



# Area Source Solvent Processes - Update of Emissions and Methods



Presented by

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On behalf of, and sponsored by -

EIIP Area Source Committee



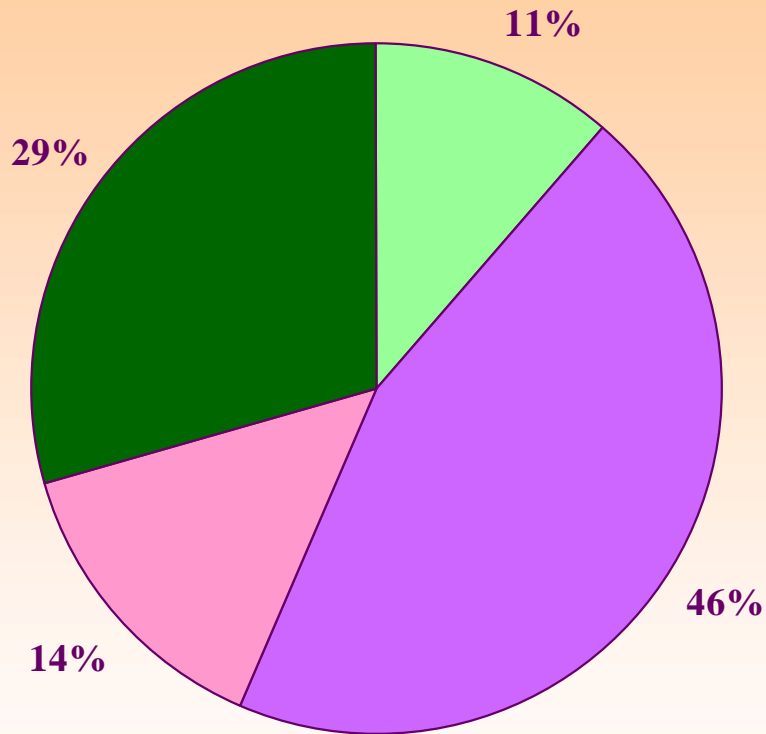
# Discussion Topics

- Background
  - area solvent emissions in EPA's national inventory
  - role of EIIP
- Project Approach
- Results To Date
- Next Steps

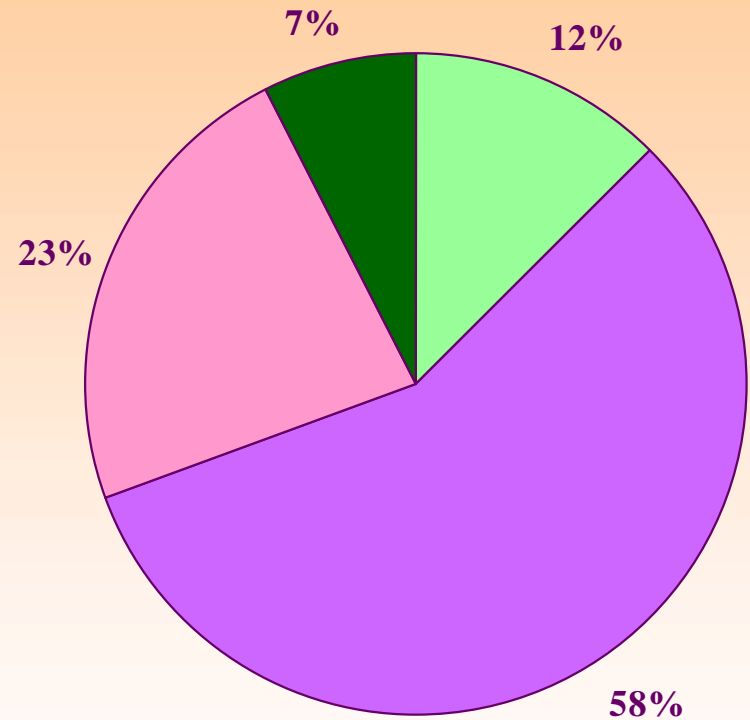
# Background

- Significance & pedigree of area source solvent emissions data (VOC)
- Emission Inventory Improvement Program
- Categories:
  - architectural surface coating, auto refinishing, dry cleaning, degreasing, graphic arts, industr coatings, industr adhesives , consumer & commercial prods, pesticide app, traffic paints, process solvents other

# Importance of Area Sources - VOC



Point Area  
Nonroad Onroad



Grown 85 Grown 90  
State 96 EPA 96

# Project Approach

- Material balance
  - from solvent production/ sales to VOC emissions by county
- Update national solvent consumption
  - put in terms of SCC & allocate across SICs
- Convert consumption data to tons VOC
  - gals coating consumed (x) lbs VOC/gal
  - VOC consumed as solvent = VOC emitted

# Project Approach

- Grow 1998 consumption data to 1999
  - projected growth from Freedonia Solvents Rpt
- Determine & apply spatial surrogates
  - natl > county > state
  - population (graphic arts, traffic paints)
  - employment (by SIC / CBP) for all other

# Project Approach

- Address controls
  - applied national
  - did not obtain & apply state / local regs
- What you've got to this point, is.....



National Solvent Consumption  
1998 tons VOC emitted, by area\* SCC

\* includes "universe" of consumption, e.g., area & point sources

Apply growth ,  
project to 1999

1999 area solvent tons VOC emitted

Apply spatial surrogate -  
population / employment  
Apply controls

1999 area solvent tons VOC by county, by (area\*) SCC



# Project Approach

- Last Step - Point Source Subtraction
  - subtract corresponding point source SCC solvent emissions, by county
  - EPA's 1999 NEI point source data used as surrogate
  - back out controls for uncontrolled emissions (uncontrolled VOC emissions = consumption)
  - subtract point source uncontrolled emissions from total national solvent consumption (tons VOC)

# Project Results (To Date)

- National 1999 VOC solvent process emissions > uncontrolled (area + point)

Solvent Utilization                      1999 VOC Emission Estimate

EPA Tier Categories                      (short tons)

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Degreasing	271,761
Graphic Arts	438,511
Dry Cleaning	71, 241
Surface Coating	3,038,728
Other Industrial	538,468
Non-Industrial	3,097,219
NEC	349,391

# Next Steps

- Point source subtraction
- Data validation
- EIIP review
- Publish emission results (Summer 2001)
- Finalize project report (Summer 2001)
- Update EIIP Area Source Vol Chpts

# Questions / Observations

- Assumptions
  - VOC content (lb/gal) in coatings
  - solvent process demand distributed uniformly across SICs
  - EPA's NEI point source data used to calculate uncontrolled, used as basis of subtraction
- S/L control regs may not be well represented

# Questions / Observations

- Background data collected may be useful for updating toxic species profiles
- Estimation method for area source solvents
  - How important is consistency ?
  - How can these results be refined and updated consistently over time ?