strategies & sprawl reduction programs
Lessons learned

- County-scale data introduce limits
- Many of stakeholders means complexity
  - Consensus-building tools needed
- Ongoing process required