Environomics Program for Beneficial Reuse of Organic Wastes

presentation for the

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Solvent Systems International, Inc.

- Privately held, Illinois-based company.
- Providing environmental services and products to industrial customers since 1983.
- SSI Mission Statement:
  - To enhance the competitiveness and environmental performance of our core industries by developing and commercializing reutilization techniques for discarded materials.
  - To provide industry with major new sources of recycled products that meet standardized industrial performance requirements and established environmental regulatory standards.

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Servo Control Systems International, Inc.

- Services and products include: environmental services, custom chemical products, parts-cleaning services.
- Transportation & recycling of:
  - Waste oils
  - Waste waters
  - Cutting fluids
  - Solvents
  - Fluorescent bulbs
- Research, development and commercialization of innovative technologies, methods, and processes designed to beneficially recycle and reuse large volumes of industrial waste streams.

www.solvent-systems.com
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Solvent Systems International, Inc.

- Parts washers:
  - Full line of parts washer solvent and aqueous based units.
  - Through regularly scheduled visits, our customers receive first class service.

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Our Goal:
- Reduce Waste:
  - Widen the Base,
  - Sharpen the Tip . . .

Major industries served:
- Painting and Coating
- Printing
- Degreasing
- Automotive

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Printing Industry - Summary

- Over 100,000 printing firms located in the U.S.
  - 23,000 are located in the Great Lake states.

- Large proportion are very small firms:
  - Almost one-half of all printing facilities have fewer than five employees.
  - Approximately 84 percent employ fewer than 21.

- The four top toxic chemicals released by the Printing Industry are:
  - Toluene (largest toxic chemical released, 70 % of total)
  - Methyl Ethyl Ketone
  - Xylene
  - 1,1,1-trichloroethane

- The Printing Industry releases approximately 101,537 short tons of Volatile Organic Compounds per year.
Printing Industry

Recycling

- Recycling waste solvents by segregating of solvents may allow a second use (e.g., for equipment cleaning or ink thinning).
- Recycling of certain waste inks where possible.

Reduced VOC emissions:

- Using alternative ink and cleaning products.
Salable Reclaimed Product

For Example:
- Acetone, Lacquer Thinner
- MEK blend
- Mineral Spirits (Stoddard Solvent)
- Ink Wash (Propanol Based)
- N-Methyl-2-Pyrrolidone (NMP)
- Perchloroethylene (PERC)
- Trichloroethylene (TCE)
- Xylene
- Aromatic Petroleum Distillates

Full line of reduced VOC products.
Complete packaging program:
- As small as 1 gallon quantities.

Solvent Tolling
Transportation (bulk and drums)

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Chemical Processing

- We can process several types of liquid chemical mixtures in a cost effective manner that meets your needs and specifications.

- Our process capabilities include:
  - Vacuum Distillation
  - Fractionation
  - Thin-Film Evaporation
  - Custom Blending
  - Liquid Drying - Molecular Sieve
  - Emulsification
  - Halogenated, Liquid Compound Drying
  - Rotary Vacuum Filtration
  - Pilot Scale Testing
Pilot Scale Testing

- With a representative sample (as little as ½ gallon) of solvent, SSI can replicate the complete production processes.

- Able to establish exact costs

- No charge evaluations
Solvent Dryer

SSI’s solvent dryer is capable of removing water down to 500 ppm or less.

Lower cost decanting service.
Solvent Recycling

- Lowers cost compared to:
  - Fuel blending.
  - Incineration for waste generators.

- Purchasing reclaimed solvent:
  - Lowers operating costs.
  - Improves quality control of solvents.

- Some of the highly active solvents are blended down into virgin formulations, as opposed to recycled solvents which have a lower component cost.
Recycled Solvent Quality Control Laboratory

- Provides MSDS’s
- Technical Support
- Long Term Batch Retention
I need your HELP!!!!

- Keep Organic Solvents from being incinerated.....RECYCLE!

- Solvents Needed:
  - Acetone*
  - MEK
  - Toluene
  - Xylene